

# Mexico Inequality Report

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## Executive Summary

### *Data*

Two datasets on wealth and status distribution in Mexico were analyzed: 2016 World Bank quintile and decile estimates of income, and income by occupation data from the Mexican Instituto Nacional de Estadística y Geografía (INEGI) for 2017.

### *Results*

Overall, with the exception of a small proportion of middle-low income members of society the data shows a Mexican population that is risk accepting, with the poorest and wealthiest Mexicans having the greatest proclivity towards risk.

### *Significance for Risk Taking and Stability*

Data demonstrate an extremely high degree of risk taking for the wealthiest sector of the population. Mexico experiences high amounts of corruption and strong influence from the numerous drug cartels in the country, and excessive amounts of violence as a result of the drug trafficking which has a serious impact on national stability. Risk taking among the poorest segments of the population is represented in the numerous migrants seeking asylum in the US due to gang violence and lack of economic growth opportunities.

### *Implications for US Interests*

The Mexican population demonstrates a high propensity for risk and is notably fragile according to the 2018 Fragile States Index. A continued increase in the number of migrants coming from the Northern Triangle has put a strain on the already difficult situation at the US-Mexico border leading to higher tension on US-Mexico relations. With evidence of China increasing trade ties with Mexican markets it is possible that unresolved tensions between the US and Mexico and changes in US trade policy may help facilitate an increase in Sino-Mexican trade relations. Moreover, legalization of marijuana in some areas of the US has increased the number of drug trafficking organizations focused on producing and selling more dangerous drugs like opioids (Lee, Renwick, & Labrador, 2019). Despite state fragility and possibly cleavages, the US' position as Mexico's largest trade partner and greatest source of foreign direct investment (FDI) creates some security for US interests (Congressional Research Service, 2019).

### *Implications for China's Interests*

Recent changes in US trade policy and a desire, by Mexico, to reduce its dependence on the US may provide an opportunity for China to increase market share in Mexico (Ellis, 2019). Some talks in 2018 indicated that Mexico has considered partaking in the Belt and Road Initiative which would have significant implications for Sino-Mexican relations (Nathanson, 2018). China is still likely to have trouble building out a mutually beneficial relationship though as the two countries compete in similar production markets.

### *Implications for Russia's Interests*

Russia's interests in Mexico comes as part of a continued national interest in Latin America as a whole powered by the desire to destabilize the pro-US leanings of the region (Koven & Kamp, 2019; Ellis, 2019). Russian involvement in Mexico's 2018 election was a noted event pointing towards deeper interest by the Kremlin in Mexico than previously demonstrated (Koven & Kamp, 2019). Koven and Kamp (2019) explain that Russian influence in Mexico is rational as a technique for countering US influence in the region. Due to Mexico's high-risk propensity and already unsatisfied citizens, Russian hacking likely had very little influence on the election outcome of its leftist president Andrés Manuel López Obrador (often referred to as AMLO) in 2018 (Koven & Kamp, 2019).

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## Introduction

This is a summary report on inequality in Mexico compiled as part of the Aggrieved Populations project conducted in support of the 2019 Strategic Multilayer Assessment (SMA) Future of Great Power Competition and Conflict project conducted for the JS-J39.

This report provides background on why the country was chosen, relevant historical background, literature review concerning inequality in the country, synopses of empirical data sources and analyses, and a concluding section that summarizes the findings. It is not intended to provide a comprehensive analysis of inequality and grievance in the country, but to place the empirical analyses conducted on this country in their social and political context and to highlight interesting cases of inequality pertinent to risk acceptance and great power competition. The analyses focus on the measurement of population risk sensitivity as a function of measured inequality using the Arrow-Pratt measure of risk aversion, whose positive values indicate risk aversion and negative values indicate risk acceptance. Studies have shown that risk acceptance is associated with social unrest, terrorism, and other forms of social disruption (Kuznar 2007; 2019). The full explanation of the underlying method and theory is presented in the summary report, *Inequality, Risk Sensitivity and Grievance in Context: Summary of Aggrieved Populations Country Reports*, submitted as part of this SMA project. This report is intended to be supporting material to that report and presumes familiarity with it.

In order to create an inclusive and more representative set of countries, an effort was made to analyze countries from each major region of the world (Africa, Central Asia, East Asia, Europe, Latin America, the Middle East, North America, South Asia).

## Why Mexico?

Mexico was chosen for four reasons: 1) It is a country from Central America, 2) it has close ties to the US economy, 3) it figures prominently in immigration as a source of immigrants and a conduit to the US, and 4) it experiences extremely high levels of violence and instability.

## Great Power Interests in Mexico

Mexico's location along the southern border of the US makes it a highly important for the US economically (CRS, 2019). Its geographic positioning, and close historical ties to the United States amplifies its role in significant facets of US interests such as economics, trade, public health, and cultural relations (CRS, 2019). Recent departure of the US from the North American Free Trade Agreement (NAFTA) and a move to the newly negotiated US-Mexico-Canada Agreement (USMCA) has many potential opportunities for the future of US-Mexico relations as the continued strong trade relationship is a key factor of the success of both economies. Further US interests in the region come from the benefits of sharing a large border with a similarly democratically minded country such as Mexico. A shift in the nation's political ideals could be a threat to the security of the US, a concern that is especially pressing in light of word that Russia made efforts to influence the 2018 presidential election in Mexico (Koven & Kamp, 2019).

Chinese interests in Mexico are evidenced by large-scale loans in Mexico, similar to several that China has given out to other countries in Latin America, Mexico included (Nathanson, 2018). This increase in Chinese investment is currently relatively minimal in Mexico but stands to increase if the US is unable to provide Mexico with the kind of infrastructure supported needed by the country (Ellis, 2019). The interest

of China in Mexico is largely fueled by a desire to build stability in its own economy, a goal that is aided by the large number of natural resources present in Latin America (Kaplan, 2015).

Conversely, Russian interests in Mexico are varied and not entirely clear. The propaganda produced by Russia aimed at influencing the election of AMLO in Mexico did raise questions about Russia's interests in Mexico. However, the reasoning behind the propaganda still has not been made clear and seems to have little further implications (Miles, 2018). The interests of Russia may lie in a desire to impact the pro-US nature of the region and to work at negatively influencing US stability from a different angle (Koven & Kamp, 2019).

## Literature Review on Inequality in Mexico

Despite its promising GDP, 11<sup>th</sup> in the world, Mexico ranks as one of the most unequal countries in the world with Mexico's Gini coefficient identifying it as the 3<sup>rd</sup> most unequal country globally (Table 1). Mexico, which has a population of nearly 126 million is home to many significant issues fueling continued inequality between the upper and lower classes (CIA, 2019). Many of the social concerns in Mexico are centered around a lack of education and economic growth potential for lower class citizens leaving many unable to escape extreme poverty despite being actively employed (CIA, 2019). There exists a significant level of inequality between the elites of Mexico and the rest of the population which remains very poor (Fisher & Taub, 2017). The societal issues arising from this inequality are described as a broken social contract by Fisher and Taub (2017) illustrating that the issues of Mexico's economic inequality are effectively breaking down the norms of society that stand to protect day to day life.

One of the most systemic issues faced by Mexico is the large number of drug trafficking organizations (DTOs) that use finances to influence and corrupt local police and security forces for the good of the DTO (Fisher & Taub, 2017). The ongoing war on drugs, funded largely by the US government's Merida Initiative, a cooperative security agreement between the US and Mexico, has effectively eliminated the leaders of several large drug cartels leading to a splintered network of smaller gangs increasing violence in several Mexican states (Fisher & Taub, 2017). The issues of continued violence have spread from targeting the elite to impacting the lower-class citizens as well (Fisher & Taub, 2017). With the increase in violence there has also been an increase of private security hired for protection leading to further disparities between those who can afford to do so and those who cannot (Fisher & Taub, 2017).

Regional differences in inequality also exist in Mexico as the numerous rural communities in the southern states of Mexico lack significant amounts of infrastructure needed to provide decent educational and economic growth opportunities (Aguila et al., 2012). Much of the rural communities in Mexico consist of indigenous people who are significantly more likely to be living in impoverished conditions (Aguila et al., 2012). Though infrastructure is needed in these areas, outside investment threatens a loss of cultural diversity and care for indigenous tradition (Nathanson, 2018).

## Country-Level Measures of Inequality in Mexico

Mexico will be initially assessed with a collection of country-level metrics. These metrics provide measures of the country’s inequality compared to other nations, inequality within the country, social conditions that may be consequences of that inequality, and the prognosis for stability in the future (**Error! Reference source not found.**).

Mexico is an upper to mid-level country in terms of GDP. Its national per capita GDP is \$9,319, placing it in the upper half of all countries, however, it has a lower Inequality-adjusted Human Development Index (IHDI), placing it in the lower half of countries for that measure. These findings can be put into context by viewing *Figure 1* which illustrates the unequal income distribution. Together these data demonstrate that Mexico experiences significant inequality. Mexico’s Gini coefficient is extremely high ranking third out of all countries. In comparison, the unemployment rate is significantly lower than most countries at just 3.56% suggesting most citizens do hold occupations though many do not make enough to stay out of poverty. These data reinforce knowledge about the high amount of poverty in Mexico and the likelihood for citizens to seek outside sources of income that may be risky. Further, Mexico ranks in the 75<sup>th</sup> percentile of risk sensitivity. The propensity for risk is not as high as many of the surrounding countries in Central America yet still notably high on a global scale.

*Table 1. Mexico: Basic Statistics on Inequality*

Measure	Value	Rank	Source
<b>Inequality Compared to Other Nations</b>			
Per Capita GDP 2018	\$9319	70 of 187	WB
<b>Country Measures of Inequality</b>			
Inequality-adjusted Human Development Index (IHDI) 2018	0.609	70 of 151	UN
Gini Coefficient 2016	61.6%	3 of 184	WB
Informal Employment as % of Total Employment 2013	53.4%	59 of 112	ILO
<b>Measures of State Instability</b>			
Fragile States Index 2018	71.5	93 of 175	FFP
Terrorism Index 2018	3.533	56 of 160	IEP
Probability of Mass Killing 2018	0.007	71 of 161	EWP
<b>Risk Sensitivity</b>			
Average Arrow-Pratt Measure 2016	-4.78	119 of 158	This Study
<p>*EWP – Early Warning Project, FFP – Fund for Peace, IEP – Institute for Economics and Peace, ILO – International Labor Organization, UN – United Nations, WB – World Bank</p> <p>- The Fragile States Index is based on twelve conflict risk that include security apparatus, factionalized elites, group grievance, economy, economic inequality, human flight and brain drain, public services, state legitimacy, human rights and rule of law, demographic pressure, refugees and IDPs, and external interventions. The potential range of the index is zero (no fragility to 120 total fragility).</p> <p>- The Terrorism Index scores each country on a scale from 0 to 10; where 0 represents no impact from terrorism and 10 represents the highest measurable impact of terrorism.</p>			

## Prognosis for Change to 2029

Mexico is both highly unstable and its population is risk acceptant (Table 1). Risk acceptance is highest at either side of the economic spectrum, with extremely low income and extremely high income being the most risk prone sectors of the population. Further divisions between the US government and Mexico are possible in light of the newly elected president Andrés Manuel López Obrador often referred to by his initials, AMLO. Recent political changes include calls by AMLO to shift US funding through the Merida Initiative away from the use of force and towards developmental aid (Weiss, 2019). Mexico's current levels of high economic inequality and significant instability lead to several possible pitfalls for US Mexico relations. The significant need for infrastructure improvements in education and healthcare and help disbanding drug trafficking organizations lead to significant cleavages in Mexican society that threaten the country's national stability (Aguila et al., 2012). Mexico may be prone to accept offered financial and economic support from outside great power contenders, China and Russia, in an effort to protect its national interest.

Future potential for Mexico involves significant emphasis on social and economic policies working towards a more economically mobile lower class. Specific areas of consideration include the indigenous and undereducated portions of the population who suffer from poverty more often and more severely than other population groups (Aguila et al., 2012). The wealth and education disparities require significant attention and a need for developmental aid may push Mexico towards stronger Sino-Mexican relations if the Chinese offer the kind of development desired by Mexico, and currently, the AMLO administration.

Current proposed legislation in Mexico intends to decriminalize all drugs in the country (Weiss, 2019). If the decriminalization is to pass there would be significant implications for the war on drugs and Mexican-American relations moving forward. Potential tension points between the US and Mexico may escalate moving forward if migration into the US continues and new drug legislation in Mexico fails to decrease the number of DTO's operating from Mexico and moving drugs into the US.

# Empirical Data on Inequality in Mexico

## Dataset 1: 2016 Mexico World Bank Quintile Data

The World Bank provides data on lowest and highest decile, and quintiles of percentage of income or consumption.<sup>1</sup> These data are used to calculate their Gini coefficients. While not exactly measuring the actual income, the percentage of overall income provides an approximation. The Mexican data were gathered in 2016. **Error! Reference source not found.** presents the original data and the fitted distribution curve from which the Arrow-Pratt risk sensitivity measures will be derived, as well as the Arrow-Pratt measures of risk sensitivity.

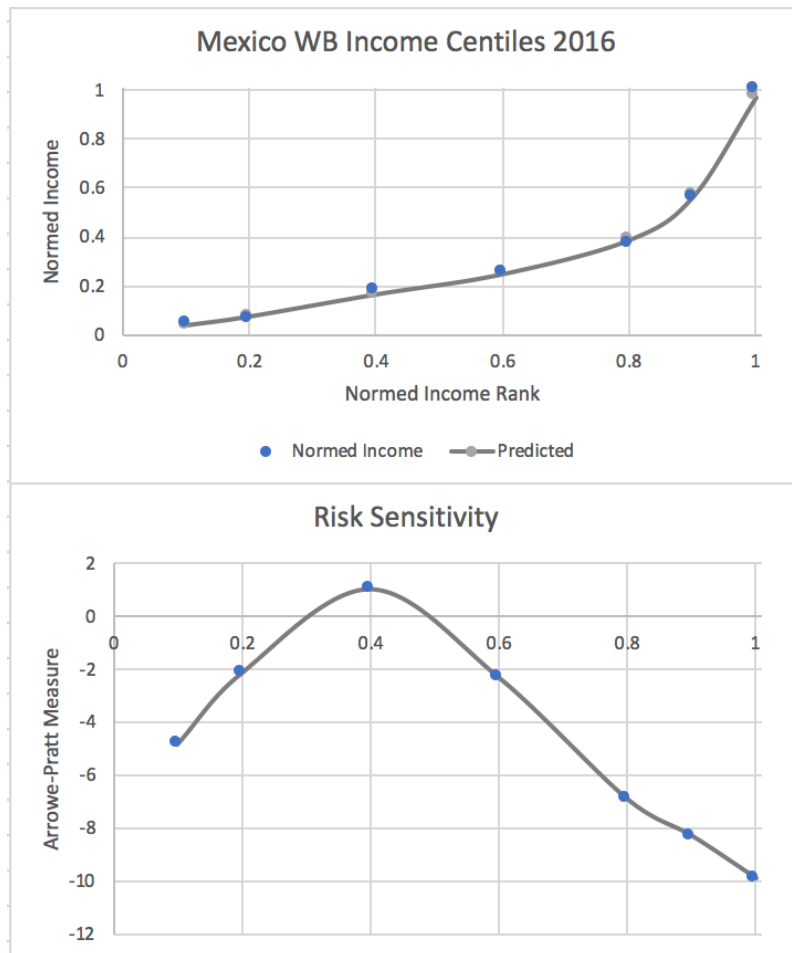


Figure 1: Distribution of Income, World Bank Quintiles Mexico 2016 and associated Risk Sensitivity.

### Summary Dataset 1: 2016 Mexico World Bank Quintile Data

The risk sensitivity data paints a picture of a population with an average to high propensity for risk. The average Arrow-Pratt measure of risk sensitivity is -4.78 with respect to these data, which is slightly below the average of -4.64 for all countries and ranks it in the 75<sup>th</sup> percentile of risk sensitivity (Table 1). Furthermore, Mexico is unusual in that a large proportion of the population is predicted to be risk loving due to the strong exponential increase in income as one ascends the social ladder. While all Mexicans are

<sup>1</sup> Data drawn from: <http://wdi.worldbank.org/table/1.3>



predicted to be risk loving, some interesting variations exist. The highest income corresponds highest level of risk acceptance with an Arrow-Pratt Measure of greater than -10. The lowest income members of the population also appear to be risk acceptant yet to a much lesser extent (Arrow-Pratt Measure of about -4.5) than the higher income members of society. There is only a small sector of middle to low income members of society that demonstrate no propensity for risk.

*Dataset 2: Mexico 2017 INEGI (Instituto Nacional de Estadística y Geografía) Income Centiles*

Dataset 2 comes from the Mexican Instituto Nacional de Estadística y Geografía (INEGI), that provides centile distributions of income for the country. Since these data are aggregated in a similar manner to the World Bank, the estimated risk sensitivity metrics are comparable.

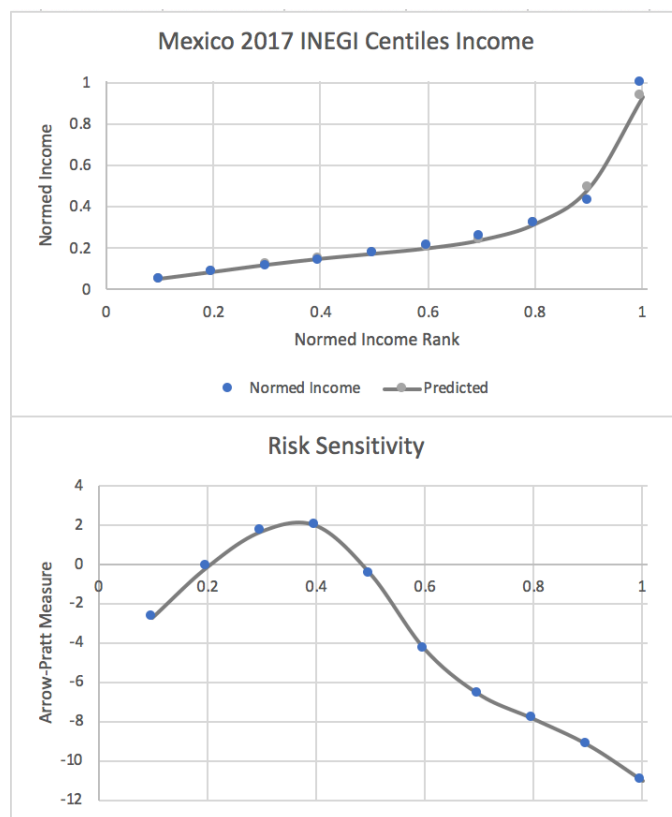


Figure 2. Mexico 2017 INEGI Income Centiles and associated Risk Sensitivity

**Summary Dataset 2: Mexico 2017 INEGI (Instituto Nacional de Estadística y Geografía) Income Centiles**

The income distribution from the INEGI data are very similar to those from the World Bank and exhibit a strongly exponential increase from lower to higher incomes. The mean Arrow-Pratt score based on the INEGI data is -3.88. The INEGI data indicate a risk acceptant lower class below the 20<sup>th</sup> percentile, a risk averse middle class from the 20<sup>th</sup> to 50<sup>th</sup> percentile, and an increasingly risk acceptant upper middle and upper class. The wealthiest income earners are predicted to be extremely risk acceptant. The higher (more risk averse) Arrow-Pratt measure compared to the World Bank data is due to a slight lower middle class “bump” or concave downward section of the otherwise strongly exponential income distribution that extends from the 20<sup>th</sup> to the 50<sup>th</sup> percentile in the INEGI data.

## Findings on Inequality in Mexico

### *Relevance to Instability and Social Cleavages*

All datasets demonstrate that Mexico is risk prone largely due to the significantly unequal wealth distribution in the nation as well as the lack of advancement and growth potential for poor citizens (CIA, 2019). The risk propensity within Mexico is most prominent in the wealthiest sectors of society with only a small proportion of society demonstrating risk aversion (Figure 2). This level of risk acceptance is consistent with the influx of gang violence and DTO activity and corruption in Mexican societies at so many socioeconomic levels (Weiss, 2019).

### *Opportunities and Pitfalls for the US and Adversaries*

US-Mexico relations are strong due to the economic connections between the two countries (CRS, 2019). Mexico has some economic growth forecasted that presents benefits to the US as economic growth should lead to greater stability in the country (CRS, 2019). However, despite some growth being projected the rate of growth is likely not high enough to produce the kind of stability needed to stem activities from DTO's and gang violence (CRS, 2019).

### *China*

China-Mexico relations are largely dependent on China's perceived benefits of investing in Mexico based on long-term economic stability (Kaplan, 2015). Recent years have demonstrated that China perceives a benefit and continues to invest in Latin America (Nathanson, 2018). The increase in financial and infrastructure development of China in Mexico is beneficial for the Chinese as a way to move heavily US-influenced Mexico away from its northern neighbor (Nathanson, 2018). This investment is an opportunity for China to grow economically by strengthening and building better trade relationships with Mexico during its phase of economic growth (Nathanson, 2018). There are some risks for China signaled by the fact that western nations have previously seen Latin America to be a poor investment resulting in lost funds (Kaplan, 2015).

### *Russia*

Russian influence in Mexico remains minimal at its current status as there are few investment opportunities for Russia within Mexico (Miles, 2018). However, recent challenges presented to Mexico by the US such as implementation of a new physical barrier and conflict over migration may lead to openings for further relationship building between Mexico and Russia (Koven & Kamp, 2019; Ellis, 2019). Russian interference in the 2018 election of liberal president AMLO did raise questions about the long-term intentions of the Kremlin in Mexico (Koven & Kamp, 2019). In the case that Russia does have motives for involvement with Mexico the AMLO administration would be beneficial to the achievement of said motives (Miles, 2018).

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