



Determinants of Criminal Behavior: A Study on Prisoners Who Worked in the Legal Sector of the Economy and Committed Economic Crimes

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Abstract

This article aims to identify the determinants of the criminal behavior of prisoners who worked in the legal sector of the economy and who also committed economic crimes. For this purpose, a logistic regression was used with primary data obtained through questionnaires/interviews applied to 408 prisoners from ten prison units in the metropolitan region of São Paulo, with the theoretical framework adopted being that of the economics of crime, based on the work of Becker (1968). The variables “mother had at least completed high school”, “having basic expenses covered by legal income at the time of the offence”, “owning property”, “having a sense of moral loss” and “need for income” increased the likelihood that the prisoner was working while committing crimes in parallel. Male gender was associated with a lower probability of simultaneously participating in lucrative criminal activities and working in the legal sector. Most of these variables corroborate the fact that migration to lucrative criminal activity is associated with characteristics such as greed, ambition and greed.

Keywords: Economics of crime. Prison establishments. Field research. Logistic regression.

Determinantes do comportamento criminoso: um estudo para presos que trabalhavam no setor legal da economia e que também praticavam crimes econômicos

Resumo

Este artigo tem por objetivo identificar os determinantes do comportamento criminoso de presos que trabalhavam no setor legal da economia e que também praticavam crimes econômicos. Para tanto, foi utilizada uma regressão logística com dados primários obtidos por meio de questionários/entrevistas aplicados a 408 presos de dez unidades prisionais da região metropolitana de São Paulo, sendo o referencial teórico adotado o da economia do crime, com base no trabalho de Becker (1968). As variáveis “mãe tinha pelo menos o ensino médio completo”, “ter despesas básicas atendidas pela renda legal na época do crime”, “possuir imóvel”, “ter o sentimento de perda moral” e “necessidade de renda” aumentaram a probabilidade de o preso estar trabalhando enquanto cometia crimes paralelamente. O gênero masculino esteve associado a uma menor probabilidade de participar simultaneamente de atividades criminosas lucrativas e de trabalhos no setor legal. A maioria dessas variáveis corrobora o fato de a migração para a atividade criminosa lucrativa estar associada a características como cobiça, ambição e ganância.

Palavras-chave: Economia do crime. Estabelecimentos prisionais. Pesquisa de campo. Regressão logística.

Determinantes del comportamiento delictivo: un estudio de presos que trabajaban en el sector legal de la economía y que también cometían delitos económicos

Resumen

El objetivo de este artículo es identificar los determinantes del comportamiento delictivo de los presos que trabajaban en el sector legal de la economía y que también cometieron delitos económicos. Con este objetivo, se utilizó una regresión logística con datos primarios obtenidos a través de cuestionarios/entrevistas aplicadas a 408 presos de diez unidades penitenciarias de la región metropolitana de São Paulo, adoptando el marco teórico de la economía del delito, basado en el trabajo de Becker (1968). Las variables “madre tenía al menos la educación secundaria completa”, “tener los gastos básicos cubiertos por ingresos legales en el momento del delito”, “poseer propiedad”, “tener un sentido de pérdida moral” y “necesidad de ingresos” aumentaron la probabilidad de que el preso estuviera trabajando mientras cometía delitos en paralelo. El género masculino se asoció con una menor probabilidad de participar simultáneamente en actividades delictivas lucrativas y trabajar en el sector legal. La mayoría de estas variables corroboran el hecho de que la migración hacia actividades delictivas lucrativas está asociada a características como codicia, ambición y avaricia.

Palabras clave: Economía del delito. Establecimientos penitenciarios. Investigación de campo. Regression logística.

1 Introduction and Research Problem Formulation

The media often reflect the population's growing concern with violence and crime in Brazil (Gomes, 2023). According to the Brazilian Public Security Yearbook 2023 (FBSP, 2023), expenditures in this sector reached R\$124.8 billion in 2022, representing an 11.6% increase compared to 2021. This aligns with social demands for policies aimed at combating crime.

Incidents of cell phone robbery and theft, for example, reached 999,223 reported cases in 2022 – an average of 2,737 devices stolen a day in the country, not including the number of crimes that went unreported by victims. The recurring sense

of insecurity is justifiable, as the indicators of property crimes have been alarming year after year.

Thus, it is worth revisiting the question posed by Santos et al. (2015, p. 309): “Why do people decide to commit economically motivated crimes?” According to the author, economic factors alone are not sufficient to answer this question, as family, social, and psychological elements are also inherent in the essence of a criminal act. Indeed, no single theory is capable of explaining complex social phenomena, especially crime, for which a legal definition is necessary as a starting point.

The Law of Introduction to the Penal Code (Decree-Law No. 3,914, of December 9, 1941), in its Article 1, defines crimes as “[...] the criminal offense for which the law imposes a penalty of imprisonment or detention, either individually, alternatively, or cumulatively with a fine”. Whereas a misdemeanor is defined as “[...] the criminal offense for which the law imposes, individually, a penalty of simple imprisonment or a fine, or both, alternatively or cumulatively” (Brazil, 1941). Complementing with more recent references, according to Rodrigues (2023, p. 11), crime can be understood as “a human act, socially condemned, which implies a punitive reaction, either from society as a whole or from the victim themselves.” Moreover, it is society, through its representatives, that determines what constitutes an unlawful act by means of relevant legislation and the application of the Criminal Justice System. In this regard, according to Prado (2022), three fundamental aspects of crime must be considered for its constitution: the formal aspect (referring to the contradiction between the act and the law); the material aspect (the substance of the unlawful act); and the analytical aspect (which involves examining the constituent elements of the crime).

Beyond the conceptual issues presented, Nucci (2023) outlines various types of crimes and analyzes their specific characteristics, such as crimes against the person; against intellectual property; against the organization of labor; against religious sentiment and respect for the deceased; against sexual dignity; against the family; against public safety; against public order; against public faith; against public administration; against the democratic rule of law; and against property (including theft, robbery, extortion, damage, embezzlement, fraud, other forms of deceit, and receiving stolen goods).

This paper focuses on profit-driven or economic crimes, that is, those aimed at financial gain, such as the aforementioned property-related offenses. Although they also share the same profit-oriented purpose, the concept of economic crimes adopted in this study should not be confused with the conventional doctrinal classification bearing the same name in what is known as Economic Criminal Law. In this more specific legal context, Fragoso (1982, pp. 1–2) defines an economic crime strictly as an offense “[...] whose legal interest lies in the economic order, that is, in a supra-individual interest expressed in the regular functioning of the economic process of production, circulation, and consumption of wealth” (such as currency evasion, insider trading, cartels, etc.). In this research, the term “economic crime” is intended to be used in a broader sense, encompassing all crimes motivated by financial greed, such as smuggling, armed robbery resulting in death, money laundering, and corruption. Non-economic or non-profit-driven crimes are, by exclusion, those that do not aim for financial gain, although they may have economic consequences.

The theoretical framework used is the economics of crime, based on the work of Becker (1968). Based on a rigorous mathematical model, one of Becker's core principles is that an individual, when considering committing an economic crime, is rationally weighing whether the illegal activity will yield a greater gain compared to engaging in a legal market activity. When projecting the expected financial benefit from the illegal act, the individual subtracts the probability of not being caught, the expected value of the punishment if apprehended, the execution and planning costs of the criminal operation, moral costs, and the opportunity cost. If, after this reasoning, the gains outweigh the costs and risks, the tendency is for the crime to be committed.

Focusing on U.S. cases, the theoretical perspective of the economics of crime advanced with studies such as Ehrlich (1973, 1996), Levitt (1996), and Glaeser et al. (1996). Ehrlich (1973, 1996) analyzed participation in illicit activities (incentives and deterrent effects), the punishment, and the crime market, respectively. Levitt (1996) examined the effect of prison population size on crime rates, and Glaeser et al. (1996) explored the relationship between crime and social interactions by comparing the degree of social interaction across crimes, geographic units, and time.

In this vein, Glaeser and Sacerdote (1999, p. S253) analyzed why crime rates are higher in large cities compared to smaller towns or rural areas, emphasizing that "one primary point of this paper is that even though classic deterrence and returns to crime explanations of the level of crime are important in explaining the urban crime premium, other variables (particularly family structure) also matter." More recently, Doleac (2017) demonstrated how the cost of crime can increase for offenders by investigating the effect of genetic information databases on crime rates, highlighting that such databases can reduce crime by raising the likelihood of arrest.

In this context, the theoretical framework adopted in this study, for methodological reasons, is the economics of crime, grounded in the study of Becker (1968). However, in an effort to also understand the family, social, and psychological factors inherent in the essence of a criminal act, this paper relies on primary data collected through questionnaires and interviews with 408 prisoners from ten correctional facilities in the metropolitan region of São Paulo. The aim is to analyze the determinants of criminal behavior among prisoners who were employed in the legal sector of the economy and also committed economic crimes, through a statistical analysis using logistic regression. The binary dependent variable compares this type of prisoner with those who left the legal sector to engage exclusively in profit-driven criminal activity.

In introductory terms, logistic regression is a statistical tool that allows for estimating the probability associated with the occurrence of a specific event represented by a binary or dichotomous dependent variable, typically coded as 0 and 1, based on a set of explanatory or independent variables, which may be either continuous or categorical (Cramer, 1999; Greene, 2002; Batista, 2015).

This paper is divided into five sections, including this introduction. The second and third sections present, respectively, a brief theoretical review and a description of the materials and methods. Subsequently, the results and discussion are presented, followed by the conclusions.

2 Literature review: brief notes

When Becker (1968, p. 170) wrote that “[...] ‘crime’ is an economically important activity or ‘industry’, notwithstanding the almost total neglect by economists,” he had no idea of the impact that the economics of crime would later achieve.

With the seminal article "Crime and punishment: an economic approach", Becker (1968) also advanced in the foundational studies of Fleisher (1963) and Tullock (1967). Nevertheless, although Becker's (1968) study is the most frequently cited in the field of the economics of crime, some of his concepts align with ideas theorized much earlier by Beccaria (1999) and Bentham (1830). Beccaria, for example, emphasized that effective legislation is one of the ways to prevent crime and that punishment should be fair and proportional to the offense committed, noting that “the true measure of crimes is the harm done to society” (Beccaria, 1999, p. 40). A clear example of the cost-benefit analysis later formalized by Becker (1968) can be found in Bentham (1830), who argued that the profit from crime motivates individuals to offend, while the pain of punishment serves to deter them. Therefore, if the first force prevails, the crime will be committed; if the second force is stronger, the crime will not be committed.

Becker's (1968) theory seeks to understand the decision to commit a profit-driven criminal act based on the rational behavior of maximizing financial outcomes, in which the costs are subtracted from the benefits of the criminal action – potentially resulting in either a profit or a loss. These costs include the probability of being caught during or after the criminal act $[1-p(r)]$, the potential penalty to be served if apprehended and convicted $[p(r) \times J_i]$, the opportunity cost (comparing the profit from the illegal activity with the estimated earnings from legal employment) (O_i), the operational cost of carrying out the criminal activity (C_i), and, last but not least, the moral loss (W_i), which refers to the emotional burden of being labeled a criminal by society, including one's own family. This relationship can be expressed by Equation 1:

$$U_i = [1 - p(r)] \cdot R_i - C_i - O_i - [p(r) \cdot J_i] - W_i \quad (1)$$

According to Becker (1968), society also bears costs resulting from criminal activity, such as negative externalities – defined as situations in which one party's actions impose costs on another (Pindyck & Rubinfeld, 2013). These externalities include insecurity and the loss of economic activity, which require investments aimed at reducing illicit activities.

Thus, the goal of a society that values the well-being of its population is to maximize the costs imposed on offenders. This includes: (i) increasing the likelihood of apprehension (through more effective public security forces); (ii) strengthening criminal laws (ensuring that punishment fulfills its deterrent role); (iii) raising the opportunity cost (by improving educational and family foundations, reducing unemployment with adequate wages, increasing formal income, among other measures); and (iv) addressing moral cost in a way that discourages repeat offenses, through policies that promote reintegration into lawful activities. In short, the aim is for the costs represented on one side of Equation 1 to outweigh the illicit gains (represented by U_i), thereby discouraging criminal behavior and promoting the

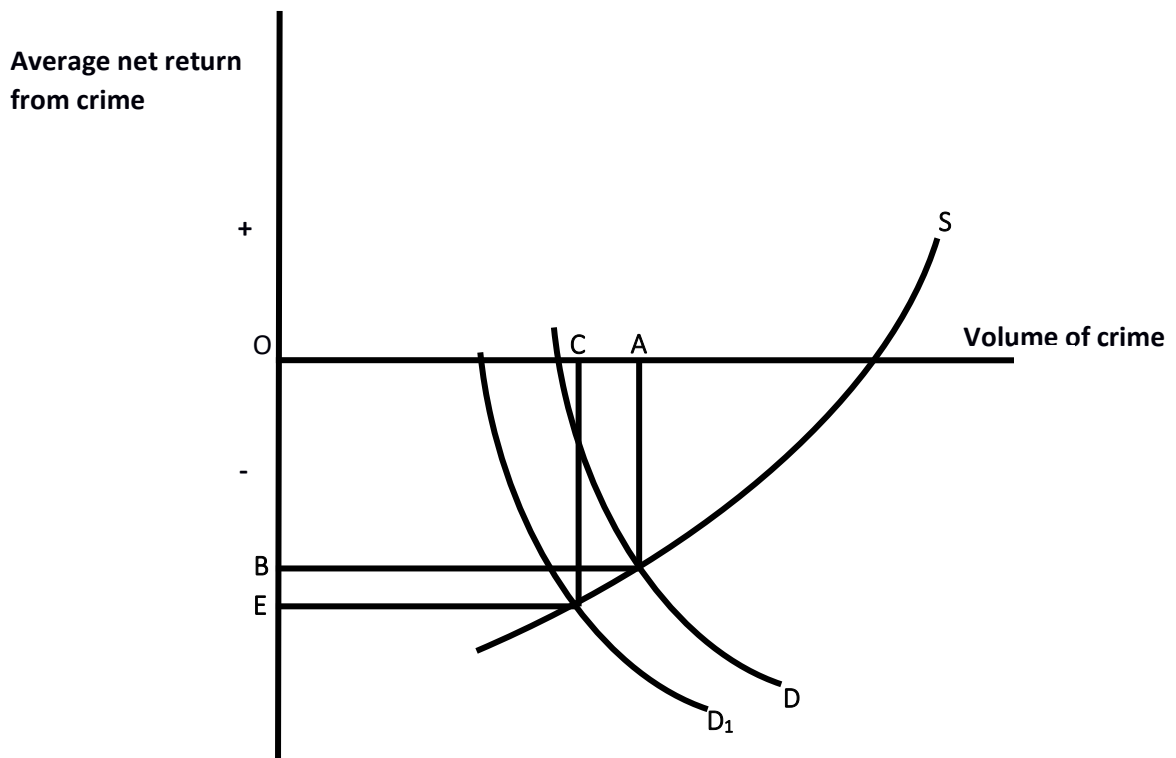
deterrence effect. In summary, the aim is for the costs represented on one side of Equation 1 to outweigh the illicit gains (represented by U_i), thereby discouraging criminal behavior and promoting the deterrence effect.

By making a concise selection of scholars who have specifically addressed the economics of crime at the international level, we highlight: Di Tella et al. (2006), Yezer (2014), and Winter (2020). Di Tella et al. (2006) conducted research both within and outside Latin America on topics such as the impact of kidnappings, education in prisons, and the relationship between poverty and crime. Yezer (2014) explored various subjects including cost-benefit analysis and incarceration decisions, juvenile crime, private law enforcement, and “broken windows” strategies. And Winter (2020) examined a series of controversial topics such as gun control, the death penalty, racial bias in the criminal justice system, fines versus imprisonment, and the war on drugs.

From a perspective more focused on Economic Analysis of Law (EAL), Posner (1985, 2014) explored how economic principles can be applied to understand the criminal justice system, based on the assumption that individuals act rationally in their social interactions. Since economic incentives shape human behavior, this equally applies to the dynamics of crime, where the offender weighs a cost-benefit relationship when deciding to engage in illegal acts. Thus, EAL, aligned with the economics of crime, can contribute to the optimization of criminal policies and to a more efficient allocation of resources aimed at deterring illicit activities.

The graphical representation taken from Jones (1977) illustrates key aspects of the economic theory of crime (Figure 1). To clarify, the horizontal axis represents the volume of crime, while the vertical axis shows the average net return from crime. In this framework, crime is considered a negative good, as it is assumed that there is no demand for this type of “product”. Conversely, society will pay – or incur a certain cost – to prevent crime from occurring. Thus, the downward-sloping demand curve D represents the price society must pay to suppress crime. Evidently, in the depicted society, total security – meaning zero crime – does not exist; therefore, there will always be some level of criminal activity. Thus, the D curve does not start at zero. The equilibrium level of crime is considered to correspond to a specific crime volume OA and an average net return from crime OB . Assuming an increase in the number of security forces on the streets (*ceteris paribus*), the demand curve shifts to the left, moving to D_1 , which leads to a reduction in the volume of crime to OC , and a decrease in the average net return from crime to OE .

Figure 1 – Crime supply and the downward-sloping demand curve for crime control



Source: Adapted from Jones (1977).

Figure 1 also illustrates that, assuming a decrease in the number of security forces on the streets (*ceteris paribus*), the demand curve D_1 shifts to the right, returning to D . The increase in the average net return from crime is reflected by the shift from OE to OB , and the volume of crime changes from OC to OA . It is evident, based on the simulations conducted, that curve S represents the supply of crime – that is, when the average net return from crime decreases, the volume of crime declines, and when the average net return increases, the volume of crime rises.

This brief graphical presentation supports what Becker (1968) emphasized, i.e., that the frequency of illicit activities is closely tied to the net benefits generated by such practices. Ehrlich (1996) refined this theory by asserting that crime is marginally influenced by both positive and negative incentives, such that the expected returns from criminal acts affect an individual's propensity to engage in crime. According to Araujo Jr. and Fajnzylber (2000), the incidence of criminal activity depends on net benefits that exceed the earnings from legal activities (opportunity costs), outweighing both the moral costs and the potential costs of arrest and imprisonment.

In Brazil, one of the first studies on the economics of crime was conducted by Fernandez (1998), a Ph.D. graduate from the University of Chicago, where Gary S. Becker taught. His study revisited the principle of criminal rationality in the crime market, linking it to the motivation for financial gain with minimal effort, while considering varying degrees of risk aversion on the part of the criminal agent. In supervising academic research, Professor Fernandez continued to develop this theoretical field with analyses such as the economics of drug trafficking based on the

Bolivian experience (Fernandez & Maldonado, 1999), and the study of crime in São Paulo police region from the perspective of the economics of crime (Fernandez & Pereira, 2000), among others.

Gradually, the economics of crime gained traction through research and publications across various Brazilian states, as seen in the studies of Araujo Junior and Fajnzylber (2000), Almeida et al. (2005), Murta et al. (2008), Martins (2009), Cerqueira (2010), Oliveira (2011), Santos and Kassouf (2013), Cardoso (2018), Jorge and Justus (2021), Rodrigues (2021), Aransiola et al. (2023), among others.

Furthermore, in a research line initiated in 1999 at the State University of Western Paraná (Unioeste/Toledo Campus), some of Becker's (1968) postulates on the economics of crime were empirically tested for the first time in Brazil. The innovation of this research line was the collection of primary data directly from convicted individuals (those serving time in closed and semi-open regimes, or fulfilling community service and/or financial penalties) who had committed profit-driven crimes. This was accomplished through the administration of questionnaires and interviews with hundreds of convicted individuals across several Brazilian states (Schaefer & Shikida, 2001; Borilli, 2001; Engel & Shikida, 2003; Simon et al., 2005; Borilli, 2005; Shikida & Brogliatto, 2008; Shikida, 2010; Schlemper, 2018; Amaral, 2019; Nickel, 2019; Shikida et al., 2019; Shikida, 2024).

These studies incorporated into the questionnaires administered to convicted individuals not only aspects of the economics of crime, but also family, social, and psychological factors. Even so, there is no single approach capable of fully assessing the determinants of criminal behavior. However, this choice represents a methodological focus within the complex world of profit-driven crime and, as such, neither intends nor is able to encompass all facets of this reality. Nevertheless, it can be considered a tool for understanding why economic crime is committed, contributing to this debate – particularly regarding the determinants of criminal behavior among prisoners who were employed in the legal sector of the economy and engaged in economic crimes.

3 Methodological Procedures

The method chosen for this research was quantitative in nature, based on logistic regression (logit and probit models). This article does not intend to delve into the mathematical technicalities that characterize logistic regression. For further considerations on this method, in addition to the authors already mentioned in the introduction, see: Wooldridge (2007), Hosmer et al. (2013), Harrell (2015), and Studenmund (2016), among others. For empirical applications, see: Schlemper (2019), Amaral (2019), Shikida et al. (2022), Botelho et al. (2024), among others.

This choice is due to the aim of identifying which characteristics influence the likelihood that the prisoner was employed at the time the crime was committed. To achieve this aim, Equation 2 was estimated as:

$$\ln\left(\frac{p}{p-1}\right) = \beta_0 + \sum \beta_x + \varepsilon \quad (2)$$

According to Equation 2, p represents the probability that the prisoner was working in the legal sector of the economy while also committing crimes (likely

outside of working hours); $p - 1$ represents the probability that the prisoner was not working and was living exclusively from illegal activities; β denotes the coefficient of each independent variable; x refers to the control variables; and ε represents the error terms.

Equation 2 identifies whether the variable under analysis increases or decreases the probability that the prisoner was also employed at the time the crime was committed. Odds ratios were also calculated for each variable. The interpretation is as follows: if the value is greater than 1, the variable increases the likelihood that the prisoner was employed at the time the crimes were committed; if the value is less than 1, the opposite occurs. Therefore, the dependent variable in the logistic regression was constructed as follows: 1 if the prisoner was employed when the crimes were committed, and 0 if the prisoner was not employed, living exclusively from illegal activities.

To fulfill the aim of this study, data were used from a field survey conducted in ten correctional facilities in the metropolitan region of São Paulo (male penitentiaries of Franco da Rocha I, II, and III, Guarulhos I and II, and Parelheiros; female penitentiaries of the Capital and Santana; the Atibaia Resocialization Center; and the Franco da Rocha Progression Center).

This study received authorization from the São Paulo State Department of Penitentiary Administration (SAP-SP) and from two judges responsible for the jurisdiction of these facilities (Shikida, 2023). Moreover, 408 prisoners who responded to the questionnaire (74.8% male, 15.9% female, and 38 identifying as other) gave their consent to participate in this research through a Free and Informed Consent Form (TCLE), duly approved by the Research Ethics Committee of the Institute of Education and Research (Insper). It is worth noting that the sample of 408 respondents represents a 95% confidence level and a 4.8% margin of error for the population of prisoners in the metropolitan region of São Paulo. At the time the crime was committed, 169 prisoners were legally employed, while 236 were living exclusively from economic crime.

The field research team consisted of four PhD professors, three master's students, one economist, and two law students. Each questionnaire – containing 102 questions covering general data, crime typology, economic aspects of crime and modus operandi, the age of criminal responsibility, prisoners' perceptions regarding drug legalization, sentencing, and the average life expectancy of a person active in the criminal world, among other topics – took an average of 50 minutes to complete. The field research spanned eight weeks (one week per month), from September 2023 to April 2024, totaling 56 days, with an average of 8 working hours per day.

To identify which characteristics increase the probability that a person was working in the legal sector while also committing economic crimes, the following variables were selected: (i) robbery (1 if the crime committed was robbery, 0 for other crimes); (ii) gender (1 for men, 0 for women); (iii) belief in God (1 if the respondent believes in God, 0 if not); (iv) evangelical (1 for evangelical religion, 0 for non-evangelicals); (v) mother's education (1 if the mother had at least completed high school, 0 if she had completed at most part of high school); (vi) used a weapon (1 if a weapon was used in the crime, 0 if not); (vii) basic expenses (1 if legal income was sufficient to cover basic expenses, 0 if it was not sufficient); (viii) property (1 if the respondent owned property in their name, 0 if not); (ix) moral (the question was

“What did you fear most when committing a crime?”, 1 if the answer was loss of moral standing, 0 for other responses); and (x) need for income (1 if the reason for committing the crime was a need for income, 0 for other responses).

4 Results and Discussion

In this study, two regression analyses were conducted: one using the logit model and the other using the probit model. The R software was chosen to perform these procedures (Hlavac, 2024; R Core Team, 2024).

Before presenting the actual results, the Hosmer and Lemeshow test was conducted, indicating that there are no significant differences between the predicted outcomes of the model and the observed values. Given the high number of independent variables (it is worth noting that the questionnaire administered to the 408 prisoners contained 102 questions), the Stepwise procedure was applied to identify the variables that best fit the model, according to the Akaike Information Criterion (AIC).

The pseudo-R² measures for the logit model were: Cox-Snell (0.32), Nagelkerke (0.44), and McFadden (0.29). The corresponding values for the probit model were similar: Cox-Snell (0.33), Nagelkerke (0.44), and McFadden (0.29). The Log-Likelihood test (also known as the likelihood ratio test) indicates the goodness-of-fit of the logistic regression model used, with values of -194.49 for the logit model and -194.19 for the probit model. Since both models showed similar results, the probit model was chosen for this econometric analysis, as it presented the best fit, measured by the lowest AIC (-412.37). Thus, the results will consider only the estimates from the probit model to evaluate the determinants of criminal behavior among prisoners who were employed in the legal sector of the economy and committed economic crimes.

Regarding multicollinearity, the values from the VIF (Variance Inflation Factor) test were as follows: robbery (3.33), gender (2.9), belief in God (2.17), evangelical (2.23), mother's education (2.19), used a weapon (3.61), basic expenses (2.35), property ownership (2.29), moral loss (2.28), and need for income (2.13). The literature indicates that VIF values above 10 suggest multicollinearity problems, while values between 5 and 10 may be considered concerning (Wooldridge, 2007). Therefore, no multicollinearity issues were observed in this regression.

To explore the data, it is necessary to refer to the results in Table 1, which contains values significant at the 5% and 1% levels.

Table 1 – Estimation results of the probit and logit models from the study on the determinants of criminal behavior: a study of prisoners who were employed in the legal sector of the economy and committed economic crimes

Items	Dependent Variable: Prisoners employed in the legal sector who also committed economic crimes	
	<i>logit</i> (1)	<i>probit</i> (2)
Robbery	0.89 (0.34)	0.92 (0.19)
Gender	0.40** (0.34)	0.59** (0.19)

Belief in God	0.14	0.35
	(1.30)	(0.74)
Evangelical	1.62	1.30
	(0.26)	(0.15)
Mother's Education	1.85*	1.43*
	(0.29)	(0.17)
Used a Weapon	0.55	0.72
	(0.33)	(0.19)
Basic Expenses	11.64**	4.31**
	(0.27)	(0.15)
Property Ownership	1.88	1.47*
	(0.33)	(0.19)
Moral Loss	1.89*	1.43*
	(0.27)	(0.15)
Need for Income	2.21*	1.61*
	(0.36)	(0.21)
Constant	1.21	0.97
	(1.35)	(0.77)
Observations	408	408

Source: Research Results (2024).

* Significant at the 5% level and ** significant at the 1% level. Standard errors in parentheses.

By analyzing the table above, it is possible to draw some conclusive assumptions derived from the field research. It is noteworthy that being male reduces the probability of simultaneously engaging in both economic crime and legal employment by 50% compared to being female.

Mother's education also proved to be an important factor, that is, if the mother had at least completed high school, it increased the likelihood that the prisoner was working at the time of the crime while also engaging in illicit activities by six times, compared to those whose mothers had not completed high school.

The results also suggest that prisoners whose basic expenses were covered by legal income at the time of the crime were 113,000 times more likely to be working simultaneously in both the legal and illegal sectors, compared to those who could not meet their basic expenses with lawful earnings.

The result for the property ownership variable suggests that owning real estate increased the likelihood of simultaneously working and committing crimes by 4 times, compared to those who did not own property.

Advancing in the analysis of the collected data, several open-ended questions were formulated, allowing for more comprehensive responses. For example, when asked "What do you fear most when committing a crime?", prisoners who responded "moral loss" were six times more likely to have been working and committing crimes simultaneously, compared to those who did not mention this concern. This suggests that offenders who were also engaged in lawful activities showed a greater concern for social norms compared to those who were not employed.

The need for income increased the likelihood of the prisoner being employed while committing crimes by nine times, compared to those who did not cite income necessity as a factor for engaging in illegal activity. This need for income partially "justifies" the individual's choice to engage in economic crimes.

The results presented suggest that the interviewed male prisoners – although they represent the majority in the correctional facilities surveyed and across Brazil

(according to the Brazilian Public Security Yearbook 2024) – showed a reduced likelihood of being involved simultaneously in profit-driven crime and employment in the legal sector of the economy. Whereas female participation in the commission of economic crimes is more likely to occur concurrently with involvement in the legal labor market. This is evidenced by the data showing that being male reduces the probability of involvement in both economic crimes and the legal sector of the economy by 50% compared to being female.

In this regard, it is important to make a consideration about women's entry into the criminal sphere. In this context, it is relevant to highlight the study by Shikida (2010), which examines the motivations behind the transition into crime among female prisoners who committed financially motivated offenses. The influence of third parties is one of the determining factors in this decision. The study revealed that 25% of the 79 women interviewed at the Piraquara Women's Penitentiary entered into illicit activity due to direct or indirect influence from their romantic partners. These sample-specific findings suggest the occurrence of what is referred to as migration into crime motivated by "criminal love" (Shikida, 2010, p. 26).

The motivations for drug trafficking and other offenses are diverse, as shown in a study involving 146 female prisoners at the Women's Correctional Facility of Rio Branco, in the Acre state. The main factor cited for engaging in drug trafficking was the prospect of easy money, mentioned by 30.9% of the respondents. Income-related reasons – such as helping with the household budget (while unemployed), financial hardship, and helping with the household budget (while employed) – were cited by a combined total of 33.4% of the inmates. Peer influence was the third most cited reason, accounting for 13.6% of the cases. A large portion of these women maintained close relationships with individuals already involved in criminal activities. In addition, 15.2% of the prisoners reported easy profit as their primary motivation (Amaral, 2019, p. 102).

With regard to maternal education, it was found that mothers with at least a high school diploma were more successful in influencing their children's entry into and continued participation in lawful activities – even when the individuals were simultaneously involved in criminal activities, possibly without their mother's knowledge.

Regarding this latter aspect, Bezerra and Kassouf (2006), in a study that analyzed the factors affecting school performance in urban and rural areas of Brazil in 2003, found that one of the most significant variables influencing student achievement in urban areas was the mother's level of education.

Mutatis mutandis, Kahn (2020, p. 3) explains that the relationship between education and crime is not necessarily linear, and even though the effect of education varies depending on the type of crime, "from a public policy standpoint, investing in education is worthwhile."

Furthermore, the point regarding the factor of having a mother with a completed high school education is positively related to the variable moral loss. When the respondent was arrested and experienced this moral loss, it is possible that it triggered feelings of guilt and shame associated with the offense committed, placing the individual in conflict – even with the values and expectations represented by the figure of the mother.

As for the other variables highlighted in the logistic regression – all characterized by the economic dimension (basic expenses, property ownership, and need for income) – there is a clear connection to what the relevant literature identifies as some of the main determinants for migration into the profitable illegal market, namely: feelings of greed, ambition, covetousness, and the pursuit of gain – as evidenced by Schlemper (2018), Amaral (2019), Nickel (2019), Shikida (2024), among others. Given this relationship – receiving income from the legal sector, already owning property, and having sufficient earnings to cover basic expenses – wouldn't it have been more reasonable to redirect efforts toward a more rewarding activity within the legal market rather than migrating to crime? However, that was not the path chosen; on the contrary, the pursuit of financial gain – coupled with feelings of greed, ambition, and covetousness – was directed toward a parallel, profit-driven illegal activity alongside legal employment.

In conclusion, these results may prove valuable for policymaking and program development at both regional and local levels. This is because, as Agostini and Arend (2015) point out, development stems from economic growth but goes further, encompassing qualitative aspects that are reflected in improvements in quality of life.

In this context, the sense of security is one of these qualitative aspects. However, as highlighted in this study – which focused on a major metropolitan region in Brazil (São Paulo) – criminal behavior, especially in profit-driven offenses that affect income and property ownership, undermines citizens' sense of security and, consequently, impacts economic activity, which could otherwise perform better and with higher quality. Thus, although this research emphasized the perspective of profit-driven offenders, whose actions are motivated by the ambition to obtain more money through illegality, their effects directly impact regional dynamics, as shown in Amaral (2019) for the state of Acre, and Schlemper for Paraná and Rio Grande do Sul.

The Brazilian population, in general, aspires to various aspects of well-being, with public safety – particularly the safety of one's family – being among the most important. If development requires reducing insecurity, Shikida (2018) and Kahn (2024) point to a high-quality policy solution: increased investment in education, as the cost of ignorance is high, especially when that ignorance leads individuals toward criminal activity.

5 Final Considerations

Grounded in Becker's (1967) theory of the economics of crime and employing logistic regression with primary data collected through questionnaires and interviews with 408 inmates from ten correctional facilities in the metropolitan region of São Paulo, this paper aimed to analyze the determinants of criminal behavior among inmates who were employed in the legal sector of the economy and also engaged in economic crimes. The questionnaire incorporated not only aspects related to the economics of crime but also family, social, and psychological factors, thereby establishing a methodological framework that captures the multifactorial motivations behind the transition to profit-driven crime.

As a corollary, the results indicate that, in this study, the male gender is associated with a lower probability of simultaneously engaging in profit-driven criminal activities and employment in the legal sector. Therefore, men are half as

likely to be involved in both activities compared to the other genders mentioned in the study, which was predominantly composed of women in this comparison.

The shame associated with imprisonment generated internal conflict with the maternal figure in cases where the mother had at least completed high school, as captured by the moral loss variable, although it did not serve as a deterrent to the commission of the offense. This highlights a divergence between the intentions of these mothers to encourage non-deviant behavior and the criminal reality of their children's actions. These conclusions indicate a complexity in the family and social dynamics that influence criminal behavior, particularly regarding gender and maternal influence.

Economic factors such as the ability of legal income to cover basic expenses, property ownership, and the need for income are also associated with the simultaneous engagement in both legal and illegal market activities. In sum, the findings reveal that financial stability – as reflected by the three variables mentioned above – paradoxically leads to migration into profit-driven criminal activity, motivated by traits such as greed, ambition, and covetousness. This reinforces findings from other studies that also relied on data gathered through questionnaires and interviews with prisoners in different states of Brazil.

These conclusions highlight that economic factors, in certain cases, can lead some individuals to engage in criminal activities. This involvement is driven by personal ambitions, such as the desire to obtain more money or status, even when basic needs are already being met.

Last but not least, this study analyzed theoretical perspectives to deepen the understanding of a specific aspect of criminal behavior. Analyzing theoretical perspectives is essential for understanding criminal behavior, as it provides a framework for identifying underlying factors and mechanisms. In addition to contributing to the advancement of academic knowledge, this can help in developing more effective policies and interventions to combat crime.

That said, criminal policy in Brazil can be improved based on these findings, enabling a more effective response to issues related to public security. It is suggested, in line with one of the principles of science, that further investigations on this topic be conducted – preferably combining studies based on empirical evidence for subsequent econometric analysis.

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