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**HOW RETAIL DRUG-DEALING INCOME COULD
DISINCENTIVE YOUNGSTERS FROM
PARTICIPATING IN THE FORMAL
LABOUR MARKET?
A FIRST APPROXIMATION FOR MEXICO**

ALFONSO DAVID APARICIO BOLAÑOS

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ASESOR:

ANTONIO YÚNEZ NAUDE

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Abstract

This document considers the impact illegal retail drug-dealing wages have on Mexican youngster's decision to join the legal labour market, via the research question: "*How retail drug-dealing income could disincentive youngsters from participating in the formal labour market? A first approximation for Mexico*".

The approach taken consisted of first, doing some background reading on various topics related to the main research question, such as the current conditions of the Mexican economy, the violence, the war on drug which has unfolded in the country, the possible similarities drug-dealing shares with the labour migration phenomenon, and then estimating retail drug-dealing revenues in the Municipality of Nezahualc6yotl, State of Mexico.

To support this research, first-hand data concerning the number of convicted dealers and type of drugs sold in Nezahualc6yotl were provided by the municipal police: The General Directorate of Citizen Security. Additional data were taken from the National Institute of Statistics, Geography, and Information (INEGI), the Organisation for Economic Co-operation and Development (OECD), and the Mexican Executive Secretariat of the National Public Security System (SESNSP), to pave the way for the case study presented in the last section of the document. It must be acknowledged that first-hand data were scarce, and no explicit retail drug-dealing wages were provided. Hence, assumptions had to be made to carry out the analysis.

In the main body, there is a detailed discussion of what could incentive youths to opt for a life of crime in the drug-dealing industry. The most general reason is the grim economic conditions that exist in the legal labour sector, where informality abounds and where many small, unproductive firms have flooded the economy. The section on migration provides evidence to support the role wage differentials play to offset the movement of people across national and international territories. Finally, retail drug-dealing wages are estimated for the municipality of Nezahualc6yotl, and subsequently compared to the minimum wages people earn at legal, labour-intensive jobs.

The result of all the material presented along the four sections concludes that estimated retail drug-dealing wages are higher than legal minimum wages at low-skill occupations, which

could incentive youths to enter the industry if they are risk-neutral. Unfortunately, no causality could be established due to insufficient data on exact figures regarding retail-drug dealing income.

Contents Page	
Introduction	2
1. Low Productivity of the Mexican Economy and its impact on wages	4
1.1 Outline	4
1.2 General problem	4
1.3 Returns to education and work experience	8
1.4 Hours worked per year and minimum wages	9
2. The Mexican war on drugs: A brief outline of the social costs	12
2.1 The hidden war and drug-related violence	12
2.2 Descriptive Statistics	17
2.3 The social cost of violence	23
3. Labour and Drug Traffic Markets	26
3.1 Outline	26
3.2 Theory: Migration models	27
3.3 Empirical Evidence	30
4. Case Study: Young Dealers in Ciudad Nezahualcóyotl, State of Mexico	35
4.1 Drug market supply structure and profits	35
4.2 Retail drug-dealing in Nezahualcóyotl: Case Study	37
4.3 Discussion on wages	42
Conclusion	49
References	50

Introduction

The aim of this document is to consider if wage differentials from retail drug-dealing could disincentive Mexican youngsters from finding a job in the legal sector. It is assumed throughout that the only two options youths faced were to work in the legal sector or to become dealers. Pursuing further education was not considered as an option, since at the beginning of the project it was speculated that people who would choose to become drug-dealers need not necessarily have high levels of education.

This research is innovative, since there is not much literature regarding the labour market for youngsters involved in drug-dealing activities from an economic perspective, and there is even less focused on Mexico. Moreover, the original hypothesis was that expected higher wages from retail drug-trafficking were enough to incentive youngsters to opt for employment in that industry, rather than finding a job in the legal sector. However, as the title suggest, this is merely a first approach to testing the hypothesis, since lack of necessary data made it impossible to run an econometric analysis. Further research is needed to establish causality. Therefore, the empirical part of the document limits itself to the gathering of indirect data and information and to do preliminary estimations on wage differentials.

The document consists of four main sections. The first one borrows heavily from the work done by Santiago Levy to outline the complex economic situation young people face when they join the labour force. In stark contrast with the grim economic scenario, data from the OECD shows that Mexican workers were the ones – from all other OECD countries – who spent the most time labouring in 2017. Yet, information on minimum wages shows that Mexicans are paid very low salaries for all their hard work.

The second section considers the social cost of violence. It documents how much money has been spent on military equipment by the Mexican federal government. It also shows the effect of corruption, the many lives lost in organised-crime-style killings from 2006 to the present time, and the brutality of drug-related violence through two events that took place in 2010 and 2011. Moreover, it tracks the criminal incidence for six different offences in the whole country, the State of Mexico, and Mexico City.

The third section considers the similarities and differences between the decision to migrate – nationally or internationally – and the decision to become a drug-trafficker. In this section it is portrayed that labourers respond to wage differentials when they choose to migrate, but that additional physical and transport costs need to be considered before this process takes place. There is a brief discussion of the age and sex of Mexican migrants from 2008 to 2015. Mexican federal entities which have been traditional emigration areas are studied, and it is then seen that key cartels have strong presence in those States as well. The role remittances play in the Mexican economy is discussed last.

The fourth and final section presents the socioeconomic background of troubled Mexican youths who have been convicted for various offences. The characteristics a drug-dealer is likely to possess are discussed afterwards. Additionally, estimations are made – based on the data provided by the General Directorate of Citizen Security – to determine the average profits a retail drug-dealer from the municipality of Nezahualcóyotl could make from selling cannabis and cocaine. An explanation of my estimations is also provided. Finally, a chart presents the official Mexican minimum wages that workers earn for various labour-intensive occupations. A comparison between the estimated drug-dealing wages and their formal minimum counterparts is made to give a first explanation of why youngsters could choose to work in one sector or the other.

1. Low Productivity of the Mexican Economy and its impact on wages

1.1 Outline

The aim of this section is to comprehend the Mexican economic conditions in which the younger generations will need to work and develop, and how these circumstances could create incentives for youngsters to deviate from working in the legal sector. The second and third subsections borrow heavily from Santiago Levy's work to explain the economic arena youngsters will find themselves in once they join the labour force. The fourth subsection presents a discussion on the minimum wage, and how it is insufficient to support decent living conditions. Additionally, data from the OECD compares Mexico to other nations in terms of hours worked throughout 2017. The data show that the hours worked by Mexicans greatly exceed those of other "western" OECD nations, and that low wages do not compensate them for their sacrifice. All in all, this section gives an economic background of Mexico, which is the point of departure to understanding why some youths could choose illicit activities over formal employment.

1.2 General problem

Over the past twenty years Mexico has made several efforts to become a dynamic global economy. According to the Office for Domestic Affairs (Secretaría de Gobernación, SEGOB) by 2015 the country had 12 free-trade agreements with 46 countries and over 40 more trade agreements, of a different kind, with other nations¹. Additionally, the country has experienced macroeconomic stability and low inflation since the mid-nineties. The inflation rate has gravitated around the 4% level over the past 15 years. Moreover, the working-age population is growing at a higher rate than the rest, and the level and quality of education have increased over time. Nevertheless, given all these achievements, Mexico has not yet become the modern and developed economy it wishes to be².

Several factors – which will be discussed in the following pages – have prevented the country from reaching its objectives and full economic potential. Based on the seminal book *Esfuerzos mal recompensados: la elusiva búsqueda de la prosperidad en México* (*Badly-rewarded efforts: the elusive quest for prosperity in Mexico*) this subsection and the next use the book's most important facts as indirect evidence to argue that the wages Mexican workers earn are indeed low

¹ <https://www.gob.mx/se/acciones-y-programas/comercio-exterior-paises-con-tratados-y-acuerdos-firmados-con-mexico> (Accessed 01.11.2018)

² (Levy 2018) p.6

and have a direct impact on the working choices they make. It is also a benchmark, for it provides indirect empirical evidence to show that the Mexican youth faces severe challenges when joining the labour force. Keeping this last idea in mind, Levy's analysis on Mexico's poor economic performance sheds light on why some youngsters could potentially choose to join the drug trafficking industry over any sort of formal/informal, but legal, employment. Bearing in mind all the economic achievements Mexico has accomplished over the past three decades, the main question to be answered is why, then, despite all the serious attempts to boost, reform and stimulate the nation's economic performance Mexico has not yet become a developed country nor a thriving economy. Mexico's growth rates, rather, have been disappointingly low.

According to Levy³, the problem behind low growth is not due to low levels of the factors of production themselves – labour and capital – but rather to the fact that total factor productivity has stagnated over the past two decades. The very condensed reason behind the author's argument is a huge misallocation and misuse of the available resources. That is to say, large amounts of available factors of production have been devoted to the most inefficient areas of the economy rather than to their more efficient counterparts, and that has led to the clogging of economic development. Several factors need to be considered to see the bigger picture.

The misallocation problem is made clear by looking at how firms have received their respective share of resources. A large amount of these has gone to very inefficient – often small and informal⁴ – enterprises, rather than to their large, formal and efficient counterparts. This can be seen using Levy's chart for 2013⁵ and the subsequent graphs based on its data:

³ (Levy 2018)p.53

⁴ Types of firms: Fully formal: only salaried workers and follow fiscal social security regulations; Mixed: salaried and non-salaried workers and could partially avoid fiscal social security regulations; Informal and legal: Only non-salaried workers; Informal and illegal: Only salaried workers but avoid fiscal social security regulations. p.76

⁵ The chart presented here is a replica of Levy's chart 3.6.

Resource allocation by size and type of the firm, 2013					
	Fully formal	Mixed	Informal and Legal	Informal and Illegal	Total
Firms					
1 to 5	1.98	3.46	71.16	14.99	91.59
6 to 10	0.92	1.14	0.94	1.54	4.54
11 to 50	1.02	0.94	0.48	0.68	3.12
51 +	0.27	0.24	0.2	0.04	0.75
Total	4.19	5.78	72.78	17.25	100
Workers					
1 to 5	1.39	2.5	26.84	8.96	39.69
6 to 10	1.65	2.02	1.57	2.66	7.9
11 to 50	5.19	4.64	2.46	3.02	15.31
51 +	13.64	13.31	8.82	1.33	37.1
Total	21.87	22.47	39.69	15.97	100
Capital					
1 to 5	1.95	2.32	9.86	4.6	18.73
6 to 10	2.14	1.65	1.49	1.43	6.71
11 to 50	5.38	3.84	4.18	1.86	15.26
51 +	20.62	19.41	17.9	1.37	59.3
Total	30.09	27.22	33.43	9.26	100

Figure 1

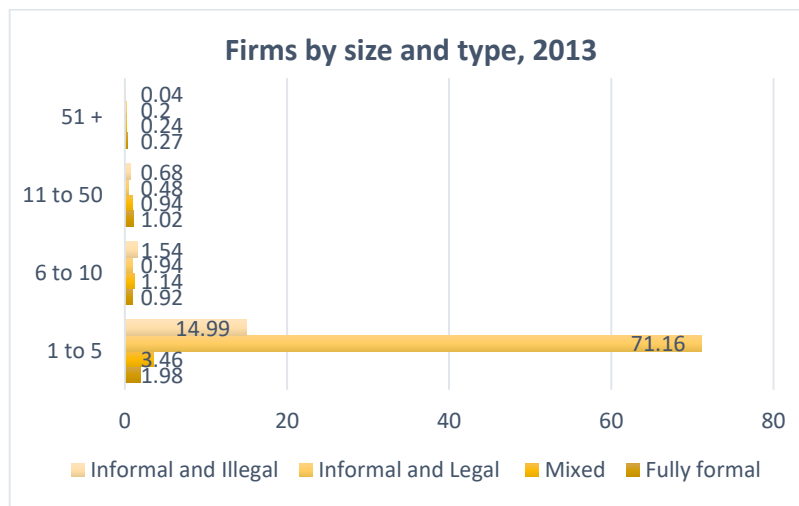


Figure 2

Furthermore, the graphs replicate the author’s findings and provide visual evidence of the composition of firms in terms of their type and size, and on the distribution of labour and capital per type of enterprise – Figure 3 and 4, respectively. First, Figure 2 reveals that in 2013 fully-formal and mixed were the rarest sorts of company. Moreover, small, informal and legal/illegal were the most common type of firm for the same year: around 71% of them were of the informal-and-legal category and consisted of 1 to 5 employees.

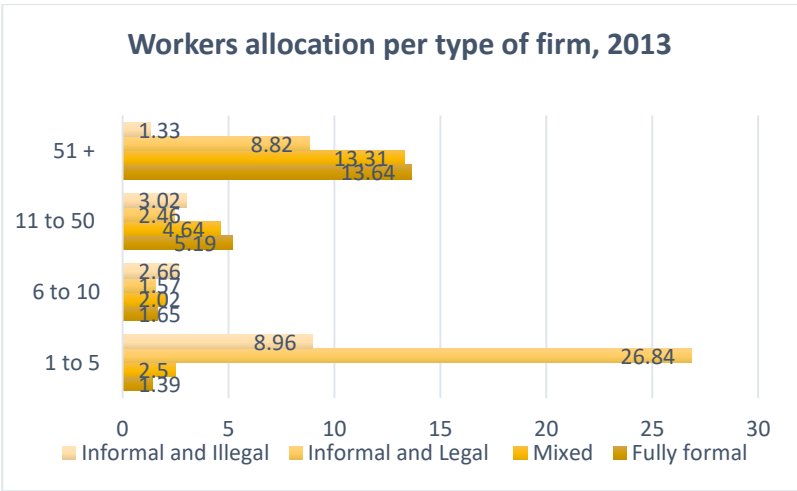


Figure 3

Figure 3 shows that a fair number of workers were employed in small and informal companies: roughly 27% of the workers of the 2013 economic census worked at a small, informal and legal firm, and about 9% of them worked for a small, informal and illegal one. In contrast, large, fully-formal and mixed sort of enterprises employed roughly 13.5% of workers each. Figure 1 shows that 55.66% of the total workers were employed in informal enterprises, meaning that the informal sector already captured more than half of the available employees.

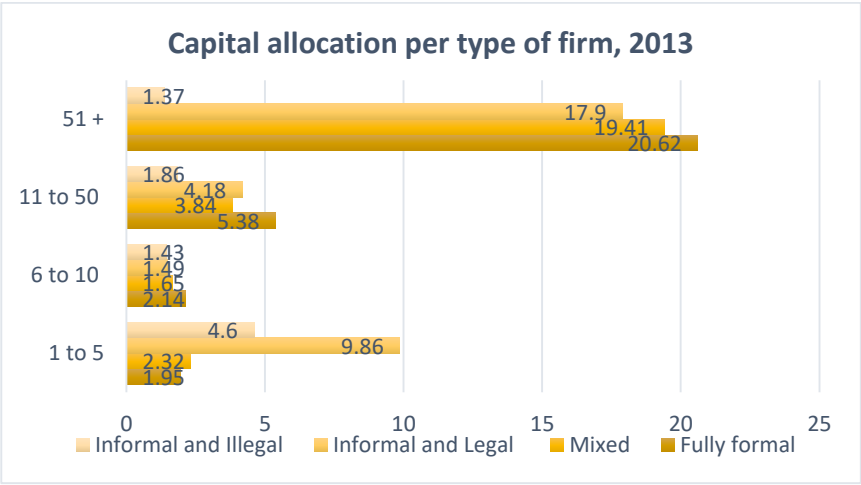


Figure 4

Figure 4 portrays how capital was divided given the type of enterprise. Unlike the first two graphs, this one shows that most capital went to large firms: Both, formal and mixed enterprises, received 20% of the available capital each. Additionally, about 18% went to big informal and legal companies. Yet, roughly 10% of capital also went to small, informal and legal businesses. On the

aggregate, almost 43% of capital went to the informal sector, that is 33.43% to informal and legal companies, and 9.26% to informal and illegal ones, as seen in Figure 1.

The Mexican fiscal system did not help to amend the harmful misallocation of resources either. Levy⁶ documents the large asymmetry that exists in the way Mexican firms are taxed. Overall, he explains that enterprises were taxed differently depending on their profits. In principle, all firms were subject to the General Regime (Régimen General) in which they must pay a sales tax of 30%. However, in 2013 there was a distinction on the amount of tax a company had to pay based on its profits. Firms which made profits under, or up to, 2 million Mexican pesos only had to pay 2% of sales tax. They were taxed under the Small Taxpayer Regime (Régimen de pequeños contribuyentes, REPECO). Yet, if a firm was making profits over that amount, they were subject to a 30% sales tax. He finds that this distinction drastically affected the growth incentives of firms, since firms reaching the REPECO limit would be less likely to go over that threshold, given that the amount of sales tax payed would substantially change⁷. Additionally, if they went over the limit, and at some point, their profits went down to 2 million pesos or less, they were unable to go back to the Small Taxpayer Regime. It is very likely that this fiscal asymmetry did not help much to combat informality in the country.

1.3 Returns to education and work experience

It is rather shocking – but worth emphasising – that despite the disappointingly low growth rates Mexico has had over the past two decades, the quality of education and years of schooling of the young workers joining the labour force have increased. It is important to have a closer look at the returns to education and work experience of the Mexican labour force, since it is assumed that more years of schooling and experience will always translate to increased productivity and higher wages. However, understanding the economic environment in which all of this happens is just as relevant.

The author finds that the wages for those employees with higher years of schooling have, in fact, decreased relative to wages of those workers with less schooling. The reason is that more people are graduating from university, hence, increasing the supply of highly skilled workers. However, on the demand side, given the resource misallocation problem that prevails in the

⁶ (Levy 2018) p.46

⁷ (Levy 2018)

country, firms are not really hiring highly educated employees. This leads to an excess supply of skilled labour which has lowered their wages over time⁸.

Levy, therefore, sustains that in an economy with misallocated resources, workers are very unlikely to find the right job at the right firm. These individuals are very likely to end up doing jobs for which they are overqualified. Additionally, since many workers are employed in the informal sector and a huge proportion of Mexican firms are small and informal, employees end up moving from one job to another on a very regular basis, without increasing the firm's productivity or their own. Therefore, this constant change prevents individuals from acquiring any meaningful work experience throughout their working life and hinders productivity⁹.

To sum things up, Levy establishes that years of schooling and quality of education have, in fact, increased and improved. However, excess supply of skilled labour has led to lower wages. Furthermore, on the aggregate, employees do not acquire any further skills throughout their working life, since the misallocation of resources forces them to constantly find new jobs. Hence, the returns to their work experience have remained constant¹⁰. This grim context could discourage the young from staying in school, pursuing higher education, or finding a legal job, since acquiring work experience and/or graduating from university will not necessarily translate into higher wages over time.

1.4 Hours worked per year and minimum wages

In theory, it is assumed that people would choose to work in activities at which they had a comparative advantage. Roy states that everyone “is capable of producing some output in every occupation, although in some lines of activity there are many [...] whose potential output is not far removed from zero”¹¹. Furthermore, people “tend to take up the occupation which offers the greatest reward”¹². This is in line with the economic assumption of rationality. Moreover, it seems that the excess supply of skilled labour, which Mexico has experienced over the past decades, and the consequential fall of their wages, is consistent with Roy's theory, since he states that the “incomes earned in a particular activity will be greater than any [...] in occupations in which the

⁸ (Levy 2018) p.204-209

⁹ (Levy 2018) p.36

¹⁰ (Levy 2018) p.39

¹¹ (Roy 1951) p.141

¹² (Roy 1951)

performance of individuals is more concentrated and less than any earned where individual performances are less concentrated”¹³.

Data from the Organisation for Economic Co-Operation and Development¹⁴ (OECD) reveals that for 2017 Mexican employees were the ones who worked the most hours per year, with an average of 2,257 hours worked in 2017, as shown in Figure 5, below. This documents that the average Mexican worker spent roughly 43.3 hours per week in her respective job. It can also be seen that a lot of citizens of other OECD countries whose economic performance is much better than Mexico’s – the likes of Germany, France, the United Kingdom, the United States, among others – on average worked less hours per year than their Mexican counterparts. It is also very likely that domestic workers in those countries would earn higher wages, even if they work less hours. To see this last point, it seems convenient to consider the minimum wages in some of these countries and contrast them with the one in Mexico. Minimum wages are chosen because it is assumed that those who earn them could be people who perform similar activities. The main objective of this comparison is to see that one same job pays off differently for workers across countries.

The Mexican minimum wage has been a controversial issue for some time. It was increased to a little more than 80 Mexican pesos in 2018 – 88.32 pesos per day (about US \$4.40), to be precise. Nevertheless, the Mexican Newspaper *El Universal*¹⁵ argues that such amount keeps most of the population on the edge of the poverty line. Additionally, it is claimed that the current Mexican minimum wage does not consider family needs, it is barely enough for the subsistence of the worker alone, and even that is still debatable. Take as an example a family of four, where both parents work for the minimum wage to support themselves and two children, this would result in a daily income of 176.64 pesos (US \$8.80) for the whole family. Hence, each family member would need to survive with only 44.16 pesos per day (US \$2.20). This is merely a hypothetical scenario, but it may very well be the reality for many people in the country. With such low salaries, it would not be surprising if some individuals would seek alternative ways to increase their income. In contrast, German labourers worked on average 1356 hours in 2017. Yet, their minimum hourly

¹³ (Roy 1951)p. 143

¹⁴ <https://data.oecd.org/emp/hours-worked.htm> (Accessed 02.11.2018)

¹⁵ <http://www.eluniversal.com.mx/english/ideal-daily-minimum-wage-mexico-mxn353-according-study> (Accessed 03.11.2018)

wage was 8.50 Euros (US \$9.68) in 2015 and 2016¹⁶, and it went up to 8.84 Euros (US \$10,06) per hour in 2017-2018¹⁷.

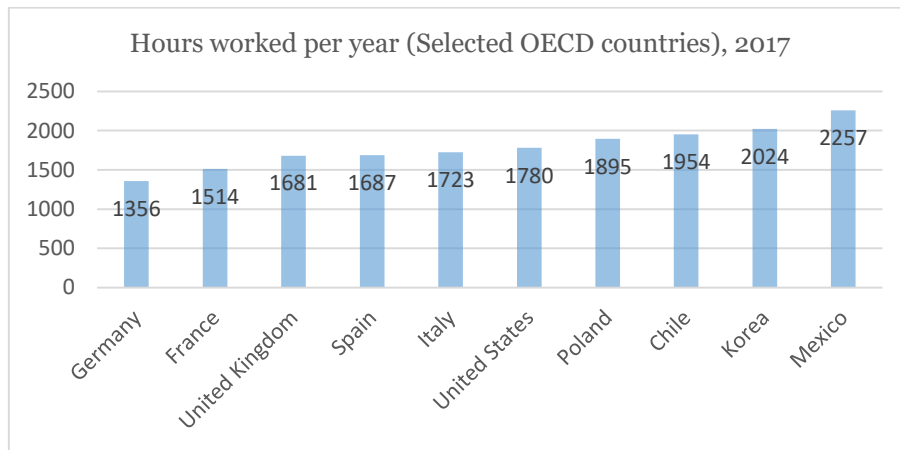


Figure 5 – Hours worked per year for selected OECD countries, 2017

In addition to low wages, Figure 5 reveals the average number of hours worked in 2017 by labourers in 10 selected OECD countries. The selection was made to see how the Mexican labour force compared – in terms of worked hours per year – to the United States, some Western-European, one Easter-European, one South American, and one East-Asian nation. At first sight, it is evident that labourers in the “west” spent a lot less hours at their working places. When compared again to Germany, Mexican employees spent 901 hours more at work in 2017. Even in comparison to the U.S., Mexicans still spent 477 more hours labouring. The difference in worked hours decreases when looking at non-western countries. Yet, even within Latin America, Mexicans worked 303 hours more than their Chilean counterparts in 2017. This portrays that Mexican labourers are clearly not idle. They took the top spot for working hours within OECD countries in 2017, but – as seen above – wages do not really reward them for their efforts.

¹⁶ (Mindestlohns et al. 2017)

¹⁷https://www.dgb.de/schwerpunkt/mindestlohn/mindestlohn-2018-was-aendert-sich-in-2018?fbclid=IwAR03-9xUv90ZUSJXX2Znce7tMZ1ljzuEV8OeWNm3NCIK7RBea_OwajS3Tlc (Accessed 02.12.2018)

2. The Mexican war on drugs: A brief outline of the social costs

2.1 The hidden war and drug-related violence

The War on Drugs in Mexico may not actually be thought of as a war itself, but it can't be denied that the country is one of the world's deadliest conflict zones at present even when the Mexican internal conflict does not get as much international media coverage as other current conflicted areas. Additionally, the levels of violence are not homogeneous within the national borders, as is commonly believed¹⁸. Some parts of the country – like Mexico City or the South-East – have not yet been as visibly affected by drug-related violence as other territories – some bordering-northern states constitute a good example. This lack of international media coverage, however, does not imply that the situation is not grave. To understand the crude reality of the Mexican conflict, it suffices to look at the death toll this infamous war has left in Mexico since former President Felipe Calderón made it his top priority to rid the country of drug cartels. Thereafter not only gang members have been the victims of the ongoing conflict, but civilians, mayors and journalist too¹⁹. If this were not enough, additional evidence comes from the amount of money the federal government has paid on military equipment over the past few years.

For a nation who is not officially at war, the money spent on weapons and other military equipment seems considerable, to say the least. In a 2015 article for *The Washington Post*²⁰, Joshua Partlow documented Mexico's sharp increase in military spending. The first significant transaction – under Enrique Peña Nieto's administration (2012 – 2018) – took place in late 2013. A total of 30 million 5.56mm-bullets were purchased for \$US 6 million. The journalist further states that between Peña Nieto's rise to power and the first half of 2015, the federal government spent \$US 3.5 billion in equipment. All in all, he says that between 2006 – when the War on Drugs took off under the command of former President Felipe Calderón – and 2015, federal government spending on equipment for combat rose from \$ US 2.6 billion to \$US 7.9 billion. This amount of money allowed for the purchase of more than two dozen UH-60 Blackhawk helicopters and over 2,200 Humvees. Additionally, Lindsay-Poland²¹ (2015) stated that six M134-7.62mm machine guns were to be purchased to equip the helicopters. All these acquisitions would have been made with the sole

¹⁸ (Molzahn, Rodriduez Ferreira, and Shirk 2017)p.16

¹⁹ (Molzahn, Rodriduez Ferreira, and Shirk 2017) pp.25-29

²⁰ https://www.washingtonpost.com/news/worldviews/wp/2015/06/15/whats-behind-mexicos-military-buying-binge/?utm_term=.29eeff0514f9 (Accessed 30.11.2018)

²¹ <https://nacla.org/news/2015/03/23/mexican-military%27s-buying-binge-0> (Accessed 30.11.2018)

purpose of helping the Mexican armed forces fight in counter-drug operations. The fighting efforts have, indeed, been taken seriously. Lindsay-Poland asserts these guns can fire up to 6,000 rounds per minute. Another point of consideration is that the war equipment bought by the Mexican Government can be tracked, but the weapons bought by the drug cartels to defend themselves against the armed forces are harder to estimate. Nevertheless, it is certain that the accumulation of that much firepower on both sides has led to the death of thousands of people in the long-run.

The Justice for Mexico Project – in its 2016 *Drug Violence in Mexico* special report – captured the total number of organised-crime-style murders after ten years of armed conflict. Having taken the figures from two well-known Mexican newspapers – *Reforma* and *Milenio* – it shows that in the 2007-2016 period, between 74,745 and 91,565 people lost their lives in drug-related assassinations. Taken the average of these two numbers means that roughly 86,155 individuals have died or been killed due to the war on drugs. The numbers speak for themselves, but to put things in international perspective, more Mexicans have perished due to organised-crime style homicides over the past decade than American soldiers killed in Korea (36,000), Vietnam (58,000), Afghanistan (2,000), Iraq (4,000), and even World War I (53,000)²².

To provide some national difference, overall homicide victims prior to the Calderón era should also be accounted for. The *Drug Violence in Mexico* special report for 2017 documents that during the administration of Ernesto Zedillo (1994 – 2000) 80,311 people were assassinated overall, with an average of 13,385 per year. The total number of casualties killed under Vicente Fox's rule (2000 – 2006) was lower, but it still added up to 60,162 deaths, which translates to 10,027 per year. In contrast, the total number of assassinations under Calderón and Peña Nieto were 121,613 and 116,468*²³, respectively.

Furthermore, it seems that assassinations predominantly affect the male population all over the world, and Mexico is no exception. The *Drug Violence in Mexico* 2016 report further verifies that Mexican males are eight times more likely to be killed than females. The authors used available data for 2015 – when the Mexican population consisted of 120,422,144 individuals – and found that males had a homicide rate 14.6 per 100,000 inhabitants whilst the female counterpart consisted

²² (Molzahn, Rodridguez Ferreira, and Shirk 2017) p.5

²³ Estimation by the authors of the 2017 report

of 1.9 murders per 100,000 inhabitants²⁴. For their report, the authors also found that most casualties of organised-crime-style violence were men – about 75% – and the victims were 33-years-old on average, which clashed with the belief that “organized crime violence involves uneducated, unemployed, and disaffected youths”²⁵. Moreover, for 2017 the data were updated, and showed that – throughout 2016 – 21,673 males, 2,813 females, and 73 unspecified individuals were murdered according to the National Institute of Statistics, Geography, and Information²⁶ (Instituto Nacional de Estadística, Geografía, e Informática, INEGI).

Additionally, the 2016 report revealed that the causes of death of young Mexican men were heavily influenced by their socioeconomic status: upper-class young men tended to die in car accidents, whereas male youths of more humble origins ran a higher risk of being murdered²⁷. In line with the current hypothesis – and the economic picture from section 1 – the report asserts that “lack of educational and employment opportunities for those males at the bottom of the economic spectrum”²⁸ constitutes a pivotal part of the general problem.

At present, the Peña Nieto administration has ended. The new government – led by President Andrés Manuel López Obrador – has stated on several occasions that one of its main goals is to get rid of corruption in the country at all levels. It is yet to be seen how well this objective is met, but the reasons for this measure – from the perspective of the war on drugs – are firmly grounded. It is no secret that prohibition becomes a latent source of much wealth for those who dare immerse themselves in the trafficking of forbidden goods. The likes of Colombia’s Pablo Escobar²⁹ and Mexico’s Joaquín “El Chapo” Guzmán exemplify how profitable drug-trafficking organisations can be. Yet, they must find a way to break the law and run their business undisturbed. A core element that allowed them to do that was the corruption of authorities. As result of bribery, violence levels between rival drug organisations were low. Since there was not much room for conflict between the government and the cartels – due to corruption – the only violence that could

²⁴ (Molzahn, Rodridguez Ferreira, and Shirk 2017) p.8

²⁵ (Molzahn, Rodridguez Ferreira, and Shirk 2017) p.16

²⁶ (Molzahn, Rodridguez Ferreira, and Shirk 2018) p.27

²⁷ (Molzahn, Rodridguez Ferreira, and Shirk 2017) p.8

²⁸ (Molzahn, Rodridguez Ferreira, and Shirk 2017)

²⁹ In 1987, Forbes estimated the Colombian had amassed over \$US 3 billion through drug-smuggling.

<https://www.forbes.com/sites/erincarlyle/2012/03/13/billionaire-druglords-el-chapo-guzman-pablo-escobar-the-ochoa-brothers/#9e52e165ef45> (Accessed 30.11.2018)

emerge was among cartels themselves³⁰. Currently, it seems that the aim of the new government is to eradicate overall corruption and strengthen the rule of law, which would ultimately make drug-trafficking riskier and hopefully – in the long run – less profitable. By the same token, it must also try to amend the dire working conditions Mexicans are currently facing. The *Drug Violence in Mexico: Data and Analysis Through 2016* report states that people from low economic backgrounds could turn to crime and illicit activities because of the lack of access to good education and decent working opportunities, and as means to make additional income³¹.

It is no surprise that much of the organised-crime-style killings have unfolded in states where drug-trafficking organisations operate³². Using data from the Mexican National Security System (Sistema Nacional de Seguridad Pública, SNSP), the authors – Heinle, Rodríguez Ferreira, and Shirk – show that since 2008 much of the drug-violence concentrated in the states of Baja California, Sonora, Chihuahua, Coahuila, Nuevo León, Tamaulipas – all bordering states – as well as Sinaloa, Nayarit, Michoacán, and Guerrero – states on the Pacific coast³³. It is likely that violence increased given the government’s efforts to destroy drug cartels. That meant that drug-trafficking organisations not only had to worry about fighting each other, but – since 2006 – they also had to confront the Mexican armed forces.

To give a concrete example, Sánchez, Pérez, and Dayán (2016) documented two unfortunate events that happened in the northern states of Coahuila and Tamaulipas under the command of the Zetas organisation. These actions shed light on the brutality of organised-crime violence. They additionally recorded the cartel expenses on bribes and wages paid to the local police. The first one was the mass assassination of 72 migrants on the 22nd August 2010 in San Fernando, Tamaulipas. The authors used the testimony of a migrant from Honduras who survived the massacre: All of them were on a van on their way to the city of Reynosa, Tamaulipas when they intercepted by members of the Zetas cartel. They were taken to a ranch, where they were fed. Afterwards, the criminals, told them they needed new members, since they were fighting the Gulf cartel. They said those who joined would receive one thousand dollars per week. The migrants were then taken to another location. After leaving the van, the criminals tied their hands and

³⁰ (Molzahn, Rodríguez Ferreira, and Shirk 2017) p.9

³¹ *Ibid.* p.31

³² *Ibid.* p.24

³³ *Ibid.* p.20

blindfold them. The Zetas then started shooting the migrants, starting with the women and the men followed. Official sources differ – the Mexican Secretariat of the Navy (SEMAR) registered 58 men and 14 women killed, while the Public Ministry of Tamaulipas counted 13 females and 59 males – but 72 people lost their lives that day³⁴.

The second one occurred in Allende, Coahuila, where 26 people went missing over a period of two days in March 2011. Former Zetas leader Miguel Ángel Treviño Morales and his brother Omar Treviño Morales – commonly known as Z40 and Z42, respectively – suspected some members of the organisation had betrayed them. Three associates – Alfonso Cuéllar, Héctor Moreno Villanueva, and Luis Garza Gaytán – were the suspects. As revenge, the Zetas arrived at Allende – where Garza Gaytán lived – on the 18th March 2011. For two days, they went to the properties of the suspect to capture people related to all three of them. They managed to seize 26 people, most of them relatives of Garza Gaytán. The criminals then burnt and demolished the properties³⁵. Once more, the Zetas gained control over the police force through corruption. The following chart presents the amount of money the cartel spent monthly on bribes, and is a replica of the one found in Sánchez, Pérez, and Dayán (2016)³⁶:

Average monthly wage of a municipal police officer in the region ³⁷	6,324.33 pesos
Monthly Payments by the Zetas	Amount
Director of the police corporation	20,000 pesos
Commander of the police corporation	10,000 pesos
4 shift personnel	12,000 pesos (3,000 pesos each)
7 disposed police officers	14,000 pesos (2,000 pesos each)
4 indisposed police officers	4,000 pesos (1,000 pesos each)
3 police officers who refused	1,500 pesos (500 pesos each)
Monthly Zetas spending on police bribes	61,500 pesos

Figure 6: Monthly payments by the Zetas Organisation to the Allende Municipal police, 2011

³⁴ (Sánchez del Ángel, Pérez Aguirre, and Dayán Askenazi 2017) pp.11-13

³⁵ (Sánchez del Ángel, Pérez Aguirre, and Dayán Askenazi 2017) p.14

³⁶ At present, 1 US dollar = 20.18 Mexican pesos

³⁷ (Sánchez del Ángel, Pérez Aguirre, and Dayán Askenazi 2017) p.20. The authors estimated the amount based on the wages paid in 2011 to policemen from Acuña, Piedras Negras, and San Pedro

Aguayo and Dayán (2018) recorded how this cartel financed its criminal activities at the Piedras Negras Social Rehabilitation Centre. The Zetas took over the prison and funded themselves by selling various products and charging non-Zetas inmates a weekly fee³⁸. The information below is helpful since it shows how much people earned per task³⁹ and is, therefore, directly related to the wage-differential hypothesis behind this research:

Debt collector	500 pesos per week
Shop keeper	200 pesos per week
Sewer	1,000-2,000 pesos per week
Drug dealer	1,000 pesos per week
Corpse burner	\$ US 300 per worked night (about 6,056 pesos in 2018)

Figure 7: Weekly payments to inmates at the Piedras Negras Social Rehabilitation Centre

It is evident that those who earned the most were the individuals in charge of disposing of the bodies. They could make in one night almost the same amount of money a police officer of the area could earn in a month. Given the amount of violence, it is quite likely these individuals were not often out of work. Looking at the payments made to “regular” police officers, the shift personnel could increase their wages by 47% by cooperating with the Zetas organisation. Disposed and indisposed officers could also increase their earnings by almost 32% and 16%, respectively, by taking the bribes. Moreover, when it came to drug dealing, the data shows dealers earned 1,000 pesos per week, which meant making almost 143 pesos per day – nearly double the minimum wage in 2018. Unfortunately, it is not specified if they would earn different amounts given the quantities and types of drugs sold. It is a very rough figure, but it is illuminating nonetheless.

2.2 Descriptive Statistics

The current subsection provides some descriptive statistics for Mexico City, State of Mexico, and the whole country: averages for six types of crimes are presented for different periods. Additionally, total crime incidences and population growth rates for Mexico City and the State of Mexico are also reported. The data were taken from the Executive Secretariat of the National Public Security System (*Secreariado Ejecutivo del Sistema Nacional de Seguridad Pública, SESNSP*).

³⁸ (Aguayo Quezada and Dayán Askenazi 2018) pp. 29-31

³⁹ Modified chart taken from Aguayo and Dayán (2018) pp.31 and 125

The main aim is to give a better understanding of violence trends in both entities – with respect to the country – which will pave the way and give context for the fourth and final section.

Figures 8 and 9 below show the total criminal incidence⁴⁰ trend over a period of twenty years (1997-2017) for Mexico City and the State of Mexico. For the former, a downward trend is noticeable between 1997 and 2006. There seems to be an increase from 2006 until 2010 – which is in line with the rise in violence for the whole country. Moreover, it must be noticed that the total amount of crimes reported in the capital of Mexico in 2010 (195,534)⁴¹ are still far behind the number of felonies reported in 1997 (235,659). Even the total number of offences registered in 2010 is still lower than its 2017 counterpart (204,078). From 2015 onwards, the reported number of crimes rises again. Yet, there seems to be an overall downward trend – denoted by the red line – throughout the twenty-year period.

⁴⁰ Total criminal incidence comprises homicide, abduction, a wide range of robbery types (home, bank, highway, etc.), rape, fraud, extortion, and assault, to name a few

⁴¹ The numbers come from the dataset which is not included here

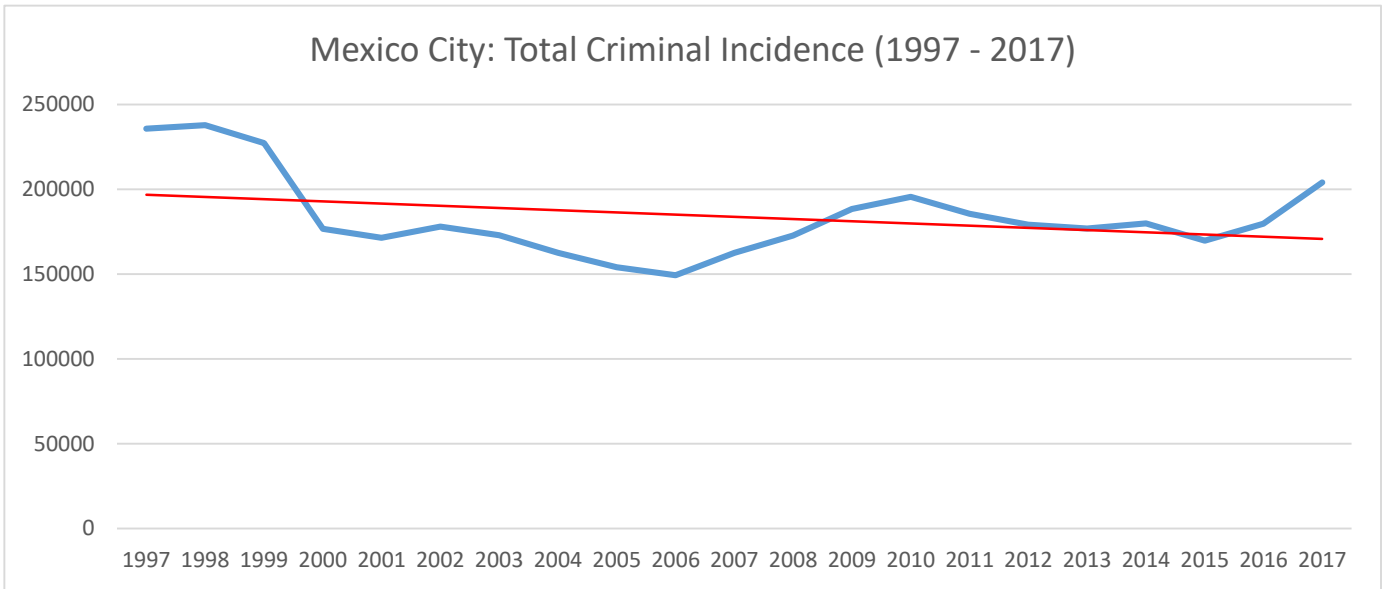


Figure 8: Total crime incidence for Mexico City from 1997 to 2017

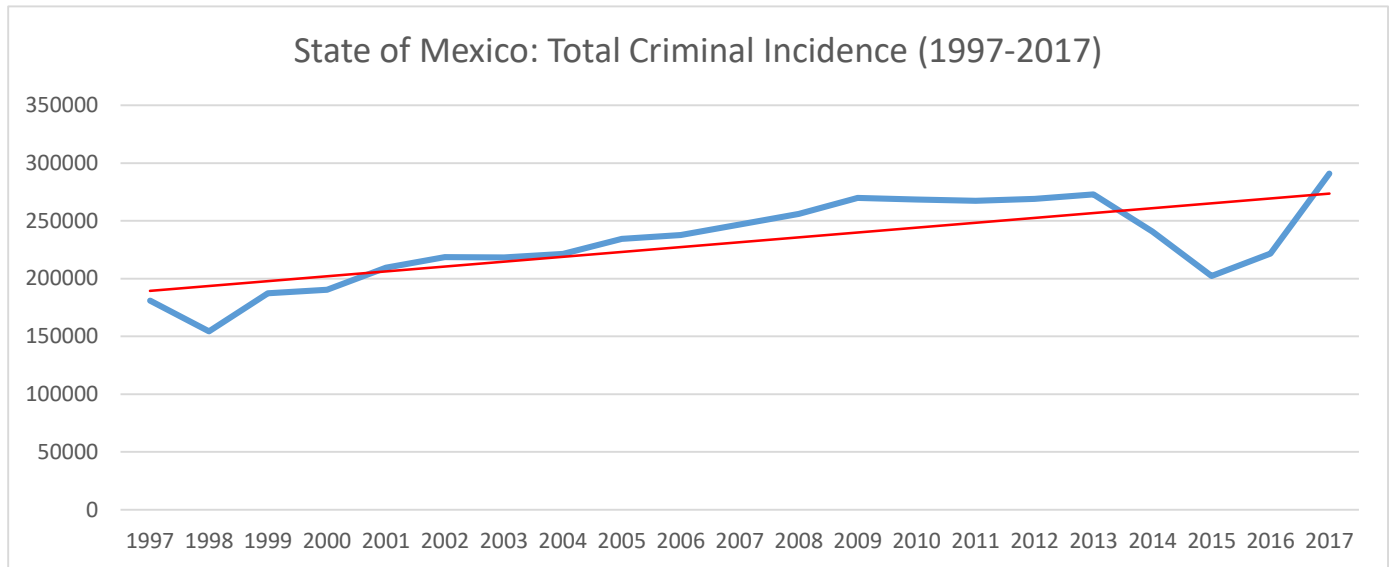


Figure 9: Total crime incidence for the State of Mexico from 1997 to 2017

Things change for the State of Mexico over the same period. From 1998 until 2009, there is an upward trend. The number of reported felonies between 2009 (268,419) and 2013 (272,996) do not seem to have varied much. There is a drop between 2013 and 2015, but afterwards the tendency seems to follow its previous upward pattern. Overall – and in contrast with Mexico City – the number of registered offences follows an upward trend in the State of Mexico.

The three figures below show yearly averages for six types of serious crimes in different sub-periods. Those between 1997-2006 and 2007-2016 are of great value, since 2006 was the year President Calderón took office and the fight against organised crime began. By looking at both sub-periods, Mexico City seems to give a better impression, since the numbers in the (2007-2016) sub-period are smaller than figures in its (1997-2006) counterpart for four out of six crimes. This is in stark contrast with the State of Mexico – for which only the yearly homicide average decreased after 2006 – and for the entire nation – for which all yearly averages increased after 2006.

Mexico City					
	Average 1997-2016	Average 1997-2017	Average 1997-2006	Average 2007-2016	Average 2007-2017
Abduction	93	90.47619048	111.7	74.3	71.18181818
Rape	1,128.9	1,089.666667	1,295.8	962	902.2727273
Fraud	7,948.5	8,136.52381	5,049.8	10,847.2	10942.63636
Extortion	548	545.2380952	285.4	810.6	781.4545455
Homicide	1,555.4	1,569.571429	1,580.9	1,529.9	1,559.272727
Common Theft	98,846.1	99,028.57143	108,965.6	88,726.6	89,994.90909

Figure 10

State of Mexico					
	Average 1997-2016	Average 1997- 2017	Average 1997-2006	Average 2007-2016	Average 2007-2017
Abduction	101.8	105.1904762	53.3	150.3	152.3636364
Rape	2,388.9	2,367.714286	2,257.2	2,520.6	2,468.181818
Fraud	3,479.35	3,524.285714	3,006.8	3,951.9	3,994.727273
Extortion	369.45	402.047619	203.5	535.4	582.5454545
Homicide	4,506.9	4,437.857143	5,965.3	3,048.5	3,049.272727
Common Theft	86,103.4	86,376.7619	76,920	95,286.8	94,973.81818

Figure 11

Mexico					
	Average 1997-2016	Average 1997-2017	Average 1997-2006	Average 2007-2016	Average 2007-2017
Abduction	27.36875	27.77529762	17.653125	37.084375	36.97727273
Rape	421.3515625	420.0967262	406.128125	436.575	432.7954545
Fraud	1,838.492188	1,835.308036	1,684.93125	1,994.941761	1,972.014205
Extortion	119.6671875	122.375	62.15625	177.178125	177.1193182
Homicide	990.3921875	1,004.532738	948.615625	1,075.171875	1,055.366477
Common Theft	18,514.23281	18,615.38839	16,739.89063	20,288.575	20,320.38636

Figure 12

One must always be careful when looking at raw numbers. To put things into perspective, it is worth to consider the population growth rates for both entities within the same twenty-year period. Figures 13, 14, and 15 below trace and record trends and growth rates for different sub-periods and from 1997 to 2017. As before, sub-periods 1997-2006 and 2007-2016 are of great importance. As seen in the two graphs above, both entities reported more crimes between 2006 and 2010, but given this increase could have gone together with an increase in the overall population.

	Av growth rate 1997-2016	Av. growth rate 1997-2017	Av. growth rate 1997-2006	Av. growth rate 2007-2016	Av. growth rate 2007-2017
Mexico City	5.33%	5.29%	4%	1.28%	1.25%
State of Mexico	35.70%	37.43%	17.80%	13.56%	14.98%

Figure 13: Average growth rates for Mexico City and the State of Mexico over five sub-periods

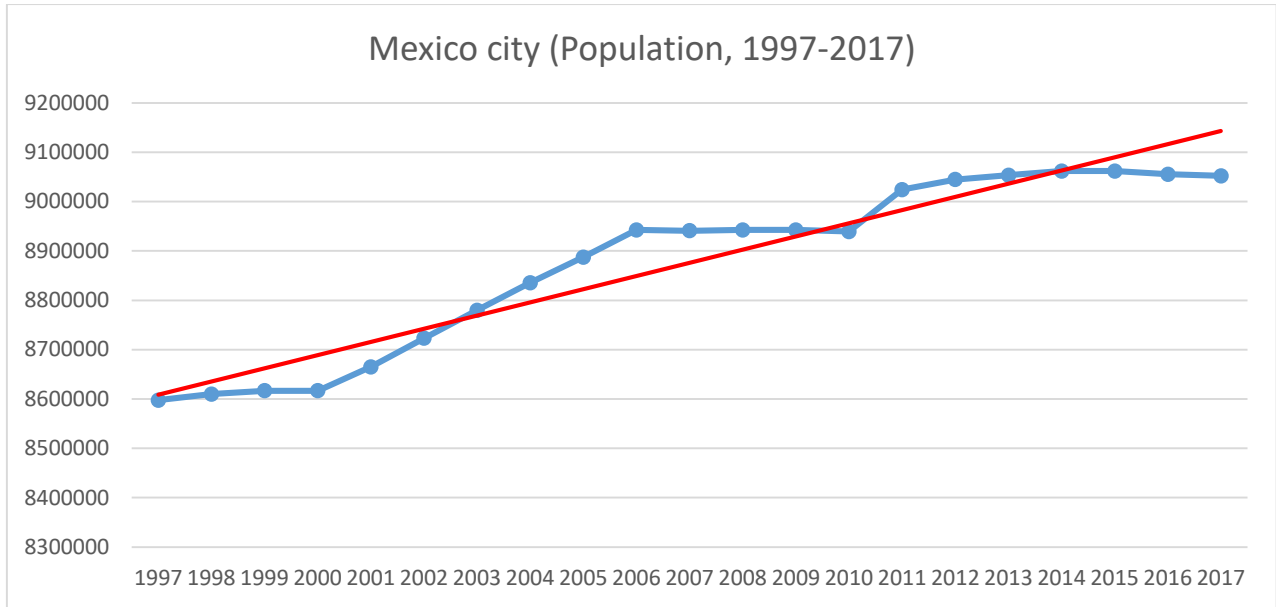


Figure 14: Population of Mexico City (1997-2017)

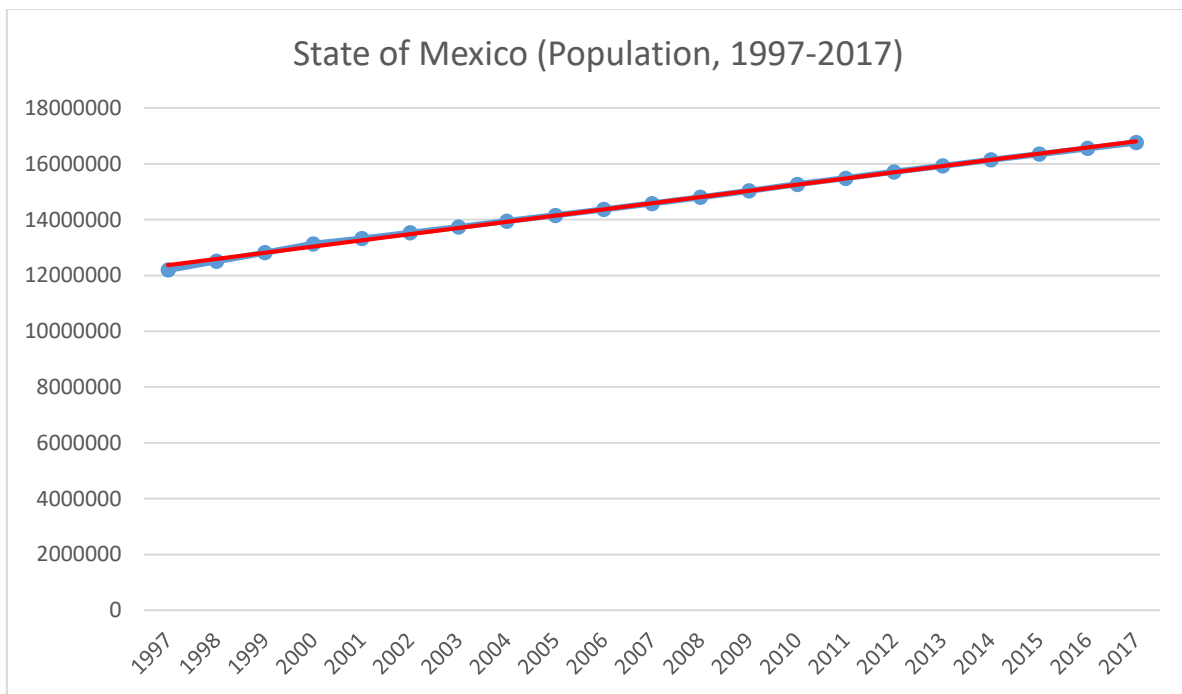


Figure 15: Population of the State of Mexico (1997-2017)

Looking back at Figure 8 and 9 the total number of crimes reported in Mexico City and the State of Mexico showed a downward and upward trend, respectively. Figures 13 to 15 show that the population in both federal entities was rising. Growth rates for the State of Mexico are quite higher than those for the capital. Total population in the State of Mexico went from 12,196,729 in 1997 up to 16,761,610 in 2017. Whereas in Mexico City, population rose from 8,597,556 to

9,052,343 within the same twenty-year period. It could therefore be that the increased number of reported crimes in the State of Mexico was in part due to the rise in its population.

2.3 The social cost of violence

Besides considering the violence that has stemmed from the war on drugs, it seems important to consider costs in terms of production, addiction, and market value. Like other goods, drugs are produced to satisfy an existing demand. Noticeable consumption risks include the development of drug dependency, overdose, transmitted disease, among other severe health issues. Like the United Nations Office on Drugs and Crime (UNODC) *World Drug Report for 2016* documented, drug use yields and intrinsic cost which can have an impact on workforce productivity. Additionally, dependence tends to be positively associated with stigma and social disadvantages for users, which could potentially translate to unemployment and poverty. Given the social burden, drug use tends to increase the risk of unemployment and vice versa. This situation creates a vicious cycle, because the use of narcotics can prevent the chances of successfully joining the labour force, and failure to find employment could trigger drug use and eventual dependence⁴².

Moreover, dependency forces drug users to find ways to finance their addiction. If the consumer is unable to earn a regular wage, belongs to the lower economic spectrum, or is unable to find employment, regular drug use would undoubtedly place significant strain on her finances. Depending on sex, age, and economic status, alternative means to make income to pay for narcotics could include begging, exchanging of sex for money, drug dealing, and incurring in illicit activities besides the trafficking or selling of narcotics. The UNODC provides arguments in line with the current hypothesis. It is stated that in societies with high income inequality, crime is more likely to flourish. In some cases, individuals who feel marginalised could see the involvement in criminal activities – like drug dealing – as their sole means of social mobility. The point is made again that drug-dependent individuals are trapped in the vicious cycle presented above due to several factors, such as low quality or lack of education, and limited access to employment opportunities⁴³.

Additional drug-related issues could arise when a country undergoes economic development and globalisation. By weakening trade barriers, international trade is encouraged. However, free trade agreements vary when it comes to mobility of resources. Some only allow for

⁴² (Crime 2016) pp. 72-73

⁴³ (Crime 2016) pp. 75-79

easier transportation of goods. Other regions – like the European Union – additionally allow free labour mobility. This feature of globalisation – whether labour mobility is allowed – has potential caveats. It could smooth negotiations among different drug organisations and traffickers in the sending and receiving countries. Globalisation, too, increases the difficulty of detecting smuggled drugs across international borders. In addition, it has been argued that globalisation has an impact on retail prices, since trade openness could ease international distribution, leading to more supply competition in the market for narcotics⁴⁴.

Another pivotal point on drugs and international development is the actions needed to reduce production of illicit crops. Between 2009 and 2014, the cultivation of cannabis plant was reported in 129 countries⁴⁵. Moreover, even when the total area under coca bush farming was the second smallest since the late 1980s, it still added up to 132,300 hectares in 2014⁴⁶. When socioeconomic conditions seem adverse, farmers in rural areas could be driven into the cultivation of illicit crops as an alternative way to improve – or at least keep – their living standards. Yet, even when workers shift from licit to illicit drug cultivation, their income might not rise as they could have thought at first. For example, coca producers in the Andean area only receive 1% of the revenues generated in the U.S. and international cocaine markets, whilst most of the profits go to the retailers in the consumer countries⁴⁷. Nevertheless, accurate economic development strategies could provide rural workers with better alternatives. The implementation of these strategies must, however, be done carefully. In countries with large areas of illicit crops cultivation, the process of elimination of such zones must be accompanied by adequate development measures. Only through positive economic development can alternatives livelihoods be secured⁴⁸.

The Count the Costs campaign – A global initiative which seeks to raise awareness of the overall costs of the international war on drugs⁴⁹ – states that providing solid figures of how much money is used to finance the international war on drugs is complex. Nevertheless, it has been estimated that the conflict costs the world roughly \$100,000 billion per year. What is also surprising is that national and international levels of inspection – to see if that much spending applied to drug-

⁴⁴ (Crime 2016) p. 81

⁴⁵ (Crime 2016) p.43

⁴⁶ (Crime 2016) p.35

⁴⁷ (Studies 2013) p.19

⁴⁸ (Crime 2016) p.83

⁴⁹ <https://www.tdpf.org.uk/campaign/count-costs> (Accessed 04.12.2018)

enforcement is worth the money – have been almost zero. It, therefore, seems like the resources have been wasted overall, since the costs of crime and health issues far exceed the benefits from all the money spent on drug enforcement. Instead of reducing crop production, supply and use, a large illegal market structure has emerged. Improved cost-benefit analyses should be made, since the funds destined to drug enforcement are funds not spent in other areas where they could be better used⁵⁰. These facts should always be considered, for the costs are far greater than the money paid to finance the conflict.

⁵⁰ (Campaign 2011) p.7

3. Labour and Drug Traffic Markets

3.1 Outline

The present study is inspired in the literature of labour migration because it is maintained here that the decision to migrate and the decision to join the drug-trafficking industry share certain similarities⁵¹. For this section (internal) labour migration is defined as workers moving from one labour market to another⁵². This definition holds nicely for international migration: internal migration is often a flow from poor and rural areas to its wealthier urban counterparts and it mirrors patterns of international migration⁵³.

At their most primitive level, the decision to migrate and the decision to become a drug-dealer would apparently be based on the same incentive – *expected* higher wages – so the main aim here is to explore the resemblances and use a migration model to give theoretical guidance to why certain young people would decide to enter the narcotics industry. Todaro’s model of rural migration and urban unemployment is the starting point of the current section, but additional models of rural-urban and international migration will be utilised to enrich the analysis.

The original hypothesis is that the expected higher wages from drug-trafficking are enough to incentive youngsters to opt for employment in that industry, rather than finding a job in the legal sector, so understanding the role of these differentials behind the theory of migration would, hopefully, shed light on the reasons behind giving – often literally – one’s life to the trade of narcotics. Additionally, given Roy’s argument from last section, it is reasonable to expect rational agents to seek employment at jobs where they have a comparative advantage and which, ideally, would offer them a higher level of income. A very important underlying assumption made here is that youngsters willingly choose to join drug-cartels or organised crime groups.

It is sometimes thought that migration simply occurs because labourers believe they can achieve higher levels of income by working outside their place of origin. Hence, the expected higher wages they might earn from working either in urban areas, or abroad, would be enough to offset migration. Income differentials could hardly be enough to encourage the movement of workers, hence, additional factors – like transport costs – should be considered. These models

⁵¹ Migration can take several definitions, but we will consider labour migration, that is, migration with the unique purpose of improving economic conditions

⁵² (Group 2018) p.58

⁵³ (Group 2018)

ought to be considered as mere guidance and not as direct evidence in favour of the hypothesis – for they solely focus on migration – but they certainly are a valid starting point to understand the role wage differentials play in people’s minds when they decide to pick one job over another. First rural-urban migration will be discussed, followed by its international counterpart. Some empirical characteristics of migrants will be discussed and compared to those who become drug-dealers.

3.2 Theory: Migration models

As mentioned before, it is sometimes thought that labour migration is a simple phenomenon: people expect higher levels of income – by moving abroad or from the countryside to the city – and once they move they also expect to find more productive jobs upon arrival⁵⁴. Todaro’s model of labour migration and urban unemployment diverts from this view. He portrays rural-urban migration as a more complicated process. According to him, the decision to migrate from rural areas to their urban counterparts should be based on the expected income differential – as it is commonly believed – but should also consider the probability of finding a more productive urban job. The reason is that once a labourer decides to leave his place of origin, he might arrive in the city only to be underemployed, or to become a part of the pool of unemployed workers. Despite this pool of urban unemployment, people might still find it rational to leave the countryside, which is a striking result of Todaro’s model. The logic is that, if the income differential between rural and urban jobs increases at a faster rate than the rate of job creation, workers will still find it convenient to migrate, for they will be attracted to the relatively higher permanent incomes, even if the probability of getting them decreases over time⁵⁵.

A variation of this model is Harris and Todaro’s model (1970). This one is also concerned with the explanation of rural-urban migration despite growing levels of urban unemployment and analyses the addition of an institutionalised urban minimum wage. This new feature has a direct effect on the migration pattern: since this urban minimum wage is set to be much higher than the income workers would receive from agriculture, rural-urban migration will take place as long as expected higher urban incomes exceed real agricultural product⁵⁶. In other words, whenever a new urban job is created at the established minimum wage, expectations of higher wages will modify

⁵⁴ (Todaro 1969) p. 139

⁵⁵ (Todaro 1969) p. 140

⁵⁶ (Harris and Todaro 1970) p. 127

and will, thus, induce migration⁵⁷. Unemployment also plays a pivotal role in this model, for whenever labour supply exceeds demand, a random selection process takes place to hire workers from the pool of the urban unemployed. This random selection is part of the reason behind the continuous movement of workers from the countryside to the city. Although labourers may be unemployed for some time, this process provides them with a positive probability of being employed in an upper skilled urban job at the minimum wage once migration has taken place. It is therefore still rational for them to move away from the rural setting. This leads to full urban employment and a large – and increasing – pool of unemployed workers. The main conclusion – also supported by other authors – is that if most workers believe that high-paying jobs are achievable, even after some time as unemployed or underemployed, migration will take place⁵⁸.

Section 1 presented the grim economic picture Mexico currently faces. Additionally, “the very fact that Mexican workers – mostly from peasant agricultural regions – emigrate could be thought of as reflecting badly on [...] governmental efforts to provide land, employment, and social justice in the countryside”⁵⁹ It, therefore, seems important to consider international migration, for not all workers would happily stay in their country of origin under poor working conditions – even in urban areas. For economically-driven migrants, the desire for a better life is materialised through better employment opportunities and higher wages abroad and – the most important determinants – are the wage differentials between the sending and receiving destinations⁶⁰.

It is well documented that Mexico’s geographic position – as well as economic ties – has encouraged its workers to look for more favourable labour conditions in the United States (Massey (1988); Borjas (1987); Garcia y Griego, Weeks, and Chande (1990); World Bank (2018)). The flux of migrants is – and has always been – a situation of paramount importance for both countries. Massey (1988) explains that in the past century there have been three waves of Mexican migration into the U.S., and that, surprisingly, this movement has not taken place due to Mexico’s slow growth. On the contrary, it occurred due to its rapid development⁶¹. In contrast, Borjas sustains that, people consider migration costs prior to moving, compare the potential income they could get by working in the U.S. to its domestic counterpart – Mexico in this case – and then migrate based

⁵⁷ (Harris and Todaro 1970) p. 132

⁵⁸ (Stark and Bloom 1985) p. 175

⁵⁹ Garcia y Griego, Manuel, John R. Weeks, and Roberto Ham Chande, “Mexico,” p.208

⁶⁰ (Group 2018) p.9

⁶¹ (Massey 1988) p.402

on that comparison⁶². He, therefore, establishes that migration into the United States is founded on three core facts: “(a) a negative function of mean income in the home country; (b) a positive function of mean income in the United States; and (c) a negative function of the costs of emigrating to the United States”⁶³.

Evaluation of travel costs is a very valuable theoretical consideration which is a real-life addition to the rural-urban models. Borjas, therefore, makes the income differential hypothesis more specific: he argues that a main incentive behind (international) migration is the “difference in mean income levels *net* of migration costs”⁶⁴. These costs should always be considered when people choose to migrate legally or illegally since – like the World Bank documents – the average smuggling fee Mexicans must pay for crossing illegally into the United States has gone from “\$495 in 1990 to \$3,218 in 2013 (in 2014 U.S. dollars)”⁶⁵. This should also be equated with the probability of being caught shortly after reaching U.S. soil. It clearly is a costly decision to be made, given that “about half of Mexicans in the United States are unauthorized”⁶⁶. Moreover, other types of physical risks must be acknowledged, especially under illegal migration. The abduction of immigrants who seek to cross into the United States illegally has become a source of income for drug-cartel members. Once kidnapped, the criminals demand fees of \$US 200 – \$US 300 for their release, and failure to meet the payment often leads to the murdering of immigrants⁶⁷. They might also be perceived as a threat by cartels, like the case – presented in the previous section – of the assassination of 72 immigrants in San Fernando. All in all, migration is a calculated strategy, it does not occur as consequence of pure irrational optimism⁶⁸.

For the case of least-developed countries (LDC), Massey argues that the constant flow of labour migrants has its origin in economic development. When a country starts developing, capital tends to be more intensely used than labour; land is privatised; new markets are created, and others are destroyed. The sum of all these factors leads to a large pool of former rural workers who are left unemployed⁶⁹. Additionally, development is seldom uniform – which generates more diverse

⁶² (Borjas 1987) p. 532

⁶³ Ibid. p. 533

⁶⁴ Ibid. (1987) p. 535

⁶⁵ (Group 2018) p.113

⁶⁶ (Group 2018) p. 111

⁶⁷ (Ríos 2009) p.2

⁶⁸ (Stark and Bloom 1985) p. 175

⁶⁹ (Massey 1988)p.401

and productive working opportunities within a country or abroad – and could potentially facilitate the transit of people across regions, since new networks are created, and transport costs diminish. These “declining real costs of transportation and communication, [...] substantially increase the net returns to international movement”⁷⁰. Moreover, he also states that if an LDC enters a recessionary cycle, it is very likely that other labour opportunities would become available at another growing economy, with higher wages, better jobs, and a higher demand for workers.

Relative deprivation is seen as another detonator of international migration in the literature, and this situation seems to relate more closely to the drug-trafficking hypothesis than the economic development argument presented above. People compare themselves to other members of their communities. It has hitherto been discussed that people are more likely to migrate when their income levels are low. Yet, if income is low everywhere this incentive is drastically reduced. In contrast, if some individuals have higher incomes than others within the same region, the latter would find it convenient to move and overcome the feeling of deprivation. In consequence, the more income inequality there is in a region, the more relatively deprived poor households are likely to feel, which would generate a stronger incentive to migrate as people hope to improve their economic position⁷¹. Nevertheless, becoming a drug-dealer could present itself as a more perverse solution to relative deprivation.

3.3 Empirical Evidence

But what can these models say about choosing to join the drug-dealing industry? If it is assumed that an expected higher level of income is also the main driving force behind this decision, then it would be possible to adjust migration models to the drug-dealing scenario. Higher wages would possibly lure people into joining the industry if they also believe they have a good probability of being hired by any cartel or organised-crime group, and that this decision is worth it despite the high risk it implies. Additionally, the difference between retail and wholesale dealers must be accounted for. People could be tempted to think that both are related to a given drug-trafficking organisation. Yet, this is seldom truth – as will be seen in section 4.

The age, sex, and place of origin of those who migrate should be compared to those who engage in illegal dealing activities to see if there are some similarities. In the case of migration

⁷⁰ (Massey 1988) p. 394

⁷¹ (Stark and Bloom 1985) pp.173-174

“there is usually a preponderance for males”⁷². The following chart presents the male-female ratio of Mexican immigrants constructed using data from INEGI:

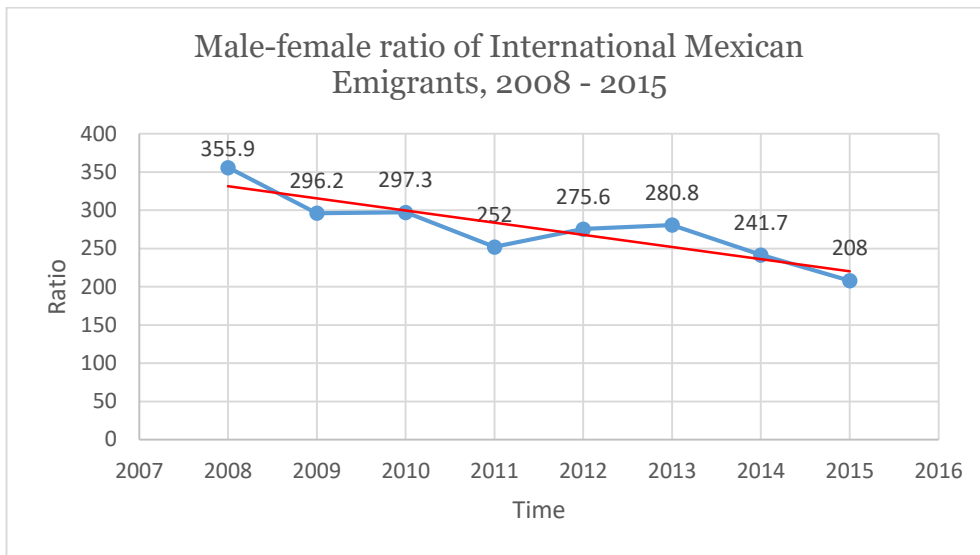


Figure 16: male-female ratio of international Mexican emigrants, 2008-2015

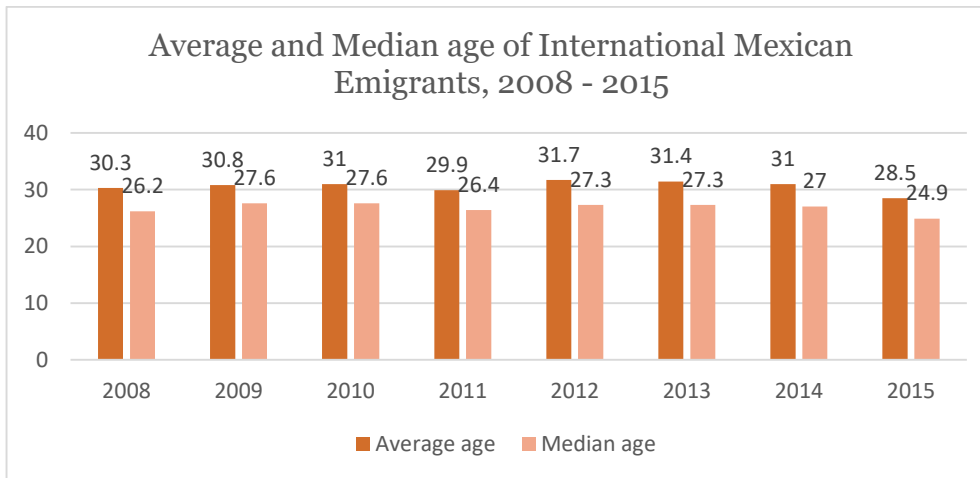


Figure 17: Average and median age of international Mexican emigrants, 2008-2015

In Figure 16 there are more male migrants relative to their female counterparts, as expected. However, the ratio seems to be decreasing over the period 2008-2015. This shows more females have gradually been encouraged to migrate beyond the Mexican borders. Figure 17, additionally, reveals the average and median ages for international Mexican emigrants over the same period.

⁷² Garcia y Griego, Manuel, John R. Weeks, and Roberto Ham Chande, “Mexico,” p.215

The average has gravitated around 30 years of age, whereas the median has been slightly lower. In contrast, section 4 will show that – at least for the municipality of Nezahualc6yotl, State of Mexico – more male street-level dealers were convicted relative to females, and the estimated average age was very close to 23 years of age for both sexes. The most difference, therefore, seems to be in terms of age. Mexican emigrants were on average older when they left the country, than street-level criminals in the municipality of Nezahualc6yotl when they were convicted. Yet, no generalisation can be made due to limited data.

Understanding the reasons why people migrate is also useful. Depending on the cause, it can be speculated whether the movement is more likely to be permanent or temporary. Figure 18 below presents the percentage distribution if the causes for Mexican emigration between 2008 and 2015 using, again, data from INEGI:

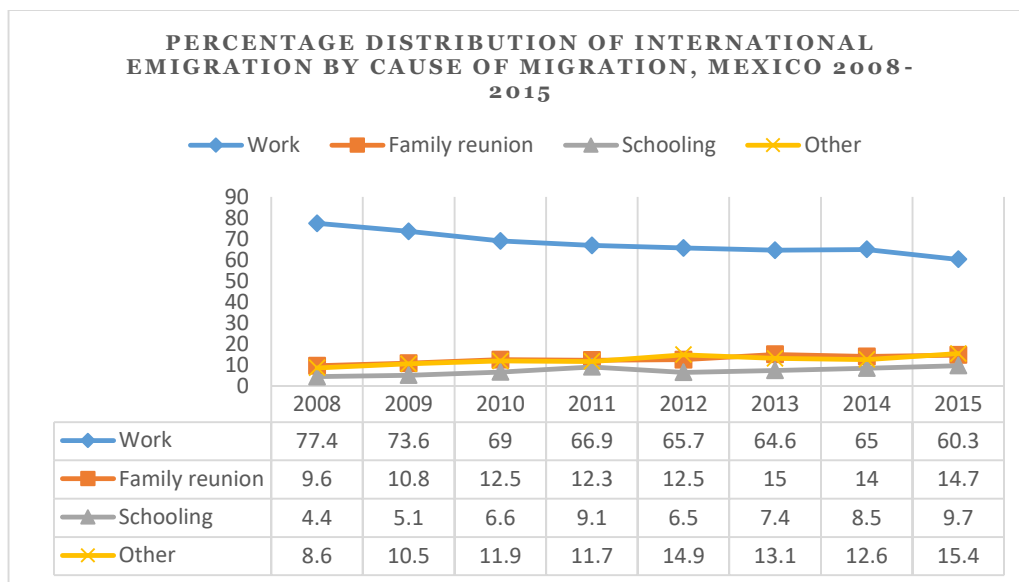


Figure 18: Average and median age of international Mexican emigrants, 2008-2015

Unsurprisingly, between the years considered, over 60% of people who left Mexico did it for working reasons, followed by those who were reuniting with relatives, and lastly those who left to study abroad. The predominance of people leaving for employment abroad is evident throughout the eight-year-period, but it must be kept in mind that many Mexican workers who emigrate – particularly to the United States – do so for temporary employment and with the intention of

eventually returning to Mexico⁷³. For those who migrate to reunite with family, migration might be a more permanent phenomenon.

The places of origin of those who migrate should be considered. It was stated that “Since the 1950s, [...], about 70 percent of Mexican migration has originated in eight states [...]: Baja California, Chihuahua, Durango, Guanajuato, Jalisco, Michoacán, San Luis Potosí, and Zacatecas”⁷⁴. Bearing in mind these northern and central States of Mexico, it could be thought that traditional emigration areas could also be the ones that supply trafficking organisations with labourers, since big cartels – like the Zetas, the Jalisco New Generation Cartel (CJNG), or even the Sinaloa Cartel – have heavy presence in those states too⁷⁵. INEGI data for 2014-2015 allows to see the net balance of the 32 Mexican federal entities. The following chart presents selected States:

Emigration, immigration and Migratory net balance rates per 10,000 inhabitants, 2014-2015			
Federal Entity	International emigration	International immigration	Migratory net balance
Michoacán	-180.9	44.8	-136.1
Zacatecas	-180.4	64.6	-115.8
Durango	-190.7	81.9	-108.8
Guanajuato	-172.5	64.5	-108
Baja California	-124.7	49.2	-75.5
Tamaulipas	-139	66.1	-72.9
San Luis Potosí	-100.4	34.1	-66.3
Aguascalientes	-104.6	44.2	-60.4
Nayarit	-147.5	90.4	-57.1
Chihuahua	-94.1	42.9	-51.2
Jalisco	-76.7	28.1	-48.6
Mexico City	-41.6	7.3	-34.3
Coahuila	-50	19.5	-30.5

⁷³ Ibid. p.208

⁷⁴ Ibid. p.216

⁷⁵(Beittel 2015) p.10

Nuevo León	-67.3	40.4	-26.9
México	-33.2	11.6	-21.6
Sinaloa	-53.8	35.6	-18.2

Figure 19: INEGI Emigration, immigration and Migratory net balance rates per 10,000 inhabitants for selected Mexican States, 2014-2015

Figure 19 presents emigration, immigration, and the migratory net balance rates per 10,000 inhabitants for 16 of the 32 Mexican federal entities. We see that five of the eight States mentioned by Garcia y Griego, Weeks and Chade take the top spot for the 2014-2015 period. Therefore – throughout that biennium – the five states who lost the most national population to migration were Michoacán, Zacatecas, Durango, Guanajuato, and Baja California. Except for Guanajuato – which has recently experienced CJNG presence – the other five states are known for having cartels operate in their territory⁷⁶. Further research is needed to understand if it is only mere coincidence that traditional emigration states are also known for having drug-trafficking organisations operate in their territory.

Lastly, labour migration is very important – economically speaking – for Mexico. It suffices to look at remittances to get an idea of how wages abroad impact the Mexican economy. The *Yearbook of migration and remittances 2018* accurately acknowledges that these transfers “as a percentage of national GDP is a good indicator of the dependence of a country’s economy on that resource from abroad”⁷⁷. It further revealed that remittances represented 2.7% of Mexico’s GDP in 2016 and 2017, and that Michoacán, Jalisco, Guanajuato, State of Mexico, Puebla, Oaxaca, and Guerrero were the seven states who received half of these transfers⁷⁸. The positive economic impact of migration is evident through remittances, but even when drug-dealing generates billions all over the world, it is very likely that the negative social costs inflicted to societies worldwide are greater.

⁷⁶ Ibid. pp.22-23

⁷⁷ The Yearbook of migration and remittances 2018, p.122

⁷⁸ Ibid. pp.128-130

4. Case Study: Young Dealers in Ciudad Nezahualcóyotl, State of Mexico

4.1 Drug market supply structure and profits

Just like Roy⁷⁹ explained that individuals seek to maximise their utility and income by spending their time in activities that allow them to do so, it is no surprise that drug trade flows to countries where the profits are the highest. In high-income countries, the price of narcotics is very likely to be higher than in transit or producing nations. Narcotics will, hence, flow in that direction⁸⁰. Keefe documented this for an article in *The New York Times Magazine* in 2012, stating that the Sinaloa Cartel could buy one kilo of cocaine for \$2,000 in the countries of production – Colombia or Peru – and see how the price increased the further away it got from the production site. That same kilo was valued at around \$10,000 upon arrival in Mexico, and taken across the border to the United States, the wholesale price could be over \$30,000. If sold per gram, revenues would be even higher⁸¹. Yet – even though drug prices reach their maximum at retail points – there is no strong evidence suggesting that Mexican drug-trafficking organisations are directly involved with retailers. On the one hand, wholesale already allows Mexican cartels to make handsome profits – especially given their increased influence and market power since the 1990s⁸². Additionally, retail further increases risk and is, therefore, unlikely to be cost effective for them. On the other hand, retailers find it in their best interest to buy the substance directly from the cartels because it cuts down middlemen costs and maximises profits. Higher risk of seizure, therefore, prevents wholesalers and retailers from being directly involved in each other's share of the supply chain⁸³. This is a vital distinction for the present research, since its purpose is to understand if revenues generated by youngsters through street-level drug-dealing would be enough to keep them from finding a job in the legal sector.

The composition of the supply structure is of great value to understand the distribution of revenues and wages. Ríos states that there is more variation in wages inside drug trafficking organisation than within Mexican formal industries, which leads to higher income differentials in illegal markets⁸⁴. This variation also generates great asymmetries in the distribution of income

⁷⁹ (Roy 1951) pp. 143 – 145

⁸⁰ (Crime 2016) p.73

⁸¹ Patrick Keefe, Cocaine Incorporated: <https://www.nytimes.com/2012/06/17/magazine/how-a-mexican-drug-cartel-makes-its-billions.html> Retrieved on 05/12/18

⁸² (Ríos 2009) p.5

⁸³(Studies 2013) pp. 15-16

⁸⁴(Ríos 2009) p.14

within the whole supply chain. Looking at the market for cocaine, the retail value of the global market was estimated at around \$85 billion in the *World Drug Report* for 2010. Yet, direct producers in the Andes only received approximately 1% of the total revenues. In contrast, retailers received about 65% – consistent with Keefe’s article. Wholesale is divided between international and domestic distribution, but on the aggregate, they received 20-25%. Lastly, about 9% of the profits was generated by trafficking cocaine from producer nations into their consumer counterparts⁸⁵.

Distribution of returns across participants is less well-understood. A better comprehension is needed to implement better drug-enforcement policies⁸⁶. Given the illegal nature of drug-trafficking, only limited information regarding payments to employees is available. *The Economics of Drug Trafficking* study provides invaluable information regarding the internal functioning of drug-trafficking organizations at the plaza level in Mexican cities. Ríos additionally states that leaders at this sort of organisations possess valuable entrepreneurial skills⁸⁷, and the structure of these criminal groups reflects that they, indeed, behave like legitimate firms. These organisations allegedly have two types of employees at the plaza level: law and internal employees. The former type usually consists of enforcement officials who have been corrupted to allow the smooth flow of drugs. The latter tend to be the organisation’s regular personnel. Cartels – just like regular firms – need their employees to perform different roles to operate efficiently. On the one hand, there are administrative staff and operatives, who are said to earn around double the mean Mexican formal sector wage. On the other hand, lookouts – commonly referred to as *halcones* in Mexico – are the most abundant type of internal employee and the lowest ranked workers. They, however, still earn slightly more than the mean formal sector wage⁸⁸. Operatives and lookouts need not possess high human capital, so the wages they can achieve by working in the illegal drug traffic sector are very likely to be much higher than the ones they could get in the legal one – given their skills. Moreover, the study also documents that drug organisations at the plaza level often hire more workers than most legitimate firms in Mexico. Section 1 showed – using Levy’s figures – that in 2013 most Mexican companies only consisted of 1 to 5 workers. On the contrary, between 61 and 600 internal

⁸⁵(Studies 2013) p.19

⁸⁶ Ibid. p.24

⁸⁷(Ríos 2009) p.15

⁸⁸ (Studies 2013) p.24

employees are active per plaza⁸⁹. Higher wages, and the need for firms to hire larger quantities of labourers, could strongly incentive this type of individuals to seek employment in the illegal sector.

Parallel to the migration scenario, national and international trafficking could potentially yield different income levels. Campbell⁹⁰ documented that especially in northern Mexican states – where there has been increased tolerance and acceptance towards drug-dealers – smuggling narcotics across the border could be very lucrative. After conducting a survey in which he inquired into the participants’ drug dealing experiences, he revealed that by taking narcotics from Ciudad Juárez to El Paso, the trafficker could earn around \$1,000 for a five-minute ride; riding from the same American city to Chicago was rewarded with up to \$10,000; and by simply allowing drugs to be stored overnight at one’s place, the tenant could generate \$200. This shows that ordinary people could make a fair amount of money – bearing a lower risk of being caught – without even formally joining a cartel. Campbell does not specify what kind of inhabitant could access these “opportunities” – whether she had to be somehow related to the organisations or their members – but the important question would be how to prevent disadvantaged citizens from participating in this lucrative business.

4.2 Retail drug-dealing in Nezahualcóyotl: Case Study

The previous subsection discussed the revenues generated along the supply chain, as well as the income that people could get from drug trafficking – whether they were employed by a drug cartel or not. Our main objective is to understand if higher expected levels of income from trading narcotics at street-level incentives youngsters into joining the industry. Ríos provides a theoretical model for understanding what kind of individual would be more likely to become a drug-trafficker. She argues that traffickers from past decades were significantly different from current ones. She argues that characteristics such a predilection for violence, low levels of risk aversion, and the desire to be an autonomous individual, are the main features of current drug lords. Additionally, becoming a cartel member has allowed for social mobility. Therefore, individuals who possess better entrepreneurial skills would be more likely to join criminal organisations, because – although initial wages could be low – there is a higher probability of becoming a leader with time⁹¹. Her model concludes that new recruits will be less risk averse, but more skilled and violent than

⁸⁹Íbid.

⁹⁰ (Campbell 2005) p.327

⁹¹(Ríos 2009) p.15

previous traffickers. Yet, in her article, there is no clear distinction between wholesalers and retailers, which – as mentioned above – are seldom related. The explanatory power of the model seems limited to cartel leaders – i.e. wholesale traffickers – but street-level retail distribution is not considered in depth.

Ríos (2010) acknowledges that young single males with low levels of formal education are the most abundant type of worker within criminal organisations, that illicit wage inequality among them is small, and that – outside the illegal sphere – their job prospects would be limited⁹². The *Special Report, Teenagers: Vulnerability and Violence* reveals that in Mexico the socioeconomic background for a significant sample of national youths – 14 to 17-year-olds – incarcerated in thirteen states around the country for diverse criminal offences. Within the sample: 4% never attended school; 17% finished primary school; 20% finished secondary education; 16% attended high school; 31% reported a bad family economic status – sometimes meaning no access to enough food; 89% had worked for low wages and under bad working conditions before their conviction; and 37% had worked before they were 12 years-old⁹³. These percentages suggest that young people incarcerated for criminal offences faced rough living conditions prior to their imprisonment. It was additionally documented that 60% of teenagers had a working position in the illegal sector, for which they received between one and two minimum wages as payment⁹⁴. Of course, causality cannot be established, but it seems that crime for them was merely a means of survival. The report suggests that a combination of discrimination and poverty may lead youths to feel excluded⁹⁵. These “criminal” profiles clearly clash with the characteristics Ríos argues drug-traffickers should possess. It must also be said that only 3% of the sample were charged for crimes against health. The percentage for this type of offence is very low, whereas homicide, violent theft, rape, and abduction represented 83% of the felonies. Crimes against health are defined in the Mexican Federal Criminal Code as offences related to the sale, possession and/or consumption of drugs⁹⁶. This broad category is ambiguous, for it prevents the explicit understanding of what teenagers were charged for. In any case – given the low percentage of teens convicted for this offence and assuming

⁹² (Ríos 2009) p.14

⁹³Informe Especial, Adolescentes: Vulnerabilidad y Violencia, pp.7-8

⁹⁴Ibid, p.41

⁹⁵Ibid, p.39

⁹⁶(Diputados, Congreso, and Unión 2006) p. 49

they were distributing drugs – it seems more likely that they were retailers than part of a large cartel.

The following figures present descriptive statistics for the total of people charged for crimes against health in the municipality of Nezahuacóyotl, from the 1st January to the 31st October 2018. The data were kindly provided by Nezahualcóyotl’s municipal police: The General Directorate of Citizen Security⁹⁷. A total of 49 individuals – aged 15 to 29 – was prosecuted for this crime. The age specification was requested by the researcher, because understanding the role of youngsters was invaluable. By the same token, it seemed imperative to include underage teens. A trusted source reported that some of the gangs who employed youngsters to sell drugs preferred to hire persons under 18 – the legal adult age in Mexico – because if caught, their punishment was on average less severe than for legal adults, and, if convicted, it was normally easier to free them again. Furthermore, some street-level dealers were also consumers. That meant that if they too became addicted to a substance – or got in debt – it was easier to keep them captive and working for the organisation – regardless of age.

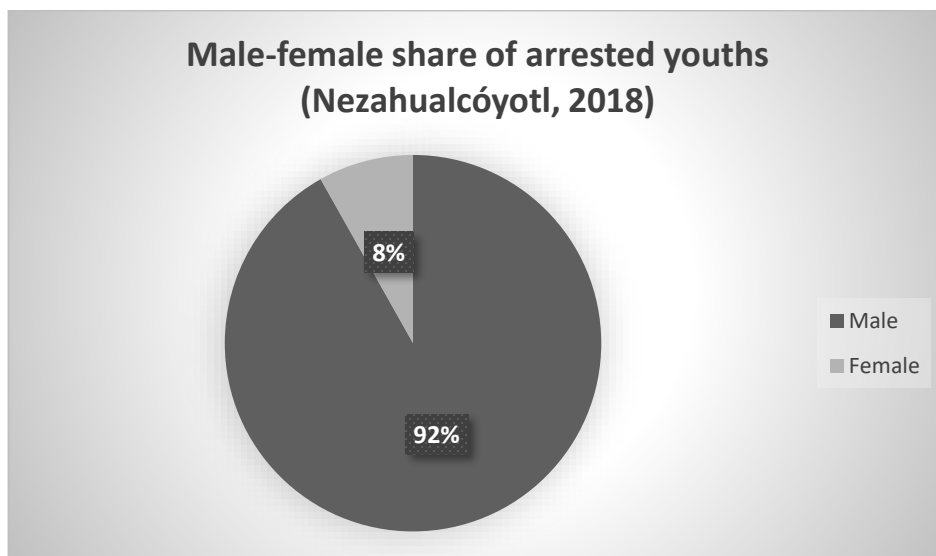


Figure 20: Male-female share of arrested youths in Nezahualcóyotl, State of Mexico. January-October 2018

Figure 20 captures the percentage share of males and females, with a clear majority of the former. Male predomination is in line with the ample literature on drugs and criminal organisations,

⁹⁷ Dirección General de Seguridad Ciudadana

but such a high proportion is still quite surprising. Out of 49 individuals arrested in 2018, only 4 (8%) were women.

Age group	Female	Male	Total	Percentage
15-17	4	47	51	10.9913793
18-24	11	231	242	52.1551724
25-29	12	159	171	36.8534483
Total	27	437	464	100
Percentage	5.81896552	94.1810345	100	

Figure 21: Age group and sex of convicted youths from January 2013 to October 2018

Along the same lines, Figure 21 considers age groups and sex of the youths convicted between the 1st January 2013 and the 31st October 2018 in Nezahualc6yotl. It complements the information presented in Figure 20 in several ways. Firstly, it is possible to see again the male predominance in the total of people caught carrying drugs. Within the male category, 52.86% of them were between 18 and 24 years old, while 36.38% belonged to the 25 to 29-year-old age group. Moreover, males represent 94.18% of the total convicted over more than 5 years – 4.18 percentage points higher than the figure for 2018. In contrast, 44.44% of the convicted females fell in the 25 to 29-year-old age group, closely followed by those in the 18-24-year-old one, which involved 40.74% of the total females captured. In sum, of all the individuals convicted over the 5-year period, only 5.82% were women.

The *Special Report, Teenagers: Vulnerability and Violence* revealed some interesting facts. It stated that of the whole teenage convicted population in their sample, women represent only 4% of the total, which closely resembles the percentage obtained when looking at the total amount of females convicted for drug-possession in Nezahualc6yotl in Figure 21. Yet, it also made clear that rough socioeconomic conditions affect both male and female teenagers⁹⁸. Further research should also consider what happens to the rest of the female teens who live conflicted lives, but who do not engage in criminal activities. Answers could also shed light on why males – at least at first – seem more regularly absorbed by criminality.

⁹⁸Informe Especial, Adolescentes: Vulnerabilidad y Violencia, p.49

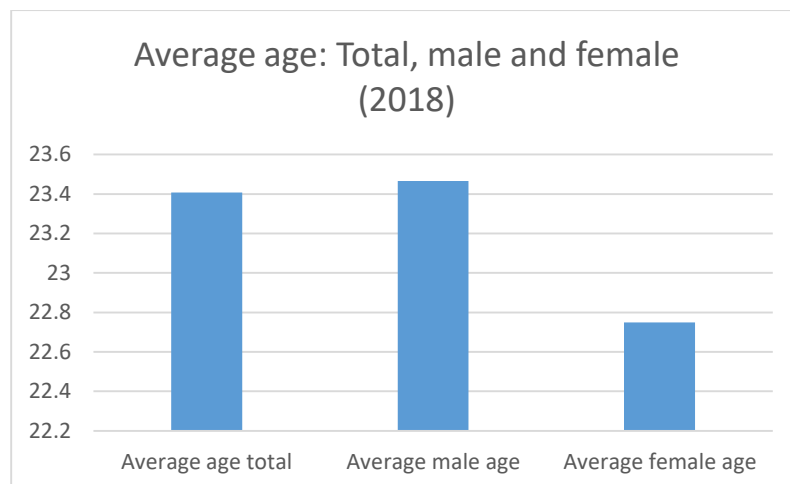


Figure 22: Average total, male, and female age of youths in Nezahualcóyotl, State of Mexico. January-October 2018

Figure 22 shows the average age of the convicted in 2018. When considering the total, it can be observed that the mean age is 23.41 years of age whereas for males, the average age is slightly higher, 23.46 years. The female figure drops to 22.75 years of age, but this number should be handled carefully, since there are only 4 women in a total of 49 people. All in all, this last figure suggests that most youths caught in the possession of narcotics are in their early twenties, at least in this municipality. Looking back at Figure 21, a better perspective of the age groups is given. The last column captures the percentage each of the three-year groups represent, irrespective of sex. 52.15% of individuals caught throughout the period are between 18 and 24-years-old, followed by those aged 25 to 29, which constitute 36.85% of the total. Additionally, the first row shows that only 10.99% of the convicted are underage. Not much more can be taken from the chart, but it is good news that the underage year group only represents roughly 11% of the total convicted.

Year	Cocaine	Cannabis	Both	Total
2013	25	13	4	42
2014	65	41	15	121
2015	60	31	13	104
2016	7	38	0	45
2017	27	70	6	103
2018*	11	38	0	49
Total	195	231	38	464

Figure 23: Type of confiscated drug in Nezahualcóyotl, State of Mexico. January 2013 - October 2018

Age is not explicitly reported, but Figure 23 captures the type of drug confiscated to convicted persons aged 15-29. Unfortunately, the purity and exact amount of the narcotics were not provided. Yet, an interesting transition took place throughout the almost 6-year-period. First – considering years 2016 to 2018 – it is visible that more people were caught carrying marijuana, relative to those who possessed cocaine. This gives a hint at what UNODC and other drug-reports have stated previously. Cannabis could potentially be produced anywhere by anyone, making it more accessible overall. Cocaine, in contrast, can only be produced in certain areas – the Andean region – its retail price is higher, and this makes it harder to get. This asymmetry in availability could explain why most convicted young people in those years had marijuana – rather than cocaine – in their possession. However, roles are inverted by looking at the first three years, and there were even some people who were caught carrying both substances. 59.52% of the total number of people caught in 2013 were carrying cocaine. In 2015 they were about 57.69%. Additionally, in 2014 and 2015 around 12% of youths arrested were carrying both types of narcotics. This trend is harder to explain. If street-level dealers belonged to a gang, it could have been that these groups – after noticing more individuals were caught carrying cocaine – decided to reduce the amount dealt, and opted, instead, for marijuana. The retail price of cocaine is higher than cannabis’, so more people caught carrying the former implied a greater loss. It is, nevertheless, peculiar that only two types of drug were confiscated, since fieldwork revealed other narcotics – a variety of synthetic drugs and opioids – are also available in the Mexican drug market, but maybe, in lesser quantities.

4.3 Discussion on wages

Ríos asserted that if an individual is to become a criminal his illicit expected wage should be larger than what he would earn in the legal labour market⁹⁹. The present research seeks to find some empirical evidence of her claim. Some estimates are presented for the income youths – convicted in 2018 – would have received, had they not been caught. Once again, data employed were provided by the General Directorate of Citizen Security. Sadly, information regarding the “units” people were carrying was only provided for those convicted in 2018. Moreover, what a “unit” consisted of was left unexplained. Nevertheless, based on the information provided by the UNODC *World Drug Report 2016* and *The Economics of Drug Trafficking* study allowed for an estimation of an average retail price in Mexico for cannabis and cocaine. The former revealed that

⁹⁹(Ríos 2009) p.10

the most commonly purchased quantity of cannabis was an eighth of ounce, or equivalently, about 3.5 grams¹⁰⁰. The latter documented that the most commercial cannabis sold for about US \$80 per kilo or \$4US 0 per pound in the Mexican drug market¹⁰¹.

Pounds (Cannabis)			
	Per pound	Per ounce	Per unit (1/8 ounce or 3.5 grams)
Price (Dollars)	\$40	\$2.5	\$0.3125
Price (Pesos, approx.)	821.49 pesos	51.34 pesos	6.42 pesos
Kilos (Cannabis)			
	Per Kilo	Per gram	Per unit (1/8 ounce or 3.5 grams)
Price (Dollars)	\$80	\$0.08	\$0.28
Price (Pesos, approx.)	1642.98 pesos	1.64 pesos	5.75

Figure 24: estimated retail price of cannabis

Figure 24 above summarises the calculations made and estimates the retail price of commercial cannabis at 1.64 pesos per gram. Therefore, a 3.5-gram-unit – as suggested by the UNODC report – would cost about 5.75 pesos (US \$0.28 approximately). Yet, if sold per ounces, the same unit was valued at 6.42 pesos (US \$0.3125). It was, hence, thought that the commercial price for a unit would be somewhere between these two prices. The average price for a 3.5-gram-unit was estimated to sell for 6.085 pesos (US \$0.30).

The same procedure was followed to estimate the retail price of cocaine. Very detailed articles regarding the revenues and profits generated through cocaine trafficking have stemmed from the trial of Joaquín “El Chapo” Guzmán – former leader of the Sinaloa Cartel. Ed Vulliamy reported in a November 2018 article for *The Guardian*, that smuggling cocaine into the United States could sometimes yield revenues of up to US \$10 million per day¹⁰². As discussed before, these are wholesale profits, but it suggested that retail price for cocaine could be well above that of marijuana. To construct the following chart, three main sources were used to estimate the retail

¹⁰⁰(Crime 2016) p.49

¹⁰¹(Studies 2013) p.22

¹⁰²<https://www.theguardian.com/world/2018/nov/13/el-chapo-trial-of-mexican-cartel-boss-begins-in-new-york>

Accessed: 05/12/2018

price of a gram of cocaine: two articles – one from *El Economista*¹⁰³ and one from *La Jornada*¹⁰⁴ – and an average estimate made using the prices per gram for Latin American countries¹⁰⁵.

Cocaine		
Average price per gram*	\$12.3	252.61 pesos
Average price per unit (3.5g)	\$43	883.10 pesos

Figure 25: estimated average price of retail cocaine

Since also no description was given by the municipal police as to what a “unit” of confiscated cocaine meant, calculations were made per gram and – based on the cannabis estimation – per 3.5-gram unit. The results are summarised in Figure 25 and show that the retail price of a gram of cocaine – without considering purity – would sell for about 252.61 pesos (US \$12.3), implying that a 3.5-gram unit would be valued at 883.10 pesos (US \$43).

Additional special information was kindly provided by the General Directorate of Citizen Security. A trusted source informed of the hierarchical structure of drug organizations in Nezahualcóyotl, and remunerations retailers received per shift and per units sold. Both are summarised in Figure 26:

Retail sales in Nezahualcóyotl, State of Mexico	Retail hierarchy structure
-200-300 pesos per shift* (Monday to Thursday)	-Owners
-500-1000 pesos per shift* (Friday to Sunday)	-Attendants (administrative)
-5 to 10 pesos per unit sold	-Operatives (<i>corredores</i>)
*shifts consist of 3 hours worked per day	-Retailers (sellers)
	-Lookouts (<i>halcones</i>)

Figure 26: Retail sellers’ wages and hierarchy structure in Nezahualcóyotl, State of Mexico

It shows that street-level dealers got paid a “fixed” remuneration per shift worked. Each shift was 3 hours long. If done from Monday to Thursday, the individual received between 200 and 300 pesos, but if she worked over the weekend, the fixed amount paid was between 500 and 1000 pesos. It is also interesting to notice that they got additional 5 to 10-pesos payments per unit sold.

¹⁰³<https://www.eleconomista.com.mx/politica/Precio-de-pasta-de-cocaina-sube-1709-en-Mexico-20131119-0015.html> Accessed:04/12/2018

¹⁰⁴<https://www.jornada.com.mx/2009/03/16/politica/009n1pol> Accessed:04/12/2018

¹⁰⁵<https://www.dailydot.com/irl/cocaine-around-world/> Accessed:04/12/2018

Sadly – in this case – no further information was given with respect to the type of drug sold nor the weight per unit. All in all, it seems that drug dealing wages for retailers in Nezahualcóyotl were a mixture of a fixed payment per shifts, plus income generated per unit sold and – possibly – type of drug.

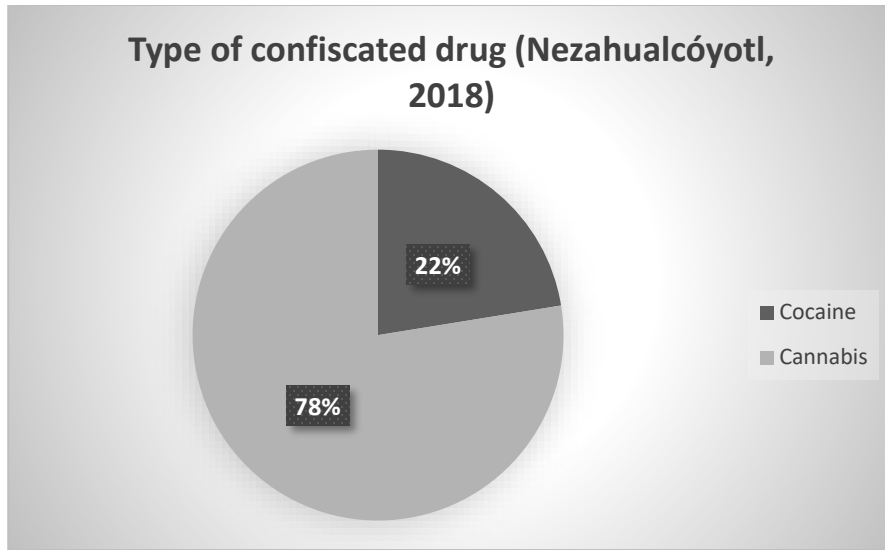


Figure 27: Type of confiscated drug in Nezahualcóyotl, State of Mexico, 2018

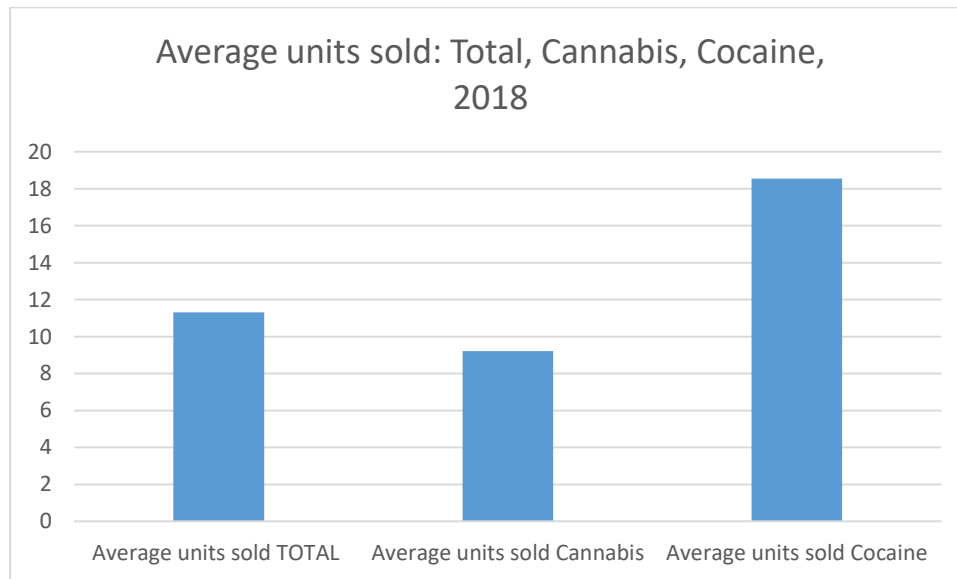


Figure 28: Average units sold: Total, cocaine and cannabis. Nezahualcóyotl, State of Mexico, 2018

In addition, Figures 27 and 28 finally provide estimates of how much each young retail dealer could have earned had she sold the units she was carrying based on the estimated retail prices and grams per unit presented in Figures 24 and 25. This analysis was only possible for ten months

of 2018. That was the sole year for which information on types of confiscated drugs, as well as the number of “units” each dealer was carrying, was provided. First, Figure 27 reveals that from the 1st January to the 31st October 2018, 22% of convicted individuals were carrying on average 18.55 units of cocaine, whilst cannabis was seized to the other 78%. Second, Figure 28 presents the average number of units sold overall (11.31), for cannabis (9.21), and – as already mentioned – for cocaine (18.55).

Looking at the bars, it is evident that people carrying cocaine sold – on average – more units than those who were carrying cannabis. Yet, it must be remembered that only 11 out of 38 people possessed the former. All else considered, the fact that less people were carrying cocaine, and that – on average – each dealer of this drug was carrying 18.55 units, means that income made from retail cocaine sales would be much larger than from marijuana.

Using the estimates provided and discrete numbers, would mean that 18 units of cocaine would sell for almost 4,547 pesos – if grams are considered – or for almost 15,896 pesos if each unit yielded 3.5 grams. Those would be cocaine profits only considering averages. In contrast, 9 units of cannabis – 3.5 grams each – sold for the estimated average price of 6.085 pesos per unit, would yield the dealer a profit of 54.765 pesos. Of course, purity of the narcotic is not considered, so it is likely that upper-quality cannabis sells for higher prices, but this shows that cocaine sells for much more at retail points in Nezahualcóyotl.

To conclude this subsection, Figure 29 presents 38 out of the 59 official minimum daily wages – in force since the 1st January 2018 – established by the National Minimum Wage Commission (Comisión Nacional de los Salarios Mínimos) and the Secretariat of Labour and Social Security (Secretaría del Trabajo y Previsión Social)¹⁰⁶:

Minimum Wages in effect from 1st January 2018		
Occupation	Pesos per day	Approx. US Dollars per day
General	88.36	4.418
Masonry official	114.95	5.7475
Clerk at the counter (pharmacies and drugstores)	99.99	4.9995

¹⁰⁶ (Mínimos 2018)

Bulldozer operator	121.09	6.0545
Bartender	104.34	5.217
Construction carpenter	114.95	5.7475
Furniture carpenter	112.83	5.6415
Cook	116.59	5.8295
Mattress manufacturing official	105.51	5.2755
Construction plasterer	106.35	5.3175
Tailor (factories)	101.8	5.09
Tailor (at home)	104.84	5.242
Parking lot attendant	107.14	5.357
Lorry driver	117.6	5.88
Van driver	113.88	5.694
Crane operator	109	5.45
Dredge operator	122.33	6.1165
Cabinetmaker	114.67	5.7335
Electrician	112.38	5.619
Car-repair electrician	113.6	5.68
Engine/generator electrician	109	5.45
Self-service store employee	99.66	4.983
Warehouse manager	103.71	5.1855
Hardware store manager	106.07	5.3035
Gasoline dispatcher	101.8	5.09
Blacksmith	110.74	5.537
Tinsmith (car repair)	112.83	5.6415
Mechanic	119.18	5.959
Barber	107.14	5.357
Painter (vehicles)	110.74	5.537
Painter (buildings)	109.9	5.495
Plumber	110.12	5.506
Press reporter	236.28	11.814
Pastry chef	114.95	5.7475
Auxiliary secretary	118.9	5.945
Welder	113.6	5.68

Watchman	104.84	5.242
Shoemaker	103.2	5.16

Figure 29: Official Mexican minimum wages for selected occupations, in effect since 1st January 2018

It has been argued that young men with low levels of formal education conform the main pool from which criminal organisations draw employees¹⁰⁷. If this were true, many of them would be limited to low-skill occupations. Figure 29, above, presents some figures for the daily wages received at such professions. Most of them involve manual labour for which not much specialised education is needed. It seems, therefore, valid to provide a very rough and basic comparison of the wages youngsters could receive – should they choose to get one of this legitimate jobs – and the average remunerations they could earn from the retail drug-dealing. The general established minimum wage for 2018 – 88.36 pesos per day – is presented first. A quick look at the other wages reveals that the general one is the lowest in the list. The highest consists of 236.28 pesos per day, which is what a (daily) press reporter earns. Furniture carpenters and plumbers receive 112.83 and 110.12 pesos per day, respectively, whereas lorry drivers earn a daily wage of 117.60 pesos each day.

Recalling the above calculations for the dealing of cannabis and cocaine, and keeping in mind the payment per shift, meant that 9 units of cannabis – 3.5 grams each – would yield a 54.765-pesos revenue, plus 300-500 pesos per 3-hour shift if sold from Monday to Thursday or 500-1000 more if sold from Friday to Sunday. When cocaine is considered, 18 grams would sell for the estimated price of 4,547 pesos. Moreover, if sold per 3.5-gram-units, 18 of them would sell for 15,896 pesos plus the additional shift payments. Two things stand out right away: first, selling cocaine earns higher revenues at retail than selling commercial cannabis. Second, even if street-level dealers are unable to keep all the revenues – assuming they are employed by a gang – the payments per 3-hour shift are already higher than any of the minimum wages presented in Figure 29. If youths from the municipality of Nezahualc6yotl were risk lovers and their employment opportunities were limited to the 59 occupations listed on the original minimum wage document, drug dealing would be the rational employment decision for them, since they could maximise leisure time and income. By doing so they would only work 3 hours each day and could already earn more than legal workers employed at the above-listed professions.

¹⁰⁷ (R6os 2009) p.14

Conclusion

The grim economic picture presented in section 1 replicated Levy's findings that returns to education and experience have not increased for a few decades now. Additionally, the current official minimum wage in Mexico is incredibly low, and many workers are employed at very small enterprises which capture a large number of resources, but whose productivity is very low.

Moreover, an ordinary person would be more inclined towards criminality if expected illegal income was higher than her legal one, and if the probability of being caught is low enough¹⁰⁸. The last section should incentive policymakers to think what could be done when young people in harsh economic circumstances are faced with such lucrative chances. Simply increasing labour opportunities would seem insufficient. It has been proposed that crime and legitimate work may not necessarily mutually exclusive, hence, a dealer might find it easier to justify his illicit earnings if he has a source of legal income – a sort of micro money-laundering process. Therefore, policymakers should find a way to alter criminal incentives¹⁰⁹.

An interesting finding from the case study presented in section 4 is that drug-dealing wages for young retailers in Nezahualcóyotl seem to be a mixture of a fixed payment per shift, plus income generated per unit sold and type of drug. And even if they were only to receive the payment per shift, they would already earn more than they otherwise would if they were employed at any of the labour-intensive legal activities listed in Figure 29.

Serious thought should be given to policies that seek to reduce criminal incidence. If youngsters from the considered municipality were risk averse, a higher probability of being caught would directly affect their incentives and could prevent them from joining this highly-profitable illegal industry. Yet, such actions would only address the problem from one angle, since this measurement would not do anything to increase the already low wages earned at low-skill legal jobs.

¹⁰⁸ (Ríos 2009) p.10

¹⁰⁹ (Piehl 2003) p.3

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