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The Rise of the Maquiladoras and Crimes in Mexico

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Abstract

While it is generally argued that a stronger labor market is negatively associated with crime, there exists a “consensus of doubt” around the relationship between employment and crime. This paper examines the impact of the rise of female labor participation in manufacturing on various types of crimes in Mexico from 1998 to 2012. A fixed effects specification and an instrumental variable approach with regional and time fixed effects are employed to compare the crime rates in municipalities that were heavily exposed to local factory openings to municipalities that did not receive a labor shock of the same magnitude. By introducing a gender component in the analysis, we provide evidence of a gender differential impact of employment on various forms of crime. Our findings shed the light on the importance of gender in the crime-employment relationship and inform policy makers interested in designing crime prevention programs.

Introduction

Over the last decades, many developing countries have industrialized and experienced a rise in female labor participation, especially in the export-oriented manufacturing sector. Given the puzzling relationship between labor market conditions and crime, this positive shocks has led to an upsurge of interest in discerning the impact of this increase on crime. This paper examines to what extant the rise of women working in the manufacturing sector has affected various types of crimes in Mexico.

The Maquiladora Program is a Mexican Government initiative established in 1964 to attract foreign investment in assembly plants in towns along the border with the United States. In 1994, the passage of NAFTA gave rise to a new program called the Maquiladora Manufacturing Industry and Export Services (IMMEX) and expanded the Maquiladora system to the interior of Mexico. Recent statistics from the Mexican Institute of Statistics (INEGI) suggest that Maquiladora firms employ 80 percent of Mexico's factory labor force and exports from Maquiladoras make up to 65 percent of the country's exports. Our paper will contribute to the growing literature in economics evaluating how large growth in low-skill jobs for young women in Mexico affects various outcomes such as fertility (Russov, 2016), child health (Atkin, 2009), and educational attainment (Atkin,2016).

Mexico provides a perfect setting to study the impact of female labor participation on crime. Over the period spanned by the data (1998–2012), Mexico experienced massive openings and expansions of factories to manufacture products for export. Total employment in export manufacturing sectors rose from under 900,000 formal sector jobs at the beginning of 1986 to over 2.7 million jobs in 2000, with one million of these jobs in Maquiladora firms¹. An interesting characteristic of those firms is that most of the workforce was made of female until the end of the 1990s when the skewed female-male ratio started to decrease. On the other hand, Mexico has also experienced the greatest increase in crimes among all Latin American countries, especially homicides during the last decades. Official estimates suggest that from 2007 to 2011, homicide rates threefold nationally, from 8.1 to 24 per 100,000 inhabitants.

¹ INEGI (Mexican National Institute of Statistics)

The World Bank's statistics² reveal that an increasing number of women are entering the workforce in Mexico. In 1990, female labor participation rate was 29.8%. This number rose to 37% in 2014 and is expected to increase. In that context, our study may pave the way to understanding the impact of female labor participation on crime. From a policy perspective, the results of our research may assist the scientific community as well as policy makers to shed the light on the importance of gender in the crime-employment relationship.

1. Brief Overview of the Economic Models of Crime

Unlike other sciences that have studied the roots of criminal behavior, the economic theories of crime do not model criminals as deviant individuals but rather as ordinary people who respond to some incentives, have certain preferences, or react to political and socio economic situations. A review of the literature suggests that economic theories on the roots of crime can be divided into three models: the rational model, the myopic model, and the radical political economic model.

1.1. The Rational Model of Crime

This model can be split up into a static and a dynamic model. In a static model (Becker (1968)³), decision of committing crime is driven by a cost/benefit analysis considering a single period. In a dynamic model, one compares the costs and benefits of crime in multiple time periods (Flinn ,1986) and individuals allocating time to criminal activities decrease the stock of social capita and thus are more likely to engage in a criminal activity because they have less to lose if they are apprehended (Williams and Sickles, 2000).

² The World Bank databank, Labor force participation rate (% of total population ages 15+), 2016

³ Becker's article has 14019 citations in the Journal of Political Economy as of December 2016.

1.2. The Myopic Model of Crime/Present oriented Model of Crime

Unlike the precedent models which assumed human beings to be rational, the myopic model explains why some individual would decide to commit a crime which yields negative returns in the long run.

This model suggests that hyperbolic discounting (*tendency for people to increasingly choose a smaller-sooner reward over a larger-later reward as the delay occurs sooner rather than later in time*) is an explanatory factor of crime (Rabin (1999), O'Donoghue,(2002)).

1.3. The Radical Political Economic Model of Crime

Those models suggest that political and socioeconomic factors such as poverty and inequality (Gordon (1973) and Taylor, Walton, and Young (1975)), unemployment (Nickerson (1983)), and education (Lochner (1999) are underlying causes of criminal behavior.

2. Empirical Research: Employment-Crime Relationship

In his review of sixty-three empirical papers, Chiricos (1987) concluded that throughout the 1970s and much of the 1980s, there existed a “consensus of doubt” around the relationship between unemployment rate and crime rate (U-C) at the aggregate level. Many other economists have concluded that the U-C relationship, measured at the aggregate level, is both inconsistent and insignificant (Fox,1978; Witte,1981; Orsagh, 1980, Wilson and Herrnstein, 1985).

Cantor and Land (1985) offer an argument to interpret the mixed empirical findings in the literature. Unemployment may affect crime via two effects: an opportunity effect and a motivation effect. Therefore, the effect that dominates will determine the direction of the correlation between crime and unemployment. Generally, problems of data quality and lack of strong identification strategy up to the 1990s made it extremely difficult to study the causal relationship between employment and crime.

Over the years, methodological improvements and the use of panel data (rather than cross-sections where estimates can be severely confounded by omitted variables) have allowed scholars to produce papers more likely to address the problem of endogeneity. Using prime defense contracts and a state-specific measure of exposure to oil shocks as instruments for unemployment rates, Raphael and Winter-Ebmer (2001) find that a decrease in unemployment rate in the US during the 1990s had a significant effect on the decline of property crime. In a more recent paper, Lin (2008) builds on these approaches and find similar results by exploring a longer time span between 1974-2000, employing three different instruments: real exchange rate, state manufacturing sector percentage, and state union membership rates. However, those papers do not account for subpopulations more likely to commit a crime, nor do they account for demographic changes in the labor market. Additional weaknesses from these papers are their inability to account for unemployment benefits and the duration of unemployment, which can both affect criminal behavior.

Rather than analyzing overall unemployment, a strand of the economic literature has focused its attention on individuals more likely to engage in a criminal activity, namely young, low-skilled and less educated males. Exploiting instrumental variables strategies, those papers use both panel data at the county level and individual-level data, thus allowing the authors to control for personal characteristics that are more likely to affect criminal behavior. Gould et al (2002) provide evidence that crime rates in the US from 1979 to 1997 were significantly affected by both wages and unemployment rates of less educated males. Most importantly, the paper suggests that improving employment opportunities is as significant as improving the wages of less skilled men in the quest for reduction of crime rates. Fougère et al. (2009) find evidence suggesting that youth unemployment increased property crimes but not violent crimes in France counties between 1990 and 2000. Finally, Grönqvist (2013) finds a positive causal relationship between youth unemployment and crime, evidenced in both property and violent crimes in Sweden. While these papers suggest that high youth unemployment significantly impact crime rates, they do not consider gender effects, nor do they provide insights into the motivation underlying the impact of youth unemployment.

One of the major structural changes in the labor markets of many countries since World War II has been the rapid rise of female employment. Consequently, a branch of the economic literature has been dedicated to exploring the importance of gender effects in the (un) employment-crime relationship. However, early papers in this sub-literature failed to employ strong identification strategies for causal inference, and often revealed weak and mixed results. On one hand, studies finding a negative relationship between female employment and crime emphasize the “latch key care” theory (Hoffman, 1974; Vandell and Ramanan, 1991; Aizer, 2004), the theory of “masculine identities” (Bourgois, 1996; Macmillan and Gartner, 1999) and the theory of “declining wages” (Hansen, 2002). The first theory stipulates that boys of working mothers are more likely to engage in anti-social behavior. The second theory suggests that female employment creates a “crisis of masculinity” and increases women’s risk of domestic violence. The third theory suggests that female labor participation puts a downward wage pressure on males in lower skilled jobs who are more likely to engage in criminal activities. On the other hand, Kapuscinski (1998)’s findings of a positive relationship between female unemployment and crime supports the idea that unemployed women who depend on a violent male breadwinner have no other option than continuing to expose themselves and their children to violence (“victimization theory”).

To the best of my knowledge, Hernandez (2015) is the first economic paper employing a strong identification strategy to infer causality in this sub-branch of the literature. The paper exploits a difference-in-difference strategy and an IV strategy to provide evidence that shocks to a female-intensive industry (flower) serve as a catalyst to curb unorganized violence, while shocks to a more male-oriented sector (coffee) increases unorganized violence, but reduce conflictual violence in Colombia.

Despite considerable progress made in the economics literature to study the employment-crime relationship, several questions remain ambiguous and there is room for future research ideas. One of the areas that could be incorporated is the quality of the law enforcement and the justice system when it comes to studying crime in developing countries. In addition, future research looking specifically at domestic violence should consider the within-industry and the between-industry wage gap between men and women. Conclusively, there is still no consensus as to whether labor participation rate or unemployment rate is a more appropriate proxy for labor market conditions.

Any study of the causal effect of employment on crime confronts the problem of endogeneity. Our paper elaborates on the aforementioned studies by looking at the expansion of female employment in the manufacturing sector in Mexico, which represents a shock to the economic environment of women. Our paper addresses the threat of endogeneity by employing an IV strategy to compare the impact of maquiladoras shocks on various forms of crime and contrast it to other less female-oriented sectors.

3. Data and Trends of Maquiladora Employment and Crime in Mexico

3.1. Data Sources

The employment panel data comes from a database of the Mexican Social Security Institute (IMSS) which provides employment information of all formal private sector companies by gender, year and municipality from 1998 to 2012.

Data on various types of crime at the state level (robbery, assault, rapes, various forms of violence against women, kidnappings, and extortions) are provided by the National Institute of Statistics, Geography, and Information (INEGI).

3.2. Descriptive statistics

A breakdown of the female workforce composition by sector shows that Maquiladoras are the main source of female employment over the period covered by my data ([Figure 1](#)). Moreover, the trend of Maquiladora employment by gender reveals that the essential workforce in the Maquiladoras is male, consistent with official statistics suggesting that Maquiladoras gradually started hiring more males by the end of the 1990s.

As shown in [Figure 2](#), employment in the manufacturing sector had been on the rise but experienced a sharp decline both in the years 2001 and 2008, which mark the US recession that has without a doubt affected the Mexican economy. [Figure 3](#) illustrates the average crime rates by category and reveals that the top 3 frequent crimes over the sample period are robberies, assaults, and extortions.

4. Identification Strategy

Our first identification strategy regresses crime rate on a measure of local expansions in manufacturing employment:

$$y_{mt} = \beta_0 + \beta_1 M_{mt} + \alpha_m + \alpha_t + \varepsilon_{st} \quad (1)$$

where M_{mt} is the employment growth rate in region m , y_{mt} is the crime rate in region m at year t , α_m and α_t represent the regional and year fixed effects respectively.

This empirical strategy compares the crime levels in municipalities that were heavily exposed to local factory openings in Maquiladoras to municipalities that did not receive a labor shock of the same magnitude at that period.

In addition to specification (1), we will test a fixed effect regression model with the ratio of female jobs to male jobs in the manufacturing sector:

$$y_{mt} = \beta_0 + \beta_1 X_{mt-1} + \alpha_m + \alpha_t + \alpha_{st} + \varepsilon \quad (2)$$

where X_m is the ratio of female jobs to male jobs, y_{mt} is the crime rate in region m at year t , α_m and α_t represent the regional and year fixed effects respectively.

Our dependent and independent variables are both converted in logarithmic forms. First, this transformation will simplify the interpretation of our results as a given absolute numerical change represents a given percent change. Second, natural logs are used so that estimates across multiple specifications are comparable. Finally, to strengthen our results, we will control for unemployment, education, and GDP per capita and the standard errors will be clustered at the regional level.

5. Threats to Identification

Omitted variables will bias coefficients if a third factor affects both municipality crime level and the characteristics of the municipality that drive the decisions of factories to locate in those municipalities. For instance, if factories locate in poorer regions to pay lower wages, there will be a spurious correlation between crime and female employment. Similarly, if factories locate in regions with high-skilled workers, we will wrongly identify a positive correlation between crime and employment.

The municipality and year fixed effects in equations (1) and (2) above eliminate time-invariant characteristics of the municipality. Clustered standard errors at the municipality level prevent misleading inference due to serial correlation in the error term across years within a municipality (Bertrand, Duflo, and Mullainathan 2004).

While the models proposed in equation (1) and (2) are likely to address the problem of omitted variables bias, we still need to address another endogeneity issue which is that factories could locate based on crime levels. As a matter of fact, if factories are relocating in less crime prone regions, then employment and crime will be negatively correlated.

The regression estimates obtained with the models described above will only measure the magnitude of an association, rather than the causation that we are trying to identify. To mitigate concerns about endogeneity and to strengthen our results, we propose to employ an instrumental variable strategy described in the following paragraphs.

6. Instrumental Variable Strategy

My identification strategy builds on the approach originally employed by Bartik (1991). The “Bartik instrument” or “Shift-share instrument” is one of the most popular instrument used in Labor Economics to isolate labor demand shocks from labor supply shocks⁴. Specifically, lagged local industrial composition is interacted with industrial growth rates at the national level to generate a predicted local labor demand shock. In this paper, I instrument for female employment using state employment growth rates in the manufacturing industry weighted by the share of female manufacturing jobs at the city level:

$$z_{rt} = \sum_{i=1}^I g_{rt} S_{rt-1} \tag{3}$$

where z_{rt} is the predicted employment, S_{rt} is the industry’s share of total employment in region r at time $t-1$, and g_{rt} represents employment growth rate in region r between times $t-1$ and t .

The intuition behind this instrument is that if one municipality has a large employment share in the manufacturing sector and employment in that sector increases across the country, we would expect local employment to increase as well. The identifying assumption is that if a positive (negative) shock at the national level can lead to a positive (negative) shock at the local level, then the IV should be a valid predictor of actual local employment.

⁴ See, for example, Bartik (1991); Blanchard and Katz (1992); Bound and Holzer (2000); Notowidigdo (2013); Diamond (2012).

Like any IV, the Bartik instrument needs to satisfy the strong first stage and the exclusion restriction conditions. The first condition requires that the employment growth rates at the local level be strongly correlated with the instrument ($F \geq 10$).

The second condition requires that the instrument be uncorrelated with crime rates. In other words, predicted employment must not be correlated with local labor supply shocks. Put differently, a valid Bartik IV requires that the national changes in an industry are not due to changes within a single municipality. As argued by Rossov (2016), local industries such as the service industry are less likely to be sensitive to national trends. However, a demand shock to internationally traded goods is likely due to exogenously determined factors that affect local employment in the sectors producing those goods. Furthermore, two more arguments are in favor of the Bartik IV for the manufacturing sector. First, the diversification of Mexico's manufacturing sector across regions allows a spatial variation in how sensitive municipalities are to exogenous demand shocks. Second, the harsh Asian competition in some sub-sectors is not felt equally across all regions, leading to another source of spatial variation.

7. Fixed Effects Results

We exploit a database providing various forms of crime at the state level. To simplify our analysis, we present our results by grouping our crime variables in three categories, specifically violent crimes (sexual assaults, and aggravated assault), property crimes (robbery, carjacking, bank robbery) and economic crimes (breach of trust, extortions, fraud).

7.1. Maquila shocks and economic crimes

We first look at crimes purely seeking financial gain and committed by means of deception. Probably because those crimes do not necessarily involve physical violence, they have not received much attention in previous economic studies. However, those offenses cause great financial and mental harms to the victims and deserve more attention (Davies, 2003 & Mc Gurrin,2010)

Economic crimes, which include extortions, breach of trust and fraud, have become a major problem in Mexico. In 2014, Mexico ranked sixth in the list of countries that experienced cybercrimes and was number one in Latin America, followed by Brazil and Colombia. Among the most recurring cybercrimes reported in this category of crimes are credit card fraud, malicious code, identity theft, ransomware, and crypto-ransomware.

[Table 2](#) shows that incidence of extortions and breach of trust increases with female employment but decreases with male employment. Consistent with our hypothesis, we show that economic crimes increase in areas with larger expansions of the maquiladora industry because more employed people are likely to be targeted by criminals.

7.2. Maquila shocks and property crimes

We turn to the impact of employment on property crimes. The coefficient estimates in [Table 3](#) are consistent with the economic theory that predicts a strong causal link between employment and property crimes - such as robbery and burglary, in which money is often a motive. In other words, our results are in line with the “opportunity effect” that implies that strong labor conditions mean more goods worth stealing, and fewer people staying at home to guard them (Cantor,1985). Interestingly, we find that the estimates for male employment are smaller in magnitude but negatives. Again, property increase with female employment but decrease with male employment.

7.3. Maquila shocks and violent crimes

Finally, we look at violent crimes and we find no significant effect of employment on sexual offences and aggravated assaults ([Table 4](#)). Generally, the lack of causal link between employment and violent crimes suggests that those types of crimes are less closely associated with economic hardship (Philips et al, 2012).

However, I find that aggravated assaults tend to increase when female employment goes up and decrease when male employment goes up. On one hand, we can argue that assaults are typically driven by the intent to provoke physical harm rather than pursuing economic motives. It may therefore be surprising that we find a significant relationship between employment and aggravated assaults. However, it is worth noting that the effects of employment on assaults may be amplified through its effects on property crimes. Given that property states crimes are often perpetrated in conjunction with assaults (or may result in assaults), it may be the case that more male employment lowers the benefit of acquisitive crimes and thus brings down the incidence of aggravated assaults.

8. Instrumental Variable Estimates

Predicted employment is highly correlated with actual employment, and the first stage appears strong. The regression estimates obtained employing an instrumental variable approach ([Table 5](#)) suggest that exogenous shocks to male and female employment in manufacturing differentially affect crime rates. Those estimates are consistent with the fixed effects results and suggest that positive shocks to men's labor demand decrease the rates of various types of crimes, in contrast to female employment.

9. Robustness checks

It can be argued that the Mexican War on Drugs launched in 2006 created a wave of violence and may be driving my results. Therefore, I test for a structural break by running a regression before and after the so called Mexican War on Drug. The results presented in [Table 7](#) remain consistent for personal and property crimes before and after the structural break. However, we find no gender differential impact of employment on extortions during the so-called War on Drugs. It is worth noting that Mexico is a country where extortion is a booming industry and is perpetrated by criminal organizations rather than isolated individuals. As a matter of fact, there is suggestive evidence that since the President Felipe Calderón began his crackdown against drug cartels in 2007, the Mexican government has focused its actions on targeting their leaders and fracture the large DTOs into smaller ones. Thus, those smaller organizations have started to diversify their activities and specialize in less riskier activities such as extortions. As a matter of fact, the National Survey on Victimization and Public Safety ⁵ suggest that extortions remained the second most frequent crime in Mexico in 2012, with 7,585 extortions committed for every 100,000 residents as compared with 5,653 in 2011, a 34% increase.

A second robustness check we estimate a regression by grouping states by level of crime based on the Mexico Peace Index which is a National Peace Index produced by the Institute for Economics and Peace. The MPI measures the level of peacefulness in Mexico and rank each state by the level of peacefulness. Specifically, the index aggregates data from public surveys as well as official data and is based on 5 indicators: incarceration rates, rates of organized crimes, rates of violent crimes, police funding and efficiency of the Justice System. [Table 6](#) reports OLS and IV results that are robust regardless of the initial level of violence in a state. In other words, my results are robust as well in crime-prone states as in safe states.

⁵ INEGI, Encuesta Nacional de Victimización y Percepción sobre Inseguridad (ENVIPE 2012)

Conclusion

In this paper, I use a unique dataset to explore the role that employment growth in manufacturing play on various forms of crime. My main finding suggests an asymmetric result where property crimes and economic crimes increase with female employment but decrease as male employment increases. Consistent with Hernandez (2015), I find suggestive evidence that various types of crimes are positively correlated with male employment and negatively associated with male employment

In the economic literature, statistics have been consistent in reporting that men are more likely to commit crime. Therefore, our results support the idea that the motivation effect of acquisitive crimes goes down as men have more job opportunities. On the other hand, the results we find with female employment may indicate that the more women are entering the workforce, the more likely they are exposed to various forms of violence. In other words, this result is in line with the theory of “masculine identities” (Bourgois, 1996; Macmillan and Gartner, 1999, Kapuscinski, 1998).

This paper provides evidence in a wide variety of models and robustness checks that international trade agreements, which dramatically increase employment opportunity for females, have a gender differential impact on different types of crime. This is particularly an interesting result given the anecdotal evidence that suggests that female Maquiladoras employment are associated with violent crimes (Femicide in Ciudad Juarez between 1993 and 2003). I have shown in this study that maquila jobs did not increase violent crimes, but did contribute to the increase of acquisitive crimes in Mexico from 1998 to 2012.

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APPENDIX

[Table 1](#): Summary Statistics

VARIABLES	(1) N	(2) mean	(3) sd
Homicides	423	30.80	17.57
Extortions	423	258.1	172.3
Rapes	423	13.53	6.714
Assault	423	220.7	119.9
Threats & other sexual crimes	423	415.5	341.3
Kidnapping	423	0.756	2.051
Common Robbery	423	543.7	436.6
Bank Robbery	423	0.452	0.725
Female manufacturing	423	1,307	1,254
Male manufacturing	423	2,405	1,933

Note: The various crime rates are calculated by dividing the number of reported crimes by the total population; the result is multiplied by 100,000. The male and female manufacturing rates are calculated by dividing the number of jobs in manufacturing by gender by the total population; the result is multiplied by 100,000.

[Figure 1](#): Average number of female jobs in Mexico per sector

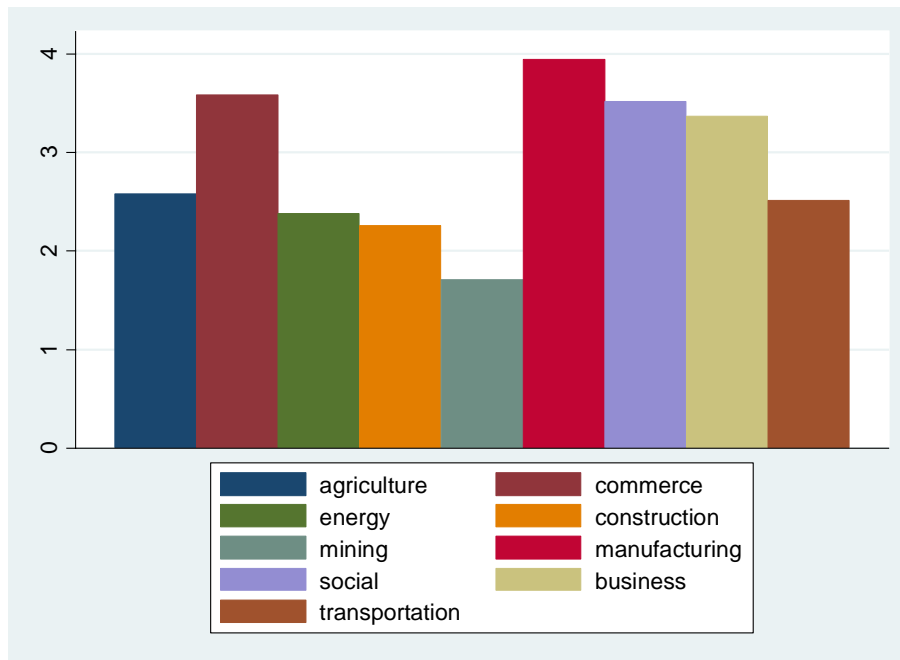


Figure 2: Trend of manufacturing jobs by gender

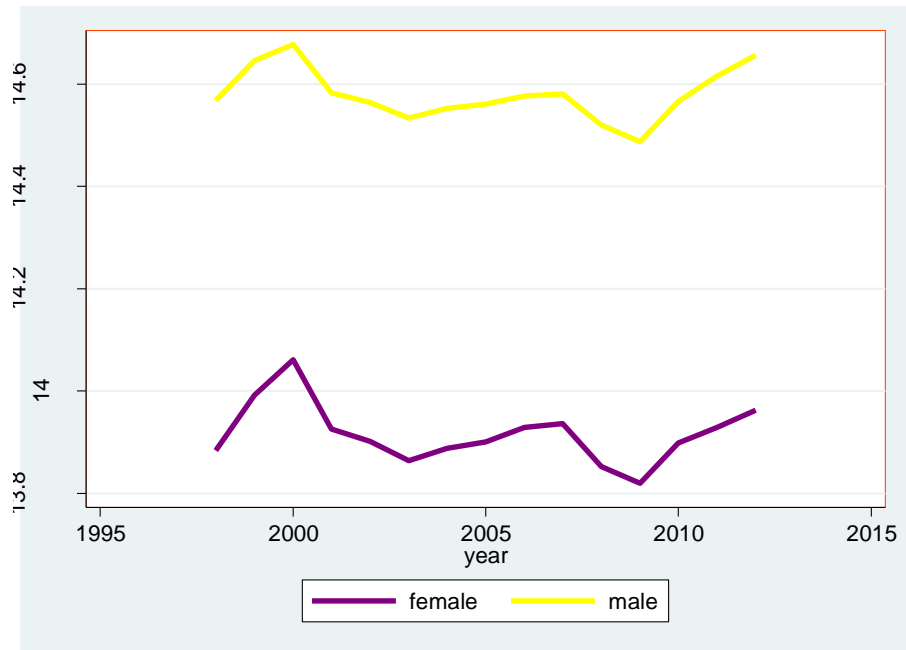
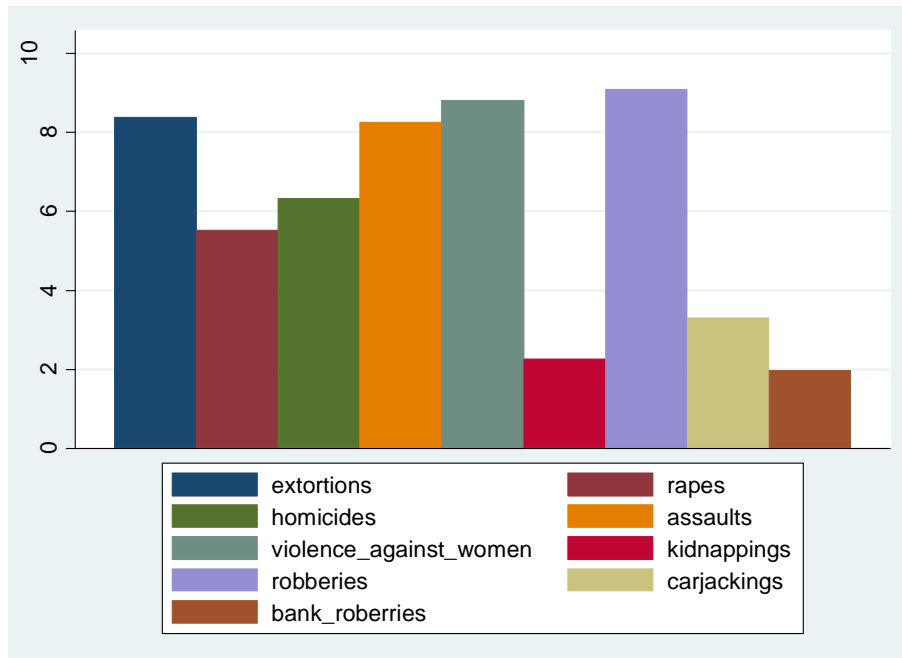


Figure 3 : Average number of incidents by type of crime



[Table 2](#): Results for Economic Crimes

	Abuse of Confidence	Fraud	Extortions	Abuse of Confidence	Fraud	Extortions	Abuse of Confidence	Fraud	Extortions
1. Growth-Based Model									
Female employment	1.902*	1.451	2.377***	1.966*	1.587	2.387***	0.728	0.475	1.225*
	(1.110)	(1.069)	(0.760)	(1.149)	(1.056)	(0.819)	(0.556)	(0.419)	(0.694)
Male employment	-0.783**	-0.331	-1.948***	-0.819*	-0.536	-1.827***	-0.0939	0.0499	-0.848
	(0.379)	(0.457)	(0.492)	(0.430)	(0.475)	(0.486)	(0.490)	(0.571)	(0.614)
Observations	446	446	435	433	433	423	433	433	423
R-squared	0.889	0.882	0.860	0.891	0.884	0.865	0.933	0.927	0.895
2. Ratio-Based-Model									
Female/Male	3.983*	2.774	5.150***	4.132*	3.089	5.158***	1.474*	0.687	2.824**
	(2.159)	(2.042)	(1.552)	(2.252)	(2.027)	(1.671)	(0.807)	(0.609)	(1.339)
Observations	446	446	435	433	433	423	433	433	423
R-squared	0.885	0.878	0.858	0.887	0.880	0.863	0.932	0.926	0.895
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
State-time trends	N	N	N	N	N	N	Y	Y	Y
Controls	N	N	N	Y	Y	Y	Y	Y	Y

Clustered Standard Errors at the State Level

* p < 0.10, ** p < 0.05, *** p < 0.01

[Table 3: Economic Crimes](#)

	Robberies	Carjacking	Bank Robberies	Robberies	Carjacking	Bank Robberies	Robberies	Carjacking	Bank Robberies
1. Growth-Based Model									
Female employment	1.211*	2.265*	1.251	1.242*	2.521**	1.213	0.601	1.697	0.387
	(0.607)	(1.215)	(1.512)	(0.643)	(1.184)	(1.476)	(0.376)	(1.250)	(1.092)
Male employment	-0.817	-0.209	-0.784	-0.771	-0.108	-0.609	-0.467	-0.220	-0.464
	(0.591)	(1.141)	(1.539)	(0.547)	(1.088)	(1.489)	(0.468)	(1.684)	(1.280)
Observations	448	214	370	435	210	357	435	210	357
R-squared	0.945	0.805	0.694	0.947	0.816	0.705	0.964	0.861	0.801
2. Ratio-Based-Model									
Female/Male	2.846**	4.729*	2.233	2.938**	5.398*	2.074	1.393**	3.347	0.514
	(1.243)	(2.748)	(3.606)	(1.309)	(2.607)	(3.579)	(0.646)	(3.354)	(2.371)
Observations	448	214	370	435	210	357	435	210	366
R-squared	0.945	0.800	0.698	0.947	0.811	0.703	0.964	0.859	0.797
Year FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
State-time trends	N	N	N	N	N	N	Y	Y	Y
Controls	N	N	N	Y	Y	Y	Y	Y	Y

Clustered SE at state level

* p < 0.10, ** p < 0.05, *** p < 0.01

[Table 4](#): Personal Crimes

	Assaults	Sexual Assaults	Assaults	Sexual Assaults	Assaults	Sexual Assaults
1. Growth-Based Model						
Female employment	1.318*	0.251	1.338*	0.288	0.639	0.583
	(0.800)	(0.384)	(0.768)	(0.350)	(0.485)	(0.473)
Male employment	-0.940*	0.145	-0.879*	0.111	-0.539	-0.495
	(0.486)	(0.357)	(0.512)	(0.370)	(0.431)	(0.431)
Observations	447	448	434	435	434	434
R-squared	0.938	0.912	0.943	0.916	0.964	0.964
2. Ratio-Based-Model						
Female/Male	2.606*	0.500	2.746*	0.591	1.164*	0.0665
	(1.534)	(0.808)	(1.610)	(0.735)	(0.678)	(0.428)
Observations	447	448	434	435	443	444
R-squared	0.937	0.911	0.940	0.915	0.964	0.948
Year FE	Y	Y	Y	Y	Y	Y
State-time trends	N	N	N	N	N	N
Controls	N	N	N	Y	Y	Y

Clustered Standard Errors at the State Level

* p < 0.10, ** p < 0.05, *** p < 0.01

[Table 5](#): Instrumental Variable Estimates

	Personal Crimes		Property Crimes		Economic Crimes	
	Assaults	Sexual Assaults	Robberies	Bank Robberies	Abuse of Confidence	Extortions
Female employment	1.338*	0.308	1.681*	2.393	2.155*	2.715***
	(0.757)	(0.404)	(0.859)	(2.094)	(1.264)	(0.906)
Male employment	-0.242	0.201	-0.489	-1.449	-0.584	-1.496*
	(0.688)	(0.488)	(0.769)	(1.826)	(0.805)	(0.749)
Observations	191	192	192	157	191	185
R-squared	0.933	0.913	0.937	0.726	0.883	0.847
State FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y

Clustered Standard Errors at the State Level

* p < 0.10, ** p < 0.05, *** p < 0.01

[Table 6](#): Robustness Check:
War on Drug

	PRE-WAR ON DRUG			POST-WAR ON DRUG		
	Assaults	Robberies	Extortions	Assaults	Robberies	Extortions
Female employment	1.186 (1.075)	0.841 (1.211)	1.746 (1.047)	0.514 (0.477)	1.180** (0.535)	0.548 (0.767)
Male employment	-1.035 (0.895)	-3.826* (1.943)	-1.792* (1.016)	-0.399 (0.580)	-0.545 (0.547)	0.180 (0.976)
Observations	192	146	186	222	222	217
R-squared	0.957	0.890	0.899	0.966	0.950	0.907
State FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y

Clustered Standard Errors at the State Level

* p < 0.10, ** p < 0.05, *** p < 0.01

[Table 7](#): Robustness Check:

Most Peaceful States and Least Peaceful States

	SAFE STATES			DANGEROUS STATES		
Female employment	0.329 (0.432)	1.080** (0.485)	1.446* (0.815)	1.950 (1.138)	1.429 (0.871)	2.561* (1.260)
Male employment	-0.333 (0.644)	-0.821 (0.608)	-0.984 (0.822)	-1.267* (0.636)	-0.899 (0.733)	-2.210** (0.785)
Observations	238	230	226	209	210	204
R-squared	0.944	0.953	0.846	0.932	0.926	0.885
State FE	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y
Controls	Y	Y	Y	Y	Y	Y

Clustered Standard Errors at the State Level

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$