Iran Inequality Report

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Executive Summary

Data
Five datasets on wealth and status distribution in Iran were analyzed: 2017 World Bank quintile and decile estimates of income, and Iranian government income data for years 2015 and 2006 for both urban and rural populations.

Results
Iran has moderate levels of inequality compared to most countries, although inequality is gradually increasing and there is growing concentration of wealth in cities and a corresponding impoverishment in the countryside. Inequality is exacerbated by sanctions.

Significance for Risk Taking and Stability
In general, Iran exhibits moderate levels of risk acceptance, although losses in the business sector are beginning to result in riots and demonstrations which culminated in 2018. While inequality appears to be fueling unrest, the Iranian government has a strong capacity for suppression of dissent.

Implications for US Interests
Social unrest weakens the Iranian government, potentially distracting it from its regional objectives and US sanctions are exacerbating this unrest. However, the Iranian population is overall not very risk acceptant and the Iranian state's capacity for repression probably means that dissent will not really weaken the Iranian state. There is no evidence that Iran has been distracted in its regional activities, including operations in Syria, Yemen, and the Persian Gulf.

Implications for China's Interests
Iran is an important node in China's Belt and Road Initiative (BRI) and China has been investing heavily in Iranian infrastructure. Inequality and social unrest threaten these investments.

Implications for Russia's Interests
Iran is Russia's key ally in the Middle East for countering US influence. Inequality and social unrest that can weaken the Iranian government would be problematic for Russian interests in the region.

Table of Contents

Introduction

This is a summary report on inequality in Iran 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 Iran?

Iran was chosen for four reasons: 1) It is a country from the Middle East, 2) it has close ties to Russia, 3) it is a US adversary, and 4) both China and Russia are seeking influence in the country and region.

Great Power Interests in Iran

Iran is a large country of over 80 million, strategically located in the Middle East between the Arabic world and central Asia, with some of the world's largest oil reserves and in a position to interfere with shipping through the vitally important Strait of Hormuz.[1] It is a country that matters to all world powers and to its neighbors. In addition, Iran has a millennia-old rivalry with Arab nations (Mackey, 1996) and has actively sought dominance in the region through direct (Iraq-Iran War in the 1980s) and indirect actions through proxies (Hezbollah in Lebanon, Houthis in Yemen) (Nabavi, 2012; Parsa, 2011; Robinson, 2017). It is widely expected that Iran pursues nuclear capability that would enable it to achieve full dominance of the region.

The US has been locked in an adversarial relationship with Iran since the Islamic Revolution in 1979 that overthrew the US-backed Shah of Iran, eliminating a key US ally in the region and imprisoning US personnel for 444 days. Further conflicts have been highlighted by the Hezbollah attack on US and French servicemen in 1983, backing of Hezbollah attacks on US ally Israel, disruption of shipping in the Persian Gulf in 1987 and most recently in 2019, Iranian support to insurgents during US operations in Iraq from 2003 to 2001, and support of the Syrian regime of Bashar al-Assad (Crist, 2012). In response to Iranian

[1] Overview of Iranian oil reserves and strategic positioning: https://www.cia.gov/library/publications/the-world-factbook/geos/ir.html

attempts to develop a nuclear weapons capability, the UN imposed sanctions on Iran, which eventually led to the 2015 Joint Comprehensive Plan of Action (JCPOA), or the Iran nuclear deal, that provided for the lifting of sanctions if Iran conformed to a plan to reduce its ability to develop a nuclear capability. A major goal of the US national security strategy is to prevent Iran from attaining a nuclear weapons capability and to oppose its influence in the Middle East region (Department of Defense, 2018). Tensions between the US and Iran are probably as tense as ever. In 2018 the US withdrew from the JCPOA, has imposed harsh sanctions and in April 2019, the US government listed Iran's Revolutionary Guard a terrorist organization while Iran has shot down US drones (Council on Foreign Relations, 2019).

China has deep historical ties with Iran, and in recent years, Iran has figured into China's long-range plans for economic development and global political influence. A 2012 RAND study (Harold & Nader, 2012) provides the broad outlines of this strategy and since then China's Belt and Road Initiative (BRI) has conformed to this strategy. A key basis for China—Iran relations is China's need for a long-term source of energy for its growing economy. Although US sanctions on Iran have made it more difficult for China to do business with Iran, it accounts for about one-third of Iran's energy exports today (Kaplan, 2019). Furthermore, China has invested heavily in research and exploration of Iran's energy resources (Harold & Nader, 2012). China has emerged as Iran's primary trade partner, and China is very involved with the development of Iran's infrastructure, is a key supplier of arms, and played a key role in the development of Iran's nuclear capability. Finally, China has helped to buffer international pressure on Iran through diplomatic efforts. China's BRI initiative involves trade route development around and through Iran, leading some observers to suggest that conflict between the US and Iran in the long run benefits China's economic and political aspirations (Kaplan, 2019).

Russia has courted Iran as an ally to counter US influence in the Middle East since the fall of the Shah in 1979 (Asisian, 2019; Freedman, 2006; Jones, Harrington, & Bermudex, 2019; Shaffer, 2001). This has taken multiple forms, including the sale of military hardware to Iran (Freedman, 2006), support of Iran's nuclear program (Asisian, 2019), and support of the Assad regime in Syria (Jones et al., 2019). Russia's energy deals with Iran are complicated since supporting Iran's oil-based economy retains an ally in the Middle East, but also competes with Russia's oil-based economy (Khlebnikov, 2019). This may represent a potential fissure in Russian—Iranian relations.

Literature Review on Inequality in Iran

The Iranian revolution in 1979 was brought about by an alliance that included socialists and religious fundamentalists, as well as merchants and land owners who were financially hurt by the Shah's economic policies (Moaddel, 1992; Nabavi, 2012; Parsa, 2011). A key issue for socialists and fundamentalists was reducing growing inequality. Using the Gini coefficient of inequality in household expenditures in Iran, Salehi-Isfahani (2009) documents a dramatic decrease in inequality immediately after the revolution due to land reform and aggressive aid programs targeting the poor. However, after a steep decline, inequality has remained static ever since. Risk sensitivity analysis indicates that the Iranian population overall is not particularly prone to taking risks nor are the social cleavages that exist between different income classes particularly marked. Increasing risk acceptance of the wealthiest sector of the urban population indicates that any challenges to the government would most likely originate from that segment of society.

There have been widespread protests and riots of during the last year in Iran over the government's failure to deliver on promises of economic growth and over rising inflation, in part produced by sanctions.[2] Public opinion surveys reinforce this perception, Iranians think their economy is bad and getting worse (Mohseni, Gallagher, & Ramsay, 2018). However, reflecting the generally low level of risk acceptance, three fourths of Iranians do not think a fundamental reform of the government is necessary (Mohseni et al., 2018). On the other hand, the rioters have largely come from higher income professions such as trade and transportation, and new revolutionary movements are being formed by well-educated and elite Iranians,[3] reflecting the predictions from risk sensitivity theory. What the majority of Iranians think about their government may not be reflecting in who is taking to the streets.

Country-Level Measures of Inequality in Iran

Iran 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.**).

Error! Reference source not found. provides several measures of inequality in Iran. The Gini coefficient is a standard measure of inequality.[4] Iran's Gini coefficient based on World Bank data from 2014 is 38.8, nearly identical to the global average of 39.0.[5] The UN estimates a coefficient of human inequality by using the geometric means of per capita GDP, life expectancy, and years education. Iran's coefficient of human inequality is 11.2, below the global average of 19.7. The UN's inequality adjusted Human Development Index (a measure of the level of per capita wealth, education and life expectancy) for Iran is 0.707, which compares favorably to the global average of 0.578. Finally, the average risk sensitivity of the population is -4.43, which is slightly below the global average of -4.46.

Table 1. Iran: Basic Statistics on Inequality

Measure	Value	Rank	Source
Inequality Compared to Other Nations			
Per Capita GDP 2018	$5290	95 of 187	WB
Country Measures of Inequality			
Inequality-adjusted Human Development Index (IHDI) 2018	0.707	46 of 151	UN
Gini Coefficient 2014	38.8%	86 of 184	WB
Informal Employment as % of Total Employment	--	--	ILO
Measures of State Instability			
Fragile States Index 2018	84.3	51 of 175	FFP
Terrorism Index 2018	4.399	44 of 160	IEP
Probability of Mass Killing 2018	0.013	50 of 161	EWP
Risk Sensitivity			

[2] Recent protests in Iran: https://www.nytimes.com/2018/08/04/world/middleeast/iran-protests.html

[3] Evidence of elite Iranian ex-patriot rebellion: https://www.atlanticcouncil.org/blogs/iransource/iran-protest-movement-births-a-new-group-iran-revival; https://www.nytimes.com/2018/08/04/world/middleeast/iran-protests.html

[4] The Gini coefficient is the difference in area between a cumulative wealth curve representing total equality and the inequality that actually exists as measured by the proportion of wealth owned by each percentile of the population. Higher numbers indicate higher degrees of inequality.

[5] Global averages were based on a sample of all countries with populations greater than 300,000.

Average Arrow-Pratt Measure 2017	-4.43	90 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.

Prognosis for Change to 2029

The nature of Iranian inequality is changing. The shift of wealth from rural to urban communities will exacerbate this social divide. Another condition is the interaction between sanctions and oil prices. Iran's worst economic crisis occurred during the late 1980s when oil prices fell markedly, increasing poverty but decreasing inequality due to the fact that oil profits benefit fewer and wealthier Iranians (Salehi-Isfahani, 2009). Further analysis determined that when oil is less than 10% of Iranian GDP, increase oil revenues decrease inequality but when oil is greater than 10% of GDP, oil revenues increase inequality (Nademi, 2018). A similar relationship exists between inflation and inequality in the Iranian economy (Nademi, 2018). Sanctions are currently causing soaring inflation rates and oil exports are above the 10% threshold.[6] Therefore, current economic conditions are probably increasing inequality by concentrating wealth among wealthier Iranians, which counterintuitively according to risk sensitivity theory, should actually increase the risk acceptance of the wealthiest Iranians and the likelihood that they would challenge government policies. The conditions appear to be moving in the direction of increased state fragility with the application of sanctions, although Iran is moving from a position of relative stability according to this analysis; it may have a way to go before serious thresholds of instability are crossed.

[6] Iranian inflation: https://www.rferl.org/a/irans-inflation-rate-will-soar-over-40-percent-year-end-imf-says/29599407.html; https://tradingeconomics.com/iran/oil-rents-percent-of-gdp-wb-data.html

Empirical Data on Inequality in Iran

Dataset 1: 2014 Iran World Bank Quintile Data

The World Bank provides data on lowest and highest decile, and quintiles of percentage of income or consumption.[7] 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 Iranian data were gathered in 2014. ***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.

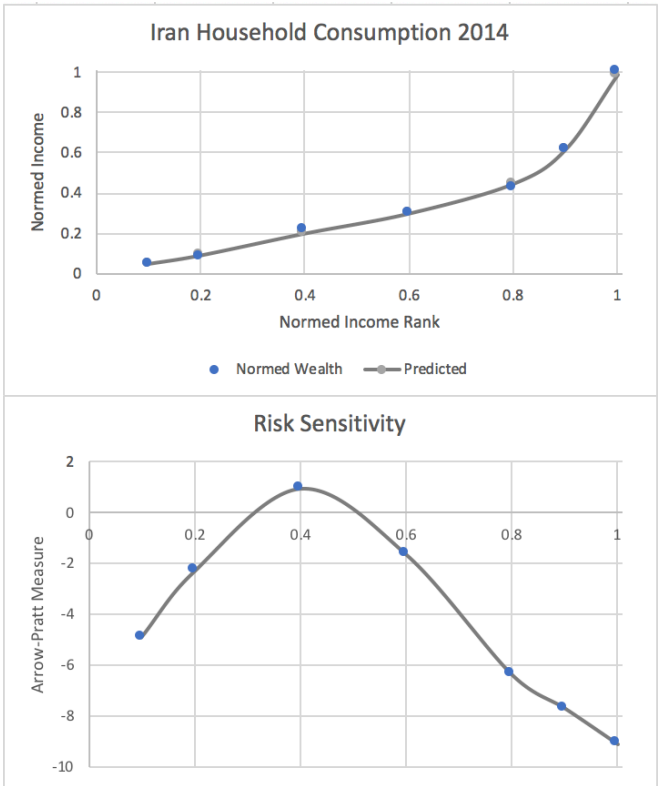

Figure 1: Distribution of Income, World Bank Quintiles Iran 2014 and associated Risk Sensitivity.

Summary Dataset 1: 2014 Iran World Bank Quintile Data

The risk sensitivity data paints a picture of a risk-loving population. The average Arrow-Pratt measure of risk sensitivity is -4.43 with respect to these data, which is near the average of -4.64 for all countries (**Error! Reference source not found.**). Most of the population is risk acceptant, with a small slightly risk averse segment between the 30th and 60th percentiles of income (***Error! Reference source not found.***). The upper half of society exhibits increasing risk acceptance.

[7] Data drawn from: http://wdi.worldbank.org/table/1.3

Dataset 2: Iran 2015 Urban Household Expenditures

The Household Expenditure and Income Surveys (HEIS) conducted by the Statistical Center of Iran provides data on household consumption for urban and rural sectors. This analysis is on Urban households in 2015.

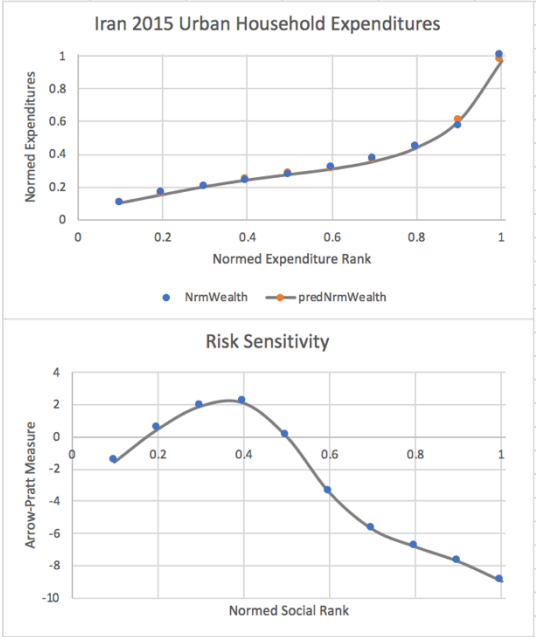

Figure 2. Iran 2015 Urban Household Expenditures and associated Risk Sensitivity

Summary Dataset 2: Iran 2015 Urban Household Expenditures

The data on urban household expenditures reflects a largely risk acceptant urban population, with a mean Arrow-Pratt measure of -2.59. The poorest are mildly risk acceptant, and there is a broad risk averse lower middle and middle class between the 18th and 50th percentiles of consumption. Above that, urban Iranians become more risk acceptant as their consumption wealth increases.

Dataset 3: Iran 2015 Rural Household Expenditures

The Household Expenditure and Income Surveys (HEIS) conducted by the Statistical Center of Iran provides data on household consumption for urban and rural sectors. This analysis is on rural households in 2015.

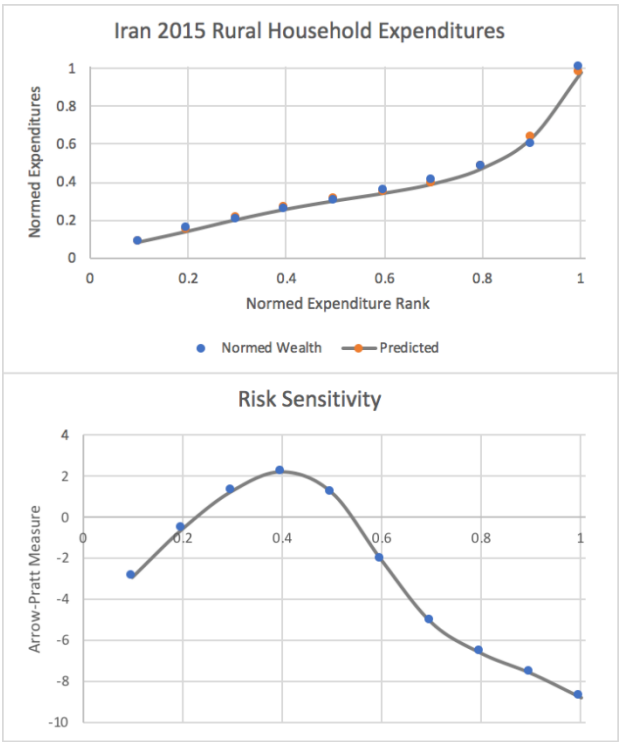

Figure 3. Iran 2015 Rural Household Expenditures and associated Risk Sensitivity

Summary Dataset 3: Iran 2015 Rural Household Expenditures

The data on urban household expenditures reflects a largely risk acceptant rural population, with a mean Arrow-Pratt measure of -2.90. The poorest are mildly risk acceptant, and there is a broad risk averse lower middle and middle class between the 20th and 55th percentiles of consumption. Above that, rural Iranians become more risk acceptant as their consumption wealth increases.

Dataset 4: Iran 2006 Urban Household Expenditures

The Household Expenditure and Income Surveys (HEIS) conducted by the Statistical Center of Iran provides data on household consumption for urban and rural sectors. This analysis is on urban households in 2006.

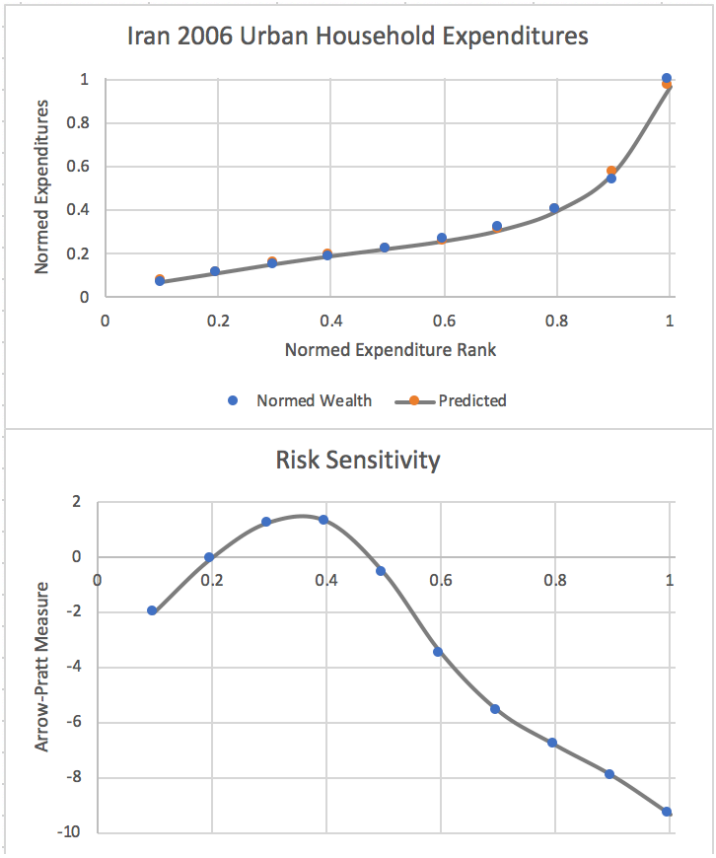

Figure 4. Iran 2006 Urban Household Expenditures and associated Risk Sensitivity

Summary Dataset 4: Iran 2006 Urban Household Expenditures

The data on urban household expenditures reflects a largely risk acceptant population, with a mean Arrow-Pratt measure of -3.36. The poorest are mildly risk acceptant, and there is a risk averse lower middle and middle class between the 20th and 50th percentiles of consumption. Above that, urban Iranians become more risk acceptant as their consumption wealth increases.

Dataset 5: Iran 2006 Rural Household Expenditures

The Household Expenditure and Income Surveys (HEIS) conducted by the Statistical Center of Iran provides data on household consumption for urban and rural sectors. This analysis is on rural households in 2006.

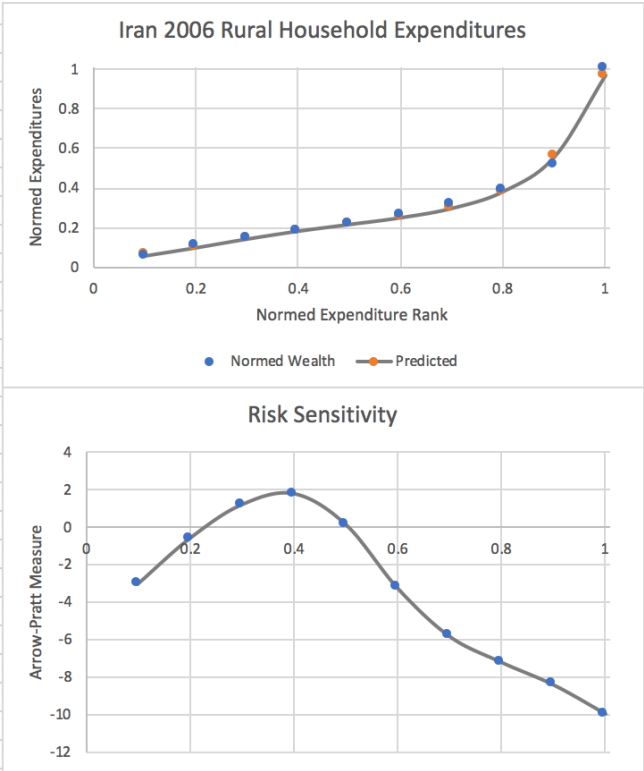

Figure 5. Iran 2006 Urban Household Expenditures and associated Risk Sensitivity

Summary Dataset 5: Iran 2006 Urban Household Expenditures

The data on urban household expenditures reflects a largely risk acceptant population, with a mean Arrow-Pratt measure of -3.54. The poorest are mildly risk acceptant, and there is a risk averse lower middle and middle class between the 20th and 50th percentiles of consumption. Above that, urban Iranians become more risk acceptant as their consumption wealth increases.

Findings on Inequality in Iran

Because of a radical redistribution of wealth immediately after the 1979 Iranian revolution, Iran has only moderate levels of inequality compared to other countries. However, there is a trend toward increasing inequality, and this is being exacerbated by sanctions, especially on the oil economy. Wealth is also being increasingly concentrated in urban areas while rural areas become more impoverished. Consistently, upper middle class and upper class Iranians are estimated to be the most risk acceptant segment of Iranian society.

Relevance to Instability and Social Cleavages

Sanctions are probably most frustrating for wealthier, urban, and entrepreneurial Iranians, and the riots of 2018 appear to reflect these frustrations. Therefore, inequality driven risk sensitivity is creating fissures in Iranian society, creating a degree of instability. However, the Iranian state has a great capacity to suppress dissent, such that these fissures will have to become much greater in order to genuinely threaten the state.

Opportunities and Pitfalls for the US and Adversaries

Growing inequality and its discontents favor US interests by weakening the Iranian government.

China

Iran is a key node in China's BRI and a long-term source of energy for China's economy. Inequality driven social unrest threatens these long-term investments.

Russia

Russia relies heavily on Iran as a reginal ally on the forefront of opposing US influence in the region. Social unrest exacerbated by inequality weakens this ally, and may become a burden in the future if Russia needs to invest resources into Iran as it has to prop up the Assad regime in Syria.

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