Beyond Ciudad Juárez;
the causes of femicides throughout Mexico

Bachelor thesis

E. Hietbrink
s1376705

Instructor: Dr. B.K.S. van Coppenolle

Political Science; International Relations and Organisations
Department of Political Science
Leiden University

Word count: 7999

9 June 2016
In the 1990s, Ciudad Juárez, a city at the northern border of Mexico, became famous as a city where the “woman’s body equals danger of death” (Segato, 2010, p. 70). Within five years, almost 200 female bodies were found, many of them marked with signs of rape and torture (Wright, 2001). The group of women that first denounced this frightening news in 1993 called the murders ‘femicides’ (Wright, 2011). These femicides were viewed in isolation from the larger problem of crime that Ciudad Juárez dealt with because there were more women than men being killed and because of the matching circumstances surrounding the killings of women (Weissman, 2004). Fragoso states that “in any analysis of femicide in Ciudad Juárez, the first detail given, …, is the way in which the bodies have been abandoned, stiff and inert, in one-dimensional, sexually transgressive settings: desert zones, empty lots, stream beds, sewers, and garbage dumps” (2010, p. 59). It is argued that the female bodies are used as a means to spread terror amongst women (Prieto-Carrón, Thomson & Macdonald, 2007). Femicide would thus be an extreme manifestation of gender-based violence, a form of violence that “many women suffer at home, in the workplace, in the community and in their relations with the state, violence that is intrinsically linked to deeply entrenched gender inequality and discrimination, economic disempowerment, and aggressive or machismo masculinity” (Prieto-Carrón et al., 2007, p. 26). The term ‘femicide’ is therefore used to refer to murders committed because the victims were women. Prieto-Carrón et al. state that “this is not a new phenomenon, but it is one which has seen dramatic increase in recent years” (p. 25).

The increase of femicides is not limited to Ciudad Juárez. In whole Mexico, “women are being murdered at an alarming rate” (Olivera, 2010, p. 49). And not only in Mexico, according to a study of 2006 which found out that in the countries of Guatemala, Honduras, Costa Rica, El Salvador and Nicaragua altogether at least one thousand women die each year as the result of femicide or other forms of gender-based violence (Puntos de Encuentro, in Prieto-Carrón et al., 2007). By now, femicides in Central America have gained some academic attention (among others; Bueno-Hansen, 2010; Carey Jr & Torres, 2010; Morales Trujillo, 2010; Sagot & Carcedo Cabañas, 2010). Besides several works about femicides in Central America, many academics have written about femicides in Mexico. Probably since the problem gained attention there, most of them focus on Ciudad Juárez. The academics come up with several explanations for the high femicide-rates in this city, including the culture of machismo, the high degree of impunity, the rise of neoliberalism and the presence of maquiladoras. This essay seeks to get a broader picture of the phenomenon of femicides in Mexico, by means of the question: to what extent are the existing theories on the causes of femicides explanatory for the femicides
throughout Mexico? The existing theories which are mostly based on the single case of Ciudad Juárez are thus tested by incorporating data on Mexico as a whole.

**Theoretical framework**

One difficulty of researching the phenomenon of femicides is to distinguish a femicide from a ‘regular’ murder on a woman. The ongoing discussion on what exactly is a femicide does not make things easier. In 1977, Russell defined femicide as “the murder of women and girls by men” (p. 2). The only aspect of this definition that distinguishes a femicide from a regular female homicide is the part that the murder is committed by men. This is in fact very often the case, since around 95% of the perpetrators of all murders worldwide are men (UNODC, 2013). In 1992, Radford and Russell redefined femicide as “the misogynist killing of women by men” (p. xi). This definition requires a homicide on a woman not only to be committed by a man, but also to contain an element of women-hating in order to be considered a femicide. Russell and Harmes redefined femicide again in 2001 by stating that femicide means “the killing of females by males because of their gender” (p. 3). This definition addresses gender as the motive for men to commit the murders. The definition of Fregoso and Bejarano has been drawn from Russell’s definition. They define femicide as “the murders of women and girls founded on a gender power structure” (2010, p. 5). Fregoso and Bejarano consider femicide to be systemic gender-based violence that is both public and private and that is embedded in social, political, economic and cultural inequalities.

Moreover, Fregoso and Bejarano plead for the use of the term ‘feminicide’ instead of ‘femicide’ (2010). They argue that the use of ‘feminicide’ emphasizes that gender is not a natural biological, but a socially constructed category. Furthermore, ‘feminicide’ would be a more accurate translation of the Spanish word ‘feminicidio’. As Fregoso & Bejarano state, the terms of ‘femicide’ and ‘feminicide’ are used interchangeably in the literature on gender-based violence, and this is also the case for the literature reviewed for this essay. In many Latin American countries there has arisen a vicious debate between feminists who have either chosen to use the term ‘femicide’ or ‘feminicide’ (Russell, 2012). Russell remarks that the two groups even often refuse to work with each other. One could however argue that all the authors who write about this issue can add value to an important debate, regardless of what concept is used. Since ‘femicide’ is still the term that is mostly used, this essay will stick to this term.
Many authors have tried to find an explanation for the phenomenon of femicides. For the case of Mexico, the literature focuses mostly on Ciudad Juárez. This city in the state of Chihuahua became infamous for the high rates of femicides (Lydersen, 2008). One explanation for the femicides in Ciudad Juárez that is put forward is the machismo-culture that is presumed to be a core characteristic of Mexican identity (Lagarde y de los Ríos, 2010). The machismo-culture encompasses “a set of values, attitudes, and beliefs about masculinity, or what it is to be a man” (Núñez et al., 2015, p. 3). Prieto-Carrón et al. state that “machista cultural attitudes are reinforced in newspapers, commercials, songs, and soap operas, which reproduce myths justifying violence against women” (2007, p. 30). The essence of gender-based violence is argued to be the control that men and the patriarchal system exert over women (Radford & Russell, in Carcedo, 2008). Segato states that femicides are sometimes used as a signal of power given by the murderer (2010). By murdering the woman he furthermore reveals the weakness of other men, since those men—for example the husband, father or brother of the victim—were not able to protect the woman (Segato, 2010). However, femicides are also often committed by the intimate partners of the victims. Stout defines this form of femicides as ‘intimate femicides’ (1991). According to Dick, this kind of femicides occur mostly when a women is leaving a relationship (2011). Intimate femicide is therefore “the final assertion of control over women” (Dick, 2011, p. 525).

Another explanation for the femicides in Ciudad Juárez that is mooted is the high degree of impunity in the city. Iturralde states that “the incompetence of the state police and legal authorities seems to encourage crime and femicide on the border” (2010, p. 247). The men who rape, torture and murder have no fear of being held accountable by the state (Iturralde, 2010). Buscaglia states that legal authorities systematically abuse their discretionary power by using contradictory legal criteria in the same type of cases (2005). Weissman argues that “it may be that the term impunity ought to describe not simply the state but also the multinational corporate actors who act contrary to the interests of the majority of Mexicans” (2010, p. 236). Domínguez-Ruvalcaba and Ravelo Blancas state that the business policies of the maquiladoras—assembly plants for transnational corporations (Reinares, 2010)—facilitate the murder of women (2010). They claim that at least a third of the murdered women in Ciudad Juárez by April 2002 “had worked in a maquiladora or had gone to seek work in one” (p. 193). A part of the problem could thus be the absence of legislation that regulates a company’s responsibility to protect the life of its employees (Domínguez-Ruvalcaba & Ravelo Blancas, 2010). Many
authors state that impunity perpetuates, and arguably enlarges, the occurrence of femicides (Simmons & Coplan, 2010; IACHR, 2003).

The explanation for the femicides in Ciudad Juárez has also been sought in the expansion of neoliberalism. Weissman argues that “any attempt to understand femicides without appreciating the political-economic context may result in the distorted portrayal of Mexican, or of Juárez residents, as murderous people without morals, governed by corrupt forces, and better kept on the other side of the border” (2010, p. 225). In the 1980’s, the external debt of Mexico caused the country to introduce classical Structural Adjustment Programs, “based on the deregulation of markets, privatization of state enterprises, and trade liberalization” (De los Angeles Crummett, 2001). Ciudad Juárez has since then, as a city on the border with the United States, attracted many corporations (Livingston, 2004). The city has arisen as the principal location for Mexico’s export economy (Weissman, 2004). Simultaneously, the murder rate of women began to rise (Weissman, 2004). There are no exact numbers for Ciudad Juárez, but in the state in which Ciudad Juárez is situated, Chihuahua, the number of female homicides increased from 27 in 1990 to 580 in 2010 (INEGI, 2016b). Moreover, as for 2006, there were around 300 cases of disappearances of women in Ciudad Juárez only. Weissman states that the living conditions in Ciudad Juárez have disturbed socioeconomic norms, “producing a state of crisis and anxiety that impedes social cohesion”(2010, p. 226).

In the site of unequal relations that Ciudad Juárez has become due to the structural forces of neoliberalism, masculinity is privileged over “the ‘naturally’ devalorized feminine” (Young, 2014, p. 9). Weissman argues that the “conditions in Cd. Juárez are unique only to the extent that the city has fully subscribed to the conventional wisdom dispensed by the International Monetary Fund” (2004, p. 796). Ciudad Juárez is thus not an isolated case (Weissman, 2004), but it served as a perfect breeding ground for the femicides to emerge.

Closely related to the rise of neoliberalism are the maquiladoras, which have expanded enormously since the 1980’s (Weissman, 2004). The settlement of maquiladoras, facilitated by the North American Free Trade Agreement, caused the rapid increase of female migration to the border (Reinares, 2010). Maquiladoras hired women because of their very femininity that “supposedly made them docile, more apt for tasks requiring a high level of dexterity, and far less likely to be demanding than their male counterparts” (Rodríguez, 2010, p. 17). Moreover, it is assumed that women would not have the capacities to organize themselves (Weisman, 2004). Wright makes a connection between the internal dynamics of maquiladoras and the gender-based violence in Ciudad Juárez (2006). She states that the managers of the
maquiladoras in Ciudad Juárez make a distinction between the trainable and the untrainable employees. While the trainable employees enhance the value they have for the maquiladoras during their career, the value of the untrainable employees only declines over time (Wright, 2006). According to Wright, the managers of the maquiladoras feel that “the principal marker of the untrainable subject is femininity” (p. 80).

To underscore the miserable position of the maquiladora-women, Wright cites a Brazilian manager of a television manufacturer who told her that the work that is performed by the female maquiladora-employees “is not the kind of work you can do for years at a time. It wears you out. We don’t want the girls here after they’re tired of the work” (2006, p. 84). Female employees are thus stuck in a job they cannot keep, but also cannot outgrow. This creates a situation of turnover; the female employees come and go (Wright, 2006). Where the value of male workers can be enhanced, the value of female workers is used up (Wright, 2006). Wright states that, “in the tale of turnover that is told by maquila administrators, the Mexican woman takes shape in the model of variable capital whose worth fluctuates from a value to one of waste” (p. 72). The Mexican woman therefore “personifies waste-in-the-making, as the materials of her body gain shape through the discourses that explain how she is untrainable, unskillable, and always a temporary worker” (Wright, 2006, p. 73). According to Wright, the devaluing of women in their workplace leads to the devaluing of women in general. In this, femicide can be seen as the ultimate symbol of devaluated women’s lives.

Perchance as a result of the neoliberalism-explanation, the phenomenon of femicides is often associated with the expanse of big cities (Fragoso, 2010). Frye et al. argue that “the effects of macrolevel processes such as industrialization, urbanization, and immigration alter a neighborhood’s social structure and weaken its cohesiveness” (2008, p. 1473). It is suggested that the social disorganization of neighborhoods could increase the likelihood of femicides (Frye et al., 2008). The study of Frye et al. shows that this is more likely to be the case for femicides that are not committed by an intimate partner. Weissman states that “the factors that underlie social disorganization theories are at work in Cd. Juárez” (2004, p. 830). Many migrants who live in Ciudad Juárez have fallen into the “margins of society, where they are vulnerable to crime and drugs” (Weissman, 2004, 830). Moser and McIlwaine identify a broader trend throughout Latin America, in which violence has become routinized in urban areas (2006). They state that social violence, which to a large extent consists of gender-based violence, is daily presence in Latin American cities. McIlwaine states that certain public spaces
in Latin American cities are known as places where violence against women is often perpetrated and feared (2013).

The problem of femicides is thus very complex. However, it is little discussed that it is a problem that is structural. The Mexican legal system is therefore highly criticized for trying to explain the femicides as individual criminal acts (Weissman, 2010). Prieto-Carrón et al. argue that “attempts by the authorities and the media to blame the gangs for the murders obscure the structural and root causes of femicide, which are inherent in gender-based violence in the region” (2007, p. 28). The legal system of Mexico should thus treat the murders as “a pattern of violence against women” (Weissman, 2010, p. 237). Since the Mexican government proves unable to investigate the femicides and, in general, to protect women’s rights, one could argue that gender discrimination in Mexico has been institutionalized (Fregoso & Bejarano, 2010). The femicides must thus be seen as a component of a much bigger system of discrimination rather than individual women being ‘randomly’ killed by individual men (Fregoso & Bejarano, 2010), or as acts of so-called ‘serial-killers’ (Simmons & Coplan, 2010).

In the literature that is studied for this research, there is almost no empirical research found on the causes of femicides in Latin America. Amnesty International objects the membership of drugs gangs as a major causal factor for femicides (2005). The Guatemalan government states that most female victims of homicides are gang members (Amnesty International, 2005). However, the Guatemalan Human Rights Ombudsman’s Office shows that most victims are students, housewives or workers (in Amnesty International, 2005). Only six of the 383 female victims of homicides in 2003 had tattoos, which are typically used as a means of gang identification, on their bodies (Amnesty International, 2005). Nevertheless, this study does not give empirical information about other factors that may cause femicides.

**Research methods**

As stated above, the current literature on femicides in Mexico focuses mostly on Ciudad Juárez. However, since the problem has spread throughout Mexico (Olivera, 2010), this research tests the existing theories by means of information about all regions of Mexico. This makes it possible to put the case of Ciudad Juárez in perspective and to explain regional differences. It is chosen only to focus on one country because this makes it easier to hold the factors that are not being researched constant. The factors that are held constant in this research are the patriarchal culture and the history of warfare. As further explained below, it is assumed that the
culture of machismo is equally present throughout Mexico. As regards the history of warfare, Fregoso & Bejarano argue that decades of civil wars and military rules have normalized the presence of gender-based violence (2010). Leiby shows how sexual violence was used as a weapon of war during civil wars in Peru and Guatemala (2009). Since the states of Latin America have different histories of civil warfare, this factor could not be held constant in a cross-country analysis.

Mexico consists of 31 states and one Federal District. Each of the 31 states has “its own constitution, and therefore a unique set of institutions, but all share the same general characteristics as the three branches of government: the executive, comprised of the governor, his or her cabinet, and supporting bureaucracy; a unicameral legislature or state congress; and a state judiciary” (Edmonds-Poli & Shirk, 2015, p. 141). The Federal District is in fact Mexico City, the national capital of Mexico. With a population of more than 20 million people, the city ranks among the three largest cities in the world (Edmonds-Poli & Shirk, 2015). Until 1997, the Federal District was in essence an “extension of the federal government” (Edmonds-Poli & Shirk, 2015, p. 141). However, reforms in the 1990s made the Legislative Assembly of the Federal District become “a true legislative body, with lawmaking and budget authority” (Edmonds-Poli & Shirk, 2015, p. 141). The Federal District has more powers of taxation and therefore more resources for governing than the other cities in Mexico (Edmonds-Poli & Shirk, 2015). It can thus be seen as a state, and the databases that are being used for this research also refer to the Federal District as a separate state. Elsewhere in this essay will therefore be spoken of the 32 states of Mexico. The existing theories on femicides are tested by comparing the possibly explanatory factors as they occur in the 32 states. This leads to the following research question:

To what extent are the existing theories on the causes of femicides explanatory for the femicides throughout Mexico?

The difficulty of this research question, and probably the reason that such a research did not take place before, lies in the lack of statistical data and trustworthy systems of information (CDD & CMDPDH, 2012). By 2012, eighteen of the 32 federal states had not implemented a definition of femicide in their criminal code. The definitions of the other fourteen states diverge heavily (OCNF, 2014). In the state of Tamaulipas, for example, article 337 of the Criminal Code states that there must be evidence of “repeated physical violence” and “a history of psychological violence of harassment by the perpetrator against the women” in order to consider a homicide to be a case of femicide (CDD & CMDPDH, 2012, p. 14). Meanwhile, the
state of Chiapas upholds a much broader definition of femicide in article 164Bis of the Criminal Code (Instituto de Investigaciones Jurídicas de la UNAM, 2007). This article considers all homicides that are committed on gender-based reasons to be femicides. It then gives six different reasons for murder that can be considered gender-based reasons. In this case, only the existence of any kind of relationship between the perpetrator and the victim or any signs of sexual violence can be enough for a homicide to be considered a femicide.

Because of limited definitions of femicides in law and a lack of implementation of research protocols, many femicides are not being researched as such (OCNF, 2014). As regards the murders on women committed in Mexico in 2012 and 2013, only 15.75% was being researched as femicide (OCNF, 2014, p. 53). Presumably, the percentage of murders on women that were in fact femicides was much higher (OCNF, 2014). In order to get as complete a picture of the problem of femicide in Mexico as possible and not to exclude a lot of cases, this research uses the broad definition of femicide as any murder on a woman. This broad definition makes it possible to generate quantitative information and facilitates comparability across regions and jurisdictions, as the Geneva Declaration of 2015 states. Moreover, the Geneva Declaration underscores that “the wider definition allows for a focus on all women, in recognition of their right to live free from violence under international law” (p. 115). In the continuation of this essay, when there is spoken about femicides, all the murders on women are thus being meant.

To determine the number of femicides, the data on homicides in Mexico as provided by the National Institute of Statistics, Geography and Informatics (INEGI) of Mexico are studied. (2016b). It is thereby underscored that there are significantly more men than women murdered worldwide, also in Mexico (Geneva Declaration, 2015). One logical explanation for this trend is the fact that men are much more likely to participate in armed violence, whether they fight for national armies, popular militias or armed gangs (Cockburn, 1999). Female homicide mostly takes place in the relational atmosphere (Geneva Declaration, 2015; Kellerman & Mercy, 1992). According to the study of Kellerman & Mercy, women are rarely murdered by a stranger. However, the percentage of femicides in Mexico that is related to intimate partner-violence is relatively low, approximately 10%, compared to 30% worldwide (Geneva Declaration, 2015). This indicates that women in Mexico run a “higher risk of becoming targets of violence outside the private sphere” (Geneva Declaration, 2015, p. 130).

This research tests the impact of the presumed causal factors on femicide by means of regression analyses, in which the number of female murders per 100,000 women in 2010 is the dependent variable. This number is for each state calculated by the murder rates and the population
numbers of each state as provided by INEGI (2013; 2016b). The independent variables are the degree of impunity, the degree of urbanity, the degree of neoliberal policy and the number of maquiladoras in each state. The impact of the machismo-culture on the femicides is thus not being tested. This is not to state that the machismo-culture could not be an explanatory factor for the existence of femicides. On the contrary, it is believed that the machismo-culture could even be an important explanatory factor. However, machismo in Mexico has become a “national idiosyncrasy” (Mendoza, in Gutmann, 2007, p. 223). According to Gutmann, “beginning especially in the 1940s, the male accent itself came to prominence as a national(ist) symbol. For better or worse, Mexico came to mean machismo and machismo to mean Mexico” (Gutmann, 2007, p. 224). Although it is argued that the meaning of machismo has shifted over time and that machismo-behavior is seen as negative as well as positive (Gutmann, 2007; Chant & Craske, 2003), it is in this research assumed that the machismo-culture is inherent to Mexico and will not differ significantly between the federal states.

The first sub question that is researched is:

To what extent is the degree of urbanity explanatory for the femicides in the federal states of Mexico?

Chomitz, Buys and Thomas argue that urbanity is a gradient, not a dichotomy (2005). They argue that the rural/urban scale has two dimensions: population density and remoteness from large metropolitan areas (2005). This research tries to take both of these dimensions into account. However, since it is hard to measure the remoteness from large metropolitan areas for each inhabitant, this essay instead focuses on the percentage of the population that lives in large cities. The Organisation for Economic Co-operation and Development (OECD) states that Mexican cities are considered large when they have more than 100,000 inhabitants (2013). It is for each state calculated what percentage of the population lived in large cities in 2010, based on the information about Mexican cities as provided by Brinkhoff (2016) and the information about population numbers as provided by INEGI (2013). The population density of 2010 is measured by the population number and the size of each state (INEGI, 2013; Briney, 2014; FAO, 2000). The influence of urbanity is tested by a regression analysis in which femicide is the dependent variable and the population density and the percentage of the population living in large cities are the independent variables.
After this, the Mexican states are divided into ‘rural’ and ‘urban’ states, with the urban threshold being 150 inhabitants per square kilometer. This threshold is defined by the OECD (China Development Research Foundation, 2010; Chomitz et al., 2005). When the states are classified into the two categories, a second regression analysis will be made to test the impact of urbanity on femicides. The degree of urbanity is now a dummy variable. Hypothesis 1 is: a higher degree of urbanity leads to more femicides.

The second sub question that is researched is:

To what extent is the degree of impunity explanatory for the femicides in the federal states of Mexico?

The degree of impunity is determined by the Impunity Index of Mexico (IGI-MEX) that was recently published by ‘Centro de Estudios Sobre Impunidad y Justicia’ (CESIJ, 2016). The IGI-MEX ascribes a certain degree of impunity to the federal states of Mexico. To calculate the IGI-MEX, CESIJ researched 35 indicators, of which 17 variables were eventually be regarded as being determinative for the degree of impunity (Appendix, p. 28). These variables are measured over the year of 2013. Based on the IGI-MEX, CESIJ divides the states into different degrees of impunity; low, medium, high and very high. The state of Michoacán falls into the fifth category ‘atypical’. Since the indicators that are being researched vary widely in Michoacán before, during, and after the year of 2013, the reliability of these data is doubted (CESIJ, 2016). According to CESIJ, the state has in the last years found itself in a situation of violence, organized crime and restructuring (2016). As a result, there is insufficient confidence that the indicators reflect the reality (CESIJ, 2016). Michoacán is therefore excluded from the regression analysis, what makes that N=31.

The other four categories are converted into dummy variables, one for each degree of impunity. These four variables are brought into a regression analysis to research the impact of impunity on the number of femicides. Hypothesis 2 is: a higher degree of impunity leads to more femicides.

The third sub question that is researched is:

To what extent is the degree of neoliberal policy explanatory for the femicides in the federal states of Mexico?
This research uses two indicators to determine the degree of neoliberal policy: the amount of collected taxes and the amount of social expenditures of each state over 2010, as provided by The World Bank (2015). The taxes represent the taxes the state collected themselves, the tax revenues which the states received directly from the federal state are excluded. It is per state calculated what the amount of taxes and the amount of social expenditures are per inhabitant, based on the population numbers of 2010 (INEGI, 2013). Two regression analyses are made with femicide as the dependent variable, one with the amount of taxes as the independent variable and one with the amount of social expenditures as the independent variable. Since taxes and social expenditures could be indicators of the richness of a state rather than of the degree of neoliberal policy, the GDP per capita of 2010 is used as a control variable. The GDP per capita is calculated by the GDP of 2010 and the population number of each state (INEGI, 2013; 2016b). There is further looked into states with an equal GDP per capita and different amounts of collected taxes or social expenditures to research the effect of neoliberal policy on femicides. Hypothesis 3 is: a higher degree of neoliberal policy leads to more femicides.

Since the presence of maquiladoras is often put forward as the most disastrous result of neoliberalist policy when it comes to femicides, a separate regression analysis is made with the amount of maquiladoras in each state as independent variable.

The fourth sub question that is therefore being tested is:

To what extent is the number of maquiladoras explanatory for the femicides in the federal states of Mexico?

Unfortunately, the most recent data about maquiladoras in Mexico that is available refers to 2006 and only provides the exact numbers of maquiladoras of seventeen of the 32 states (INEGI, 2007). Despite the lack of information, a regression analysis is made with the number of maquiladoras in 2006 as the independent variable and femicide in 2010 as the dependent variable to test the impact of the presence of maquiladoras on the number of femicides. Although the exact numbers of maquiladoras are only available for seventeen states, it is known that there are 82 maquiladoras at total in the other fifteen states. It is therefore decided to also conduct a regression analysis in which the fifteen remaining states are assumed to have five maquiladoras each. Even though this analysis is partly based on assumptions, it is hoped that it gives a clearer image of the relationship between maquiladoras and femicides. Hypothesis 4 is: a higher number of maquiladoras leads to more murders on women.
After the testing of the four hypotheses, a multiple regression analysis is made in which the relative influence of each independent variable is measured. In this analysis, femicide is the dependent variable and the independent variables are the population density, the percentage of the population that lives in large cities, the degree of impunity, the amount of taxes per inhabitant, the amount of social expenditures per inhabitant and the number of maquiladoras.

**Results**

**Femicides**

The descriptive statistics of the dependent variable in table 1 show that over 2005, approximately 2 out of 100,000 women were murdered in Mexico. The numbers differ from 0,5 in the state of Colima to five in the state of México. Sadly, by 2010, the maximum femicide rate of 2005 had become the norm. Throughout Mexico, 5 of the 100.000 women were murdered, ranging from 0,3 in the state of Yucatán to 34 in the state of Chihuahua. There were thus great differences between the states. This is also shown by the standard deviation of 5,907, which means that the number in each state on average deviates by 129% from the mean of 4,59.

*Table 1: Descriptive statistics of femicides*

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of female murders per 100,000 women in 2005</td>
<td>32</td>
<td>0,5</td>
<td>5,3</td>
<td>2,04</td>
<td>1,132</td>
</tr>
<tr>
<td>Number of female murders per 100,000 women in 2010</td>
<td>32</td>
<td>0,3</td>
<td>33,8</td>
<td>4,59</td>
<td>5,907</td>
</tr>
</tbody>
</table>

The graph in figure 1 clearly displays the differences between the states, with the state of Chihuahua as a great outlier. The femicide rate decreased in four states and remained the same in eight states. In the other twenty states, the femicide rate increased. The biggest increases are visible in the states of Chihuahua, Durango and Nayarit.
CAUSES OF FEMICIDES THROUGHOUT MEXICO

Figure 1 Number of femicides in Mexican states in 2005 and 2010

Degree of urbanity

Hypothesis 1 is first tested through a regression analysis in which femicide is the dependent variable and the population density and the percentage of the population that lives in large cities are the independent variables. The results are shown in table 2. No causality is found between population density and femicides. However, there seems to be a significant causative relation between the percentage of the population that lives in large cities and femicides. The b-value implies that when the percentage of the population that lives in large cities increases with 9, the number of female homicides per 100,000 women increases with 1.

After this, the states of Mexico are divided into ‘rural’ and ‘urban’ states, in which a population density of 150 inhabitants per square kilometer is considered the urban threshold. According to this conceptualization of urbanity, there are sixteen rural states and eight urban states in Mexico. A regression analysis is made with the degree of urbanity as the independent variable and femicide as the dependent variable, the results of which are presented in table 3. The b-value
shows that there are on average three female murders less per 100.000 women in urban states than in rural states. The histogram in figure 2 clearly displays the negative relation between urbanity and femicides. This relation is however non-significant. Nonetheless, hypothesis 1 is not confirmed.

Table 2 Regression analysis population density and percentage of population living in large cities

<table>
<thead>
<tr>
<th>Population Density (Inhabitants per km²)</th>
<th>B</th>
<th>T</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-0.001</td>
<td>-1.302</td>
<td>0.203</td>
</tr>
<tr>
<td>Percentage of population living in large cities (&gt;100.000 inhabitants)</td>
<td>0.109</td>
<td>2.212</td>
<td>0.035</td>
</tr>
</tbody>
</table>

Table 3 Regression analysis dummy variable urbanity

<table>
<thead>
<tr>
<th>Urbanity</th>
<th>B</th>
<th>T</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-2.958</td>
<td>-1.229</td>
<td>0.229</td>
</tr>
</tbody>
</table>

Figure 2 Femicides in rural and urban Mexican states in 2010

Degree of impunity

The second hypothesis is tested by means of a regression analysis with the degree of impunity as the independent variable and femicide as the dependent variable. The variable ‘degree of
impunity’ is divided into four dummy variables, according to the four categories of which the IGIMEX consists. Since the category ‘very high degree of impunity’ is the largest category with 13 states, this category serves as the reference group in the regression analysis. The results are presented in table 4, showing that the states with a medium degree of impunity have on average the highest femicide rate. The results show that the averages vary widely and that there is no linear relationship. The histogram in figure 3 makes this clearly visible. Hypothesis 2 is thus not confirmed.

Table 4 Regression analysis: impunity

<table>
<thead>
<tr>
<th>Impunity Level</th>
<th>B</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low degree of impunity</td>
<td>0.962</td>
<td>0.213</td>
<td>0.833</td>
</tr>
<tr>
<td>Medium degree of impunity</td>
<td>4.462</td>
<td>1.428</td>
<td>0.165</td>
</tr>
<tr>
<td>High degree of impunity</td>
<td>-1.902</td>
<td>0.782</td>
<td>0.441</td>
</tr>
</tbody>
</table>

Figure 3 Degree of impunity and femicides in Mexican states in 2010
Degree of neoliberal policy

Hypothesis 3 is first tested by means of a regression analysis in which the amount of collected taxes per inhabitant is the independent variable and femicide is the dependent variable. As the results in table 5 show, no relation is found between these two variables.

Table 5 Regression analysis taxes

<table>
<thead>
<tr>
<th>Amount of collected taxes per inhabitant</th>
<th>B</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0,000</td>
<td>-0,085</td>
<td>0,933</td>
</tr>
</tbody>
</table>

However, when the variable of GDP per capita is brought into research, the Pearson correlation coefficient of 0,708 shows that this variable has a quite strong relationship with the amount of collected taxes per inhabitant. The variable ‘taxes’ thus measures the richness of a state rather than the degree of neoliberal policy. Hypothesis 3 is then tested by means of a regression analysis in which the amount of expenditures on public works and social actions per inhabitant. The results of this analysis are presented in table 6. There is no causative relationship being found.

Table 6 Regression analysis social expenditures

<table>
<thead>
<tr>
<th>Amount of social expenditures per inhabitant</th>
<th>B</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0,000</td>
<td>0,120</td>
<td>0,905</td>
</tr>
</tbody>
</table>

The Pearson correlation coefficient between the amount of expenditures on public works and social actions per inhabitant and the GDP per capita is 0,092, showing that there is almost no relationship between these two variables. The variable of social expenditures thus seems to be a more accurate indicator of the degree of neoliberal policy. To get a better understanding of the effect of social expenditures on femicides, several states are further researched. Table 7 shows three couples of states with an equal GDP per capita. For the case of Aguascalientes and Baja California, the amounts of social expenditures differ much. In this case, a lower amount of social expenditures indeed seems to lead to more femicides. The case of Guanajuato and Veracruz also fits within the hypothesis. These states, with the same GDP per capita and social expenditures that do not differ much, have the same femicide rate. However, the third case does not match with our hypothesis. The number of femicides in Nayarit is, despite a much higher amount of social expenditures, greater than the number in México. Hypothesis 3 is not confirmed.
Table 7 Differences in social expenditures and number of femicides between states with an equal GDP per capita

<table>
<thead>
<tr>
<th>State</th>
<th>GDP per capita</th>
<th>Amount of expenditures on public works and social actions per inhabitant (in Mexican pesos)</th>
<th>Number of femicides per 100,000 women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aguascalientes</td>
<td>110</td>
<td>2249</td>
<td>2</td>
</tr>
<tr>
<td>Baja California</td>
<td>110</td>
<td>343</td>
<td>8</td>
</tr>
<tr>
<td>Guanajuato</td>
<td>83</td>
<td>354</td>
<td>2</td>
</tr>
<tr>
<td>Veracruz</td>
<td>83</td>
<td>480</td>
<td>2</td>
</tr>
<tr>
<td>Nayarit</td>
<td>72</td>
<td>2279</td>
<td>9</td>
</tr>
<tr>
<td>México</td>
<td>72</td>
<td>826</td>
<td>4</td>
</tr>
</tbody>
</table>

Number of maquiladoras

The fourth hypothesis is tested through a regression analysis with the number of maquiladoras as the independent variable and femicide as the dependent variable. The scatterplot in figure 4 shows that there is some positive relationship between these two variables. This relationship seems to become stronger when the state of Baja California - which has the extreme high number of maquiladoras of 906 - is left out, as in the scatterplot in figure 5.

Figure 4 Maquiladoras and femicides in Mexican states
Figure 5: Maquiladoras and femicides in Mexican states, excluding Baja California

The results of the regression analysis, as presented in Table 8, show indeed a small causative relation between the number of maquiladoras and the number of femicides. When the state of Baja California is left out, this causality becomes stronger and is significant.

Table 8: Regression analysis maquiladoras with 17 Mexican states

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of maquiladoras</td>
<td>0,013</td>
<td>1,587</td>
<td>0,133</td>
</tr>
<tr>
<td>Number of maquiladoras (excluding the state of Baja California)</td>
<td>0,039</td>
<td>2,770</td>
<td>0,015</td>
</tr>
</tbody>
</table>

The remaining fifteen states are now brought into research, it is assumed that they all have five maquiladoras. The results of the regression analysis with all states are presented in Table 9. The relationship is in this case also significant when the state of Baja California is kept into research. The b-value of 0,013 means that with each increase in maquiladoras of 77, there is one extra women murdered out of 100.000 women. It is, however, important to state that this analysis is not only based on facts but also on assumptions. Hypothesis 4 is not confirmed.
Table 9 Regression analysis maquiladoras with all Mexican states

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of maquiladoras</td>
<td>0.013</td>
<td>2.466</td>
<td>0.133</td>
</tr>
<tr>
<td>Number of maquiladoras (excluding the state of Baja California)</td>
<td>0.033</td>
<td>3.807</td>
<td>0.015</td>
</tr>
</tbody>
</table>

All independent variables

To test the relative influence of the independent variables, a multiple regression analysis is executed with femicide as the dependent variable and the population density, the percentage of the population that lives in large cities, the degree of impunity, the amount of taxes per inhabitant, the amount of social expenditures per inhabitant and the number of maquiladoras as the independent variables. The results of this analysis are presented in table 10.

Table 10 Multiple regression analysis with all Mexican states

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population density (inhabitants per km²)</td>
<td>0.005</td>
<td>0.681</td>
<td>0.513</td>
</tr>
<tr>
<td>Percentage of population that lives in large cities (&gt;100,000 inhabitants)</td>
<td>0.207</td>
<td>-0.864</td>
<td>0.410</td>
</tr>
<tr>
<td>Degree of impunity (IGI-MEX)</td>
<td>-1.972</td>
<td>-0.694</td>
<td>0.505</td>
</tr>
<tr>
<td>Amount of collected taxes per inhabitant</td>
<td>-0.019</td>
<td>-0.909</td>
<td>0.387</td>
</tr>
<tr>
<td>Amount of social expenditures per inhabitant</td>
<td>-0.003</td>
<td>-1.144</td>
<td>0.282</td>
</tr>
<tr>
<td>Number of maquiladoras</td>
<td>0.043</td>
<td>1.649</td>
<td>0.134</td>
</tr>
</tbody>
</table>

One has to be careful with comparing the different b-values. Where the b-value of the maquiladoras for example represents the change in femicides when there is one extra maquila dor, the b-value of the IGI-MEX represents the change in femicides when the degree of impunity increases with one category. It can thus not simply be stated which relationship is
the strongest. The relationship between the degree of impunity and femicides does not match the expectations, since a higher degree of impunity seems to lead to a decrease in femicides. The variables ‘taxes’ and ‘social expenditures’ also have a negative impact on femicides. However, since neoliberal policy typically consists of lower taxes and less social expenditures, this means that a higher degree of neoliberalism does indeed lead to more femicides. The other independent variables also have the expected impact on femicides. However, there is no significant relationship being found. The relationship that becomes the closest to being significant is the causal relation between the number of maquiladoras and femicide.

**Conclusion and discussion**

The research question that was analyzed for this research was: To what extent are the existing theories on the causes of femicides explanatory for the femicides throughout Mexico? As regards the theory of urbanity, the causality depends on what definition of urbanity is used. When one sticks to the definition of the OECD, which holds the urban threshold at 150 inhabitants per square kilometer, there are more femicides the states that are considered rural. Nevertheless, there is no causality found between population density and femicides. On the other hand, when one uses the indicator of the percentage of the population that lives in large cities to measure urbanity, there is found a significant positive causality. Femicides thus seem to be, to a greater extent, a problem of large cities.

The second theory that was tested was that there would be more femicides in areas with a high degree of impunity. There was no causality found between these two variables in this research. It is actually not highly surprising that a high degree of impunity does not directly cause a high number of femicides. After all, just the fact that it is possible to murder somebody in impunity should not be a truly compelling reason to actually commit a homicide. However, as was stated earlier in this essay, it is often thought that impunity does have a causative relationship with the number of femicides, since it would perpetuate the problem. Such a causality was not found in this research. A high degree of impunity does thus not seem to encourage men to commit murder on women, or, on the other side, a low degree of impunity does not seem to stop them.

The third theory that was tested was that there would be more femicides in states with a high degree of neoliberal policy. Both the collected taxes as the social expenditures of the Mexican states were brought into research, but the taxes seemed to be dependent on the richness of the
states. The social expenditures did not correlate with the GDPs of the states and thus seemed to be a better indicator of neoliberal policy. Although several authors linked the problem of femicides directly to the rise of neoliberalism in Latin America (among others; Olivera, 2010; Weissman, 2010), such a causality was not found to exist. A possible explanation for this result would be that the theory of neoliberal policy is deduced from another explanatory factor for the femicides that is often put forward; the maquiladoras. Namely, within the neoliberalist thinking, export-led growth is preferred over import substitution (Harvey, 2005), and the maquiladoras are part of the export economy in Mexico (Wilson, 2010). It could be argued that neoliberal policy is mistakenly supposed to be an explanatory factor for the femicides in Mexico, while in fact only one outcome of neoliberal policy leads to the brutal murders.

Since many authors write about maquiladoras as breeding grounds for femicides, the influence of these assembly plants was also being tested. This analysis indeed showed a positive causality between the number of maquiladoras and the murders on women, that was moreover more significant than the other causal relationships that were found in this research. However, because of the small number of cases and the lack of recent information, this theory cannot be confirmed based on this research. Nevertheless, the theory of maquiladoras being an explanatory factor for the femicides in Mexico is hitherto the most convincing one. In conclusion, this research showed that the existing theories on the causes of femicides are not fully explanatory for the problem of femicides throughout Mexico.

Besides the outcome that the existing theories on femicides are not confirmed to be explanatory for the femicides throughout Mexico, an arguably more striking outcome of this research is that the existing theories do not seem to be explanatory for the femicides in Chihuahua, the state in which Ciudad Juárez is situated. When focusing on Ciudad Juárez, one may find a large city with a high degree of impunity and neoliberal policy, factors that could lead to the femicides in the city. However, for Mexican standards, the state of Chihuahua has a medium degree of impunity and quite average amounts of collected taxes and social expenditures. Still, it has the highest femicide rate of all Mexican states. Chihuahua does have the third highest percentage of the population that lives in large cities of 72.4% and the second highest number of maquiladoras of 402. This could mean that these factors do indeed contribute to the presence of femicides. Nevertheless, this research cannot explain why other states with many large cities and a large presence of maquiladoras have lower femicide rates. Baja California has for example 906 maquiladoras and 72.0% of its population lives in large cities. This state has with eight murders per 100,000 women a relatively high number of femicides, but this number is
much lower than the 34 murder per 100,000 women of Chihuahua. The largest city of Baja California, Tijuana, has 1,386,100 inhabitants and 577 maquiladoras, against 1,398,400 inhabitants and 284 maquiladoras in Ciudad Juárez (Brinkhoff, 2016; INEGI, 2007). Why is it that Ciudad Juárez, and not Tijuana, became the city of dead women? To answer this question, one has to look further than the factors that were researched in this essay.

Regrettably, the number of maquiladoras in Mexico could not be researched as thorough as the other factors, since the exact information was only available for seventeen of the 32 states for the year of 2006. A second limitation of this research was the lack of a generally accepted definition of ‘femicide’. Since both the authors of the reviewed literature as the legislating bodies of the different bodies of Mexico do use deviating definitions, it is hard to find large data on this topic. Therefore it was decided to conduct the research on all murders on women. It is hoped that this research herewith contributes to a broader understanding of the problem of femicides in Mexico. The third limitation of conducting a research like this was that it is for an outsider difficult to truly understand the machismo-culture. It is believed that one has to actually deeply immerse into this male-dominated culture to possibly understand how a woman can grow into a waste of space. Finally, the small N of this research makes it hard to draw concrete conclusions from the regression analyses. Despite its limitations, this research contributes to the academic discussion on femicides in Latin America. Further research can be conducted in response to this research, which serves as a first step to a broader understanding of the causes of femicides.

The next step would be the mapping of the phenomenon. How many girls and women are murdered based on their gender? Who were they? Where were they murdered, and under what circumstances? The collecting of this kind of information does not only contribute to the research on the femicides. It also emphasizes the worth that the lives of these women do have, despite what the circumstances of the murders may suggest. It would give the women the attention they deserve. When further research is conducted, it would be interesting to further explore the role of large cities and the maquiladoras in the presence of femicides. In order to get a better understanding of the influence of the maquiladoras on gender-based violence, there should be data collected about the number and the location of these maquiladoras. Furthermore, there could be searched for other explanatory factors for the femicides. Ultimately, further research should not be limited to Mexico. Since femicides are also widely present in Central America and, to a lesser extent, in Latin America as a whole, it is important to get a better understanding of the phenomenon on a transnational level.
CAUSES OF FEMICIDES THROUGHOUT MEXICO

Bibliography


FAO (Food and Agriculture Organization of the United Nations), (2000). Irrigation in Latin America and the Caribbean in Figures.


INEGI (Instituto Nacional de Estadística y Geografía), (2013). Anuario de estadísticas por entidad federativa 2012


## Appendix Variables on which the IGI-MEX of CESIJ is based

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Alleged crimes registered per 100,000 inhabitants</td>
</tr>
<tr>
<td>2</td>
<td>Staff in prosecutors’ offices per 100,000 inhabitants</td>
</tr>
<tr>
<td>3</td>
<td>Agencies of the Public Ministry per 100,000 inhabitants</td>
</tr>
<tr>
<td>4</td>
<td>Percentage of the agencies of the Public Ministry that is specialized in serious crimes</td>
</tr>
<tr>
<td>5</td>
<td>Public prosecutors per 100,000 inhabitants</td>
</tr>
<tr>
<td>6</td>
<td>Judicial police officers per 100,000 inhabitants</td>
</tr>
<tr>
<td>7</td>
<td>Personnel for public safety functions per 100,000 inhabitants (first level, intermediate level, operational level)</td>
</tr>
<tr>
<td>8</td>
<td>Magistrates and judges per 100,000 inhabitants</td>
</tr>
<tr>
<td>9</td>
<td>Total staff in High Court of Justice per 100,000 inhabitants</td>
</tr>
<tr>
<td>10</td>
<td>Secretaries in High Court of Justice per 100,000 inhabitants</td>
</tr>
<tr>
<td>11</td>
<td>Criminal cases in Courts of First Instance among all investigation folders</td>
</tr>
<tr>
<td>12</td>
<td>Ratio between the number of prisoners and the prison revenues</td>
</tr>
<tr>
<td>13</td>
<td>Percentage of the incarcerated persons for robbery of the robberies initiated in previous investigations</td>
</tr>
<tr>
<td>14</td>
<td>Percentage of the incarcerated persons for homicide of the homicides initiated in previous investigations</td>
</tr>
<tr>
<td>15</td>
<td>Percentage of prisoners without trial in the first instance</td>
</tr>
<tr>
<td>16</td>
<td>Ratio between prison staff and installed capacity</td>
</tr>
<tr>
<td>17</td>
<td>Ratio between prison staff and prisoners</td>
</tr>
</tbody>
</table>