Japan Inequality Report

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Executive Summary

Data
Two datasets on wealth and status distribution in Japan were analyzed: 2008 World Bank quintile and decile estimates of income, and Japanese income by occupation data from 2015.

Results
Both the income data provided by the World Bank and the occupational data provided by Japan's federal government show a mildly risk acceptant population. Both datasets indicate that the highest earning incomes and wealthiest Japanese citizens are the most risk acceptant.

Significance for Risk Taking and Stability
Japan has a low level of inequality and high level of stability when compared to most countries, buffering any potential grievances from risk acceptant members of the country. However, its slowing economic growth and warming governmental ties to its regional adversary (i.e., China) leave Japan vulnerable to Chinese influence (Kaneko, 2018; Duchatel, 2018). Japan's homogenous population and small wealth gap make social fissures in Japan minimal and unlikely to threaten overall state stability (World Atlas, 2019; Koike, 2015).

Implications for US Interests
The United States has a long-standing relationship with Japan built on strong economic and security ties, with a recent emphasis on North Korean denuclearization and confronting Chinese military movement past its sovereign borders (Stokes, 2015). New trade deals that exclude the US, as well as some warming of relations with China and Russia pose a slight threat to US interests, this is especially true with interests surrounding foreign direct investment (Cimino-Isaacs & Williams, 2019). However, Japan's stability and its overall positive relationship with the US keep the risk level to US interests low.

Implications for China's Interests
While China's political and economic interests and opportunities in Japan are growing they are still weak following years of anti-Japanese policies, which include threatening access to valuable Rare Earth minerals that are crucial to Japan's developed economy (Fisher, 2013). However, Japan is still China's largest destination of goods in the region (OEC, 2017). China and Japan are beginning to re-establish full political communication, which was something that the two countries have not enjoyed over the last seven years (Duchatel, 2018).

Implications for Russia's Interests
Japan's risk acceptant population gives Russia the potential to increase its involvement in the Asian Pacific and warm ties with one the US' strongest allies (Kireeva, 2018). While progress has been made by Russia to better Russo-Japanese relations, Russia's ties to China and Japan's ties to the US remain a significant barrier for furthered Japan-Russian relations (Streltsov, 2016). While Japan's relations to the US represents a strategic barrier, Russia's increased economic relationship with Japan corresponds with its overall

strategy to avoid economic dependence on its adversaries—specifically in the European Union—by looking toward East Asian markets and lessening its economic vulnerability.

Table of Contents

Introduction

This is a summary report on inequality in Japan 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 Japan?

Japan was chosen for three reasons: 1) It is an important US east Asian ally, 2) it has experienced recent political shifts toward nationalist policies, and 3) both China and Russia are seeking influence in the country and region.

Great Power Interests in Japan

China has a confrontational relationship with Japan, which seeks to exploit holes in China's economy, build regional multilateral organizations that counteract China's economic strength, and keep China from stealing technology information and trade secrets (Duchatel, 2018). At the same time, the two Asian Pacific powers are trying to improve and advance relations in order to construct a more stable and economically sound region. In 2018, Chinese President Xi Jinping visited Japan marking two separate occasions, the 40th anniversary of the Treaty of Peace and Friendship and the return of full political communications between the two countries (Duchatel, 2018).

China's and Japan's relationship has a large impact on the rest of the Asian Pacific due to their large economies (being the second and third largest in the world respectively). Aside from Hong Kong, Japan is China's largest destination for goods in the region (OEC, 2017). This also means that China has strong economic interests in Japan. Even with their large bilateral economic activity, the two countries have combative economic policies aimed at hurting each other (Fisher, 2013). Many of the anti-Japanese economic policies that China has employed, such as blocking crucial minerals for technology and military equipment, originated in a land dispute over the Senkaku and Diayo Islands (Fisher, 2013; Bradsher,

2019). The trade war and weaponization of resources between Japan and China has led to nationalistic tendencies in both country's populations, which then resulted in public rallies of Japanese and Chinese citizens in protests aimed at each other's governments (Fisher, 2013). Improving relations between China and Japan is a crucial step for Japan as the beginning stages of the US-China trade war threatens its economic growth, which has already begun to slow (Kaneko, 2018). China plans to leverage its newly improved economic relationship with Japan, allowing it to focus on North Korean denuclearization and its relationship with the US (Nagy, 2018).

Russia is aggressively pursuing new relations with Japan. Even with its desire for new and improved relations, Japan's close political and strategic ties to the US form a significant barrier for Russia to overcome (Streltsov, 2016). Russia must also weigh the China-Japan relationship as it has close ties to China. Due to these factors Russia currently has weak economic and political ties to Japan, as they often find themselves on opposing sides of territorial, economic or ideological disagreements. Even with a history of backing opposing sides, Russia believes it can pursue increased economic and regional multilateral deals that would require Japan to play a significant role. This is part of Russia's strategy to turn its economic hopes eastward, and away from Europe and the European Union (Streltsov, 2016).

Russia and Japan have recently made headway in strengthening their political relationship (Kireeva, 2018). In 2018, Japanese Prime Minister Shinzo Abe visited Moscow for the first time to take part in the St. Petersburg International Economic Forum. Part of Prime Minister Abe's purpose in being at the forum was discussing a potential highway to the arctic that would see both countries benefit from a massive logistical sea route. In an effort to continue to politically soften relations with Japan, Russian President Vladimir Putin offered Japan's Prime Minister a peace treaty to formally end World War II hostilities between the two countries (Pinchuk & Nikolskaya, 2018).

The US and Japan's relationship is built on bilateral trust, shared economic and political goals and a distrust of China (Stokes, 2015). Stokes goes on to state Japan has an even less favorable view of China than the US does making the two countries natural allies. The US also has strong security interests in Japan, with 54,000 troops stationed at 85 facilities across the Island (Chanlett-Avery, Campbell, & Williams, 2019). The US sees Japan as an ally with similar security interests including monitoring Chinese military modernization and its movements in the region. The US and Japan often conduct joint operations as well as support each other in regional and international security issues, including the denuclearization of North Korea. China's economic and military rise has only heightened the importance of the US' ties with Japan (Stokes, 2015).

Japan, has the third largest world economy and is the US' fourth largest trade partner, making continued prosperous economic relations important to both countries (Cimino-Isaacs & Williams, 2019). Japan has historically been a high priority for the US for new trade talks and expanding economic activity. New trade talks between the US and Japan come at the same time the EU-Japan FTA (Free Trade Agreement), the predecessor of the Trans-Pacific Partnership (TTP), is lowering tariffs on other country's goods, placing commodities from the US in a disadvantageous position as they are now more expensive. Washington also has strong interests in continuing Japanese investment into the US as Japan is the US's fourth-largest investor. As Japan has pursued alternative FTAs after the US pulled out of the TTP, it has not only lowered tariffs on other country's goods, but signed FTA's that completely exclude the US, thereby creating a threat to those in the US seeking to invest in Japanese markets (Cimino-Isaacs & Williams, 2019).

Literature Review on Inequality in Japan

Ethnic discrimination in Japan is fairly nonexistent since one ethnic group, the Yamato Japanese, comprise 98% of the population, making Japan one of the most homogenous societies in the world (World Atlas, 2019). Well-being is very high, Japan has the second highest Inequality-adjusted Human Development Index (IHDI) in the world. Japan has less economic inequality than almost any developed country, with the top one percent of the population earning an average $240,000 USD per year according to 2012 exchange rates (Koike, 2015). This is mainly attributed to a high tax on the wealthy and a 55% inheritance tax that makes it difficult for families to accrue massive amounts of wealth over time. Most of the recent civil strife in Japan is not aimed at the Japanese government, but rather at China's government in protest of Beijing policies targeting Japan (Fisher, 2013).

Country-Level Measures of Inequality in Japan

Japan 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.**).

Japan is a highly equal and wealthy country when compared to others in this study with a GDP Per Capita that ranks 24 of 187. Japan's Gini Coefficient is slightly less than the median for this study. Japan also has a small measurable informal employment. It is also a highly stable country with only a small chance of terrorist activity or mass killings. Japan's population has a mean Arrow-Pratt score of -4.22, which shows Japan's society is risk acceptant, but is in the highest 40th percentile indicating that its population is less risk acceptant than most countries.

Table 1. Japan: Basic Statistics on Inequality

Measure	Value	Rank	Source
Inequality Compared to Other Nations			
Per Capita GDP 2018	$38,449	24 of 187	WB
Country Measures of Inequality			
Inequality-adjusted Human Development Index (IHDI) 2018	0.876	2 of 151	UN
Gini Coefficient	39.7%	79 of 184	WB
Informal Employment as % of Total Employment	18.7%	85 of 112	ILO
Measures of State Instability			
Fragile States Index	34.5	155 of 175	FFP
Terrorism Index	2.926	67 of 160	IEP
Probability of Mass Killing	0.003	117 of 161	EWP
Risk Sensitivity			
Average Arrow-Pratt Measure	-4.22	66 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

There is little to suggest that the historically low societal inequality will change. However due to recent actions taken by the US in ending its involvement with the Trans-Pacific Partnership (TPP), a slowing economy and softening relations with both Russia and China, Japan is likely to see change over the next few years. Even with the prospective economic changes, the US is still one of Japan's most important political allies in the region (Stokes, 2015). The US' ending of the TPP however has sent Japan looking for new multilateral trade agreements that exclude the US completely including the EU-Japan Free Trade Agreement (Cimino-Isaacs, & Williams, 2019). Japan will likely continue to examine alternative economic routes because it is projected to experience slower levels of growth in the oncoming years (Kaneko, 2018). Japan is also undergoing the early stages of some geopolitical change, as it is improving relations that remain hostile with Russia and China (Duchatel, 2018 & Pinchuk & Nikolskaya, 2018). As an impact of its economic slowdown, its new trade deals and the improvement of its foreign relations with China and Russia are all new developments the risk acceptant population has yet to respond to in a meaningful way.

Empirical Data on Inequality in Japan

Dataset 1: 2016 Japan World Bank Quintile Data

The World Bank provides data on lowest and highest decile, and quintiles of percentage of income or consumption.[1] 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 Japanese 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.
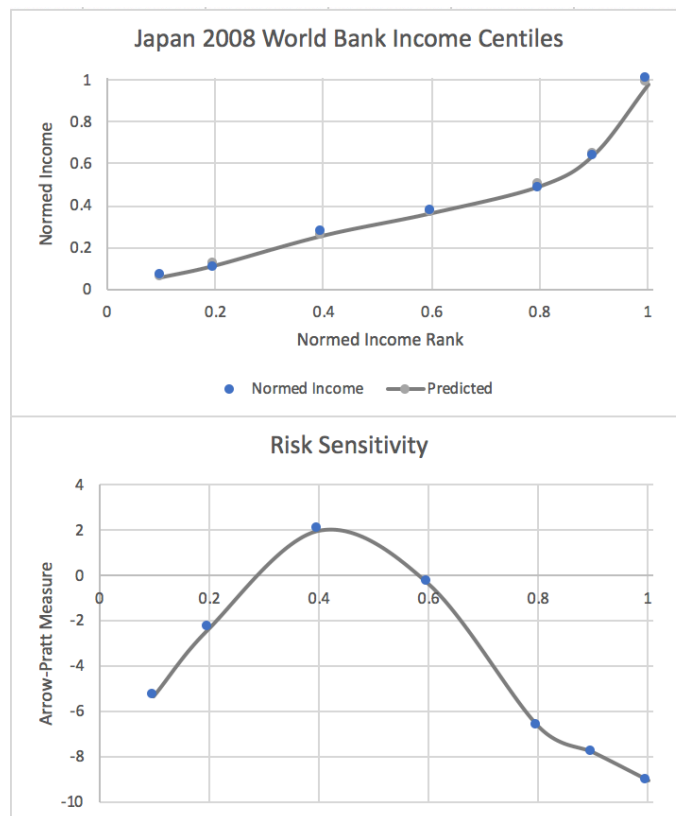

Figure 1: Distribution of Income, World Bank Quintiles Japan 2008 and associated Risk Sensitivity.

Summary Dataset 1: 2016 Japan World Bank Quintile Data
Japan's population is risk acceptant with a mean Arrow-Pratt score of -4.22. The only section of income earners that are risk averse are found between the 30th and 60th percentiles. After the 40th percentile increase in income has a linear relationship with risk acceptance. The most risk acceptant income earners in Japanese society can be found between the fourth and fifth quintiles of data. This also represents Japan's wealthiest societal class. The most risk-averse members of Japanese society can be seen at the second quintile, where they have an Arrow-Pratt score of 2.

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

The second dataset was provided by the Japanese Ministry of Internal Affairs and Communication's Statistical Handbook of Japan[2] and gives an occupational breakdown of Japan, how much each individual occupation makes, and how many Japanese citizens are employed in each.
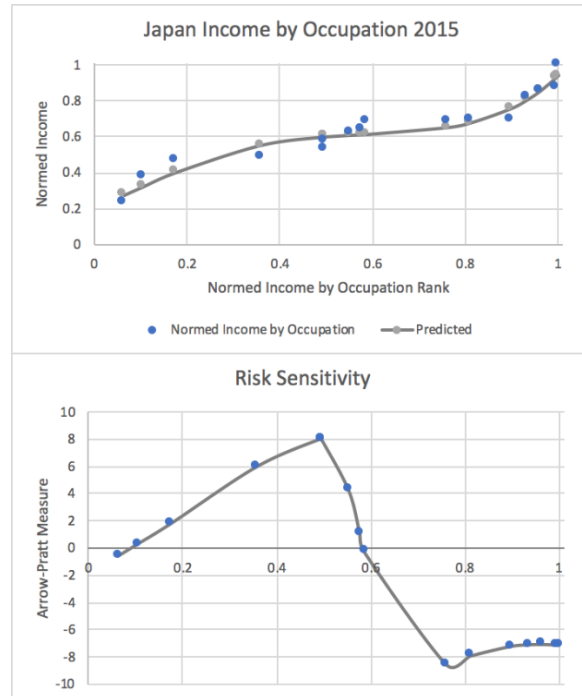

Figure 2. Japan Income by Occupation data 2015 and associated Risk Sensitivity

Summary Dataset 2: Japan Income by Occupation data 2015
The occupational data provided by Japan's government shows a risk acceptant population. The mean Arrow-Pratt score for Japan's occupational data is -1.46. The most risk acceptant occupations can be found before the 80th percentile of data and are manufacturing and education. The most risk-averse occupations can be found at the 50th percentile and include medical and health care fields and mining. The highest earning occupations are still strongly risk acceptant and include scientific research, finance, and information technology.

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[2] For data see: https://www.stat.go.jp/english/data/handbook/pdf/2018all.pdf

Findings on Inequality in Japan

Relevance to Instability and Social Cleavages
Japan is one of the most stable countries in the world, with only weak social cleavages and fissures. Its Yamato Japanese ethnic group is 98% of its total population making it one of the most ethnically homogenous countries in the world (World Atlas, 2019).

Opportunities and Pitfalls for the US and Adversaries
Japan's mildly risk acceptant population may pose problems for the US as Japan undergoes slight economic and geopolitical realignment in response to the US departing the TTP, especially if this ethnically homogenous population comes to see the US as a hostile foreign element (Cimino-Isaacs, & Williams, 2019). Several of the new multilateral trade agreements completely cut out the US and weaken tariffs on other countries. A slight political softening of its relationships with China and Russia is another potential area for concern for the US (Duchatel, 2018; Pinchuk & Nikolskaya, 2018). This will likely not have an extreme effect on its relationship with the US, as both nations still share positives views of each other and have deeply intertwined economic and security interests (Stokes, 2015).

China
Japan's risk acceptant population is an opportunity for China to soften its ties with its regional competitor through bettering its economic relationship (Duchatel, 2018). This is a difficult task for the two countries, as their past hostile and combative relationship makes both deeply untrustworthy of each (Stokes, 2015). While the two Asian Pacific powers are warming their stagnant relationship, the overall impact that China will be able to have in Japan will likely be minimal.

Russia
Like China, Japan's risk acceptant population poses an opportunity for further Russian involvement. The main roadblock in furthering their relationship is their current alliances. Japan's close-knit ties to the US and Russia's to China, places Japan and Russia on two sides of the current great powers' competition (Streltsov, 2016). However, like China, Russia is attempting to reach out to Japan economically and politically even offering a treaty to Japan to formerly end World War II hostilities (Pinchuk & Nikolskaya, 2018).

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