

# US Inequality Report

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## Executive Summary

### *Data*

Four datasets on wealth and status distribution in the United States were analyzed: 2016, 2010, and 2007 World Bank quintile and decile estimates of income, and 2017 US Bureau of Labor statistics income deciles.

### *Results*

Overall the population of the US is highly risk acceptant, with peaks among the poor and the wealthiest. Furthermore, recent economic volatility has caused middle class Americans to lose wealth, which has not been regained, placing them in a loss averse and therefore risk accepting decision frame. The wealthy have been able to regain wealth lost during the Great Recession. However, their regained wealth has been in the form of more uncertain and volatile income versus traditional rents from capital ownership, possibly sustaining their high level of risk acceptance.

### *Significance for Risk Taking and Stability*

The entire American population is arguably risk acceptant, or in the case of the middle class, loss averse. These conditions imply political risk taking across the social spectrum.

### *Implications for US Interests*

Political partisanship, social unrest, and economic volatility are likely to decrease trust in the political system and lead to protest and major shifts in the priorities of political parties.

### *Implications for China's Interests*

Given the close economic ties between China and the US, volatility in American markets could jeopardize some Chinese economic interests. However, given the great power competition for global influence between the countries, losses in economic power and increased social division within the US likely play into Chinese interests and objectives.

### *Implications for Russia's Interests*

Given Russia's desire to see a weakened US and democratic institutions worldwide, economic inequality, volatility, partisanship and social discord in the US presents Russia with opportunities to use cleavages between socio-economic classes to further weaken the nation.

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## Introduction

This is a summary report on inequality in the US 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 US?

The US was chosen as a quasi-control case since the authors and audience are at least somewhat familiar with levels of political division and inequality in their home country; this understanding can serve as a baseline to which results for other countries can be compared.

## Great Power Interests in US

It is clear that China and Russia have intense interest in the US. China and the US have the world's two largest economies and are simultaneously competitive with and dependent on one another. China owns about 5%, or 1.2 trillion dollars of US government debt, giving it some leverage over the finance of the US government<sup>1</sup>. Additionally, the US and China are currently engaged in a trade war. China's primary interests with respect to the US appear to be navigating its complex economic relationship with the US, countering US influence in the Pacific region (Astorino-Courtois & Bragg, 2018) and benefitting from US technological developments.<sup>2</sup>

The US intelligence community has concluded that Russia interfered in the 2016 and 2018 elections through hacking voter registration information and social media information operations campaigns (US Department of Homeland Security and Federal Bureau of Investigation, 2016). Further, Russia is expected

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<sup>1</sup> Chinese leverage over US debt: <https://www.investopedia.com/articles/investing/080615/china-owns-us-debt-how-much.asp>

<sup>2</sup> Chinese intellectual property and technology theft: <https://www.bloomberg.com/news/articles/2019-06-15/forced-or-not-why-u-s-says-china-steals-technology-quicktake>

to continue such efforts in 2020.<sup>3</sup> Russian interests appear to be limiting US global influence (Astorino-Courtois & Bragg, 2018; Kuznar, 2016; Rozman, 2018), and sowing social and political instability in the US.

Finally, there is widespread concern that Russia and China have combined their efforts in opposing US political and economic influence to achieve their respective objectives.<sup>4</sup>

## Literature Review on Inequality in US

Scholarly interest in US inequality was renewed in an influential article published by Thomas Piketty and Emmanuel Saez entitled, "Income Inequality in the United States, 1913-1998" (Piketty & Saez, 2003). In that article, they present empirical data tracking the source of wealth for the US elite in the 20<sup>th</sup> century, and argue that before the Great Depression, the wealthiest one percent drew most of their wealth from rents by owning capital. The Great Depression and World War II caused a loss of wealth as well as a transfer of wealth toward the bottom 99%. However, since 1980, wealth has flowed disproportionately toward the top 1%. Their data and their conclusions have been controversial and engendered a number of follow-on studies that shed more light on inequality in the US.

Some studies reaffirmed their findings, such as Jones (2015) who relates US income distribution to key parameters of statistical Pareto distributions and Scheidel (2017) who extends Piketty's analysis through all history and into prehistory, arguing that the "Four Horsemen of the Apocalypse," i.e., mass mobilization warfare, revolutions, state collapse, and plagues, level elite wealth, and when these catastrophes are not present, wealth once again accumulates among the rich.

Other studies have focused on other forms of wealth, such as consumption and net wealth, and found mixed results (Attanasio & Pistaferri, 2016; Kopczuk, 2015; Wolff, 2016), or produced more detailed analyses of just what benefits have accrued to the wealthy and others. For instance, Attanasio and Pistaferri (2016) found that consumption inequality has steadily risen since 1980, and is mostly manifest in differences in food consumption (prices paid for food), that the gap in consumption of durable goods between wealthy and poor is narrowing, and that poorer low education occupations have gained in leisure consumption, especially in passive activities.

Some authors have focused on the effects of the recent Great Recession of 2007. Saez (2013) points out that the top one percent of the US captured 95% of the economic growth in the post-recession recovery. Wolff (2016) notes that middle class net wealth decreased 44% in the Great Recession because of lack of savings and reliance on home value for net wealth and has not rebounded with economic growth since. The data used for this study's analysis of inequality and risk sensitivity reinforces these patterns (

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<sup>3</sup> Russia's anticipated interference in the 2020 election and efforts to sow discord are widely reported <https://www.nytimes.com/2019/04/26/us/politics/fbi-russian-election-interference.html>, <https://www.reuters.com/article/us-usa-trump-russia-meddling-explainer/megaphones-and-more-mueller-details-russian-u-s-election-meddling-idUSKCN1QO1ED>

<sup>4</sup> Russian-Chinese partnership to counter US influence: <https://www.foreignaffairs.com/articles/china/2019-05-14/russian-chinese-partnership-threat-us-interests>

Table 1).

Table 1. Changes in Percent Share of US National Income Pre- and Post-Great Recession

Income Percentile	Income Gains/Losses 2009 Recession	Gains/Losses 2010 -2016 Post Recession	Net Gains/Losses 2007 - 2016
10	0%	0%	0%
20	0%	-0.1%	-0.1%
40	0%	-0.3%	-0.3%
60	0.2%	-0.4%	-0.2%
80	0.4%	-0.3%	<b>0.1%</b>
90	-0.8%	0%	<b>0.6%</b>
100	-1.1%	<b>0.9%</b>	<b>0.2%</b>

Income losses during the Great Recession logically hit the highest income earners, since they would have been hit hardest in income as their investments failed. Losses in the poorer segments of society were not necessarily in income, but in assets as they defaulted on loans. However, in the post-recession recovery middle and lower income segments experienced a loss in income, but the highest 10% actually gained in income. The overall net effect of the recession on income losses and gains is that the poorest 10% remained neutral in their share of national income, the 20<sup>th</sup> through 60<sup>th</sup> percentiles lost in their share of national income, and the top 20% have gained in their share of national income.

Other researchers have offered underlying decision theoretic and psychological reasons for the persistence of inequality in the United States. For instance, Mijs (2019) found that belief in meritocracy is correlated with inequality; the more unequal a society the more people believe it is based on merit and is fair. Shariff, Wiwad, and Aknin (2016) similarly find that the more income mobility is manifest, the greater a tolerance for inequality. Walasek and Brown (2015) demonstrate a positive correlation between online discussions of status goods and inequality in the US; the greater the inequality the more desire to own goods that signal positive social status. This finding is consistent with the underlying theoretical basis for the risk sensitivity analysis in this study; people seek material indicators of social status. Ritzen and Zimmermann (2018) found that people’s sense of hope for the future and inequality were not correlated between 1999 and 2009, but that since the Great Recession, inequality and hope have been negatively correlated and therefore inequality appears to lead to hopelessness.

Finally, Bloome, Dyer, and Zhou (2018) found that the expansion of educational opportunity in the late 20<sup>th</sup> century US reduced the persistence of poverty for entrees into the educational system, but that inequality increased because the returns on education were greater for wealthier people.

Some researchers examine the connection between US inequality and political stability. Ritzen and Zimmermann (2018) suggest that the recent drop in hope with increasing inequality could lead to social unrest. Balcilar, Akadiri, Gupta, and Miller (2018) found that political partisanship increases market uncertainty, leading to the retraction of investment and increased inequality. The greater voter participation of the wealthy versus the poor has persisted and remained stable since 1972, and the poor are less likely to vote because they see less consequence of voting for one candidate or another (Leighley & Nagler, 2014). Therefore, inequality and the robustness of democratic institutions are inversely related. Finally, Turchin (2012) identifies a long-term statistical trend in US social instability, measured as events (riots, civil wars, protests) and fatalities, that follows a 50 year cycle between 1780-2010, peaking in 1870, 1920 and 1970. The next predicted peak is 2020. He suggests that these peaks are caused by an oversupply of labor which leads to falling living standards and decreased opportunities for elites, which

in turns leads to social instability. This finding is also consistent with the general pattern of risk acceptance among the elites of societies (Lawrence A. Kuznar, 2002, 2007).

## Country-Level Measures of Inequality in US

The United States was 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.**).

The US is the seventh wealthiest country per capita in the world, is in the highest sixth in inequality-adjusted Human Development Index yet is fairly high (highest third of countries) in inequality. Its informal employment rate is estimated to be equal to 18.6% of total employment, placing it in the lower category of countries.

*Table 2. US: Basic Statistics on Inequality*

Measure	Value	Rank	Source
Inequality Compared to Other Nations			
Per Capita GDP 2018	\$59,792	7 of 187	WB
Country Measures of Inequality			
Inequality-adjusted Human Development Index (IHDI) 2018	0.797	25 of 151	UN
Gini Coefficient 2016	41.6%	63 of 184	WB
Informal Employment as % of Total Employment 2013	18.6%	86 of 112	ILO
Measures of State Instability			
Fragile States Index	37.7	151 of 175	FFP
Terrorism Index	6.066	20 of 160	IEP
Probability of Mass Killing	0.006	81 of 161	EWP
Risk Sensitivity			
Average Arrow-Pratt Measure 2016	-4.85	126 of 158	This Study
*EWP – Early Warning Project, FFP – Fund for Peace, IEP – Institute for Economics and Peace, ILO – International Labor Organization, UN – United Nations, WB – World Bank -The Inequality-adjusted Human Development Index (IHDI) is a UN measure of well-being and is a scale based on per capita GDP, life expectancy and education levels of the population. - 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). - 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.			

The US is stable, scoring in the lower 20% of countries, yet scores highly on the terrorism index, in the top one-eighth of countries. Its probability of mass killing lies at the median of all countries.

## Prognosis for Change to 2029

The research on US inequality and instability reviewed above indicates that inequality in income is definitely increasing, and inequality in other forms of wealth is mostly increasing. The inequality gap in the return on education is increasing between the wealthiest Americans and others. Some researchers are detecting a decreasingly hopeless attitude among Americans. Lack of voting by poorer Americans due to lack of faith in the system has weakened democratic institutions and is increasingly alienating proportions of the population. The polarization of American politics is likely to decrease the effectiveness of congress to pass economic legislation, creating uncertainty that can threaten economic growth. Finally, Turchin's statistical trend of 50-year cycles in American instability places the next period of intense instability at 2020. All indications are that inequality and instability, and associated social discord, are likely to increase in the US over the next decade and perhaps within the next few years.



# Empirical Data on Inequality in US

## Dataset 1: 2016 US World Bank Quintile Data

The World Bank provides data on lowest and highest decile, and quintiles of percentage of income or consumption.<sup>5</sup> These data are used to calculate their Gini coefficients. While not exactly measuring actual income, the percentage of overall income provides an approximation. The US 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 was derived, as well as the Arrow-Pratt measures of risk sensitivity.

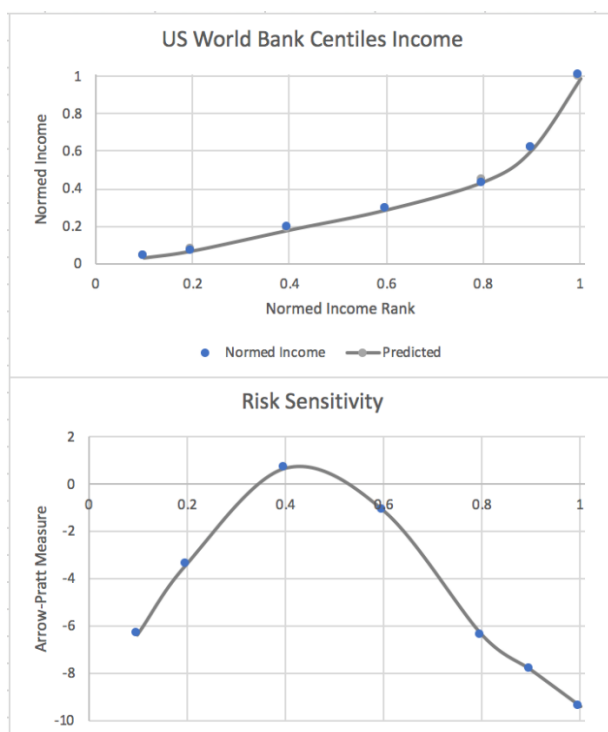


Figure 1: Distribution of Income, World Bank Quintiles US 2016 and associated Risk Sensitivity.

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

The average Arrow-Pratt score is -4.85, placing it among the highest populations in risk sensitivity (highest 20%). The poorest Americans exhibit relatively high-risk acceptance, and only a small segment of the middle class, between the 30<sup>th</sup> and 50<sup>th</sup> percentiles, is mildly risk averse, with the remaining population increasingly risk acceptant. The most risk acceptant Americans are the wealthiest. Data for years 2007 (immediately before the Great Recession) and 2010 (Great Recession) were also gathered and analyzed. While the overall patterns are the same, some subtle and potentially meaningful differences were noted (Table 3).

<sup>5</sup> Data drawn from: <http://wdi.worldbank.org/table/1.3>

Table 3. Risk Sensitivity based on US Income

Year	Mean Arrow-Pratt Score	Mean Arrow-Pratt Score for poorest segment	Mean Arrow-Pratt Score for Wealthiest segment
2007	-4.93	-6.62	-9.68
2010	-4.83	-6.56	-9.35
2016	-4.85	-6.39	-9.40

Overall risk acceptance was greatest in 2007, immediately before the recession, and especially among the poorest and wealthiest segments of society. This aligns with the willingness of investors to invest in risky prospects and of poorer people with inadequate assets to seek loans they could not pay (Coughlin, Hinkley, & McCorkell, 2018). These lending practices are labeled predatory, and some lenders did not ethically disclose all terms of sub-prime mortgage loans, however, in many cases known as NINJA loans people with no assets or income were still seeking and taking out loans that they had to know they could not pay. Clearly, disproportionate risks were being taken at the highest and lowest income levels of US society, providing for the primary cause of the Great Recession.

*Dataset 2: US 2017 Income Centiles*

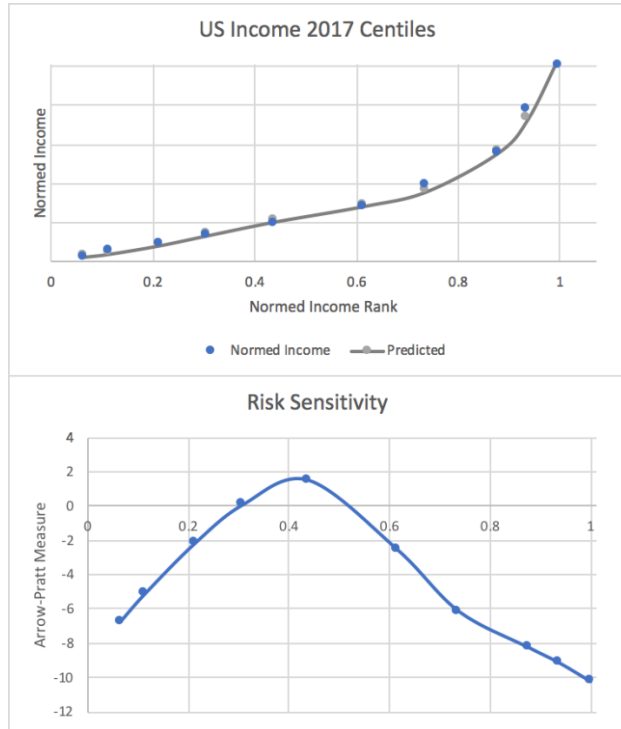


Figure 2. US 2017 Income Centiles and associated Risk Sensitivity

**Summary Dataset 2: US 2017 Income Centiles**

Data from the US government from 2017 indicate the exact same degree of risk sensitivity in the American population, with an average Arrow-Pratt score of -4.85, and exhibits the exact same pattern. The poorest Americans exhibit relatively high-risk acceptance, and a small segment of the middle class, between the 30<sup>th</sup> and 50<sup>th</sup> percentiles is mildly risk averse, with the remaining population increasingly risk acceptant, topping out with the wealthiest Americans.

## Findings on Inequality in US

### *Relevance to Instability and Social Cleavages*

The overall high-risk acceptance of the US population combined with the recent major loss of wealth in the Great Recession and the lack of rebound for middle class Americans creates a fertile environment for political risk taking and social unrest. It is notable that the poorest Americans are estimated to be highly risk acceptant and the wealthiest are much more risk acceptant. The risk averse middle class has experienced loss and has not regained much of its wealth, placing it in a loss averse decision frame. The bottom line is that these data indicate that all Americans are primed to take risks.

Recent years have seen social protest movements emerge in various sectors of American society. The Occupy Wall Street protests (2011 to roughly 2014) were explicitly about the concentration of wealth among the top one percent. Black Lives Matter movement (2013 - present), while primarily motivated by controversial police shootings, mobilized minority and liberal segments of society with a range of grievances, and state a commitment to a world "where every Black person has the social, economic, and political power to thrive."<sup>6</sup> Finally, discontent with the American political status quo and resentment of elite prosperity were driving factors behind the unexpected rise of candidate and now President of the United States, Donald J. Trump (Campbell, 2018). Turchin's (2012) proposition that social unrest occurs in US history when the standard of living of most falls and opportunities for elite advancement decline appears to fit the recent economic trends of the US and continued political polarization. Notably, Turchin's statistical analysis predicts a period of social unrest around 2020. It may have begun. Finally, while the wealthiest Americans have been gaining in their share of US wealth since the late 20<sup>th</sup> century, it has been through increased income rather than the ownership of capital, which makes their gains inherently more volatile than those of their grandparents and great grandparents (Kopczuk, 2015), possibly increasing their sense of insecurity, fear of loss and risk acceptance.

### *Opportunities and Pitfalls for China*

China's opportunities and pitfalls may be complicated. China and the US have economies that are at once in competition and intertwined. Therefore, economic declines or partisanship that lead to economic declines could be problematic for China. On the other hand, since China is in economic competition with the US, losses for the US could be gains for China. Given the great power competition in global political influence between these countries, weakening social, democratic and economic institutions in the US could be China's gain.

### *Opportunities and Pitfalls for Russia*

US inequality, economic volatility and its possibly associated social unrest and partisanship appear to hold opportunities for the Russians, one of whose primary interests is to weaken US democratic institutions and its ability to project power. In fact, the Russians appear to have taken advantage of this moment in US history to augment the effects of inequality and social division through their information operations designed to interfere with US elections and further foment social discourse in the United States.

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<sup>6</sup> <https://blacklivesmatter.com/about/what-we-believe/>

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