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Monetary and Fiscal Policy Project: Japan

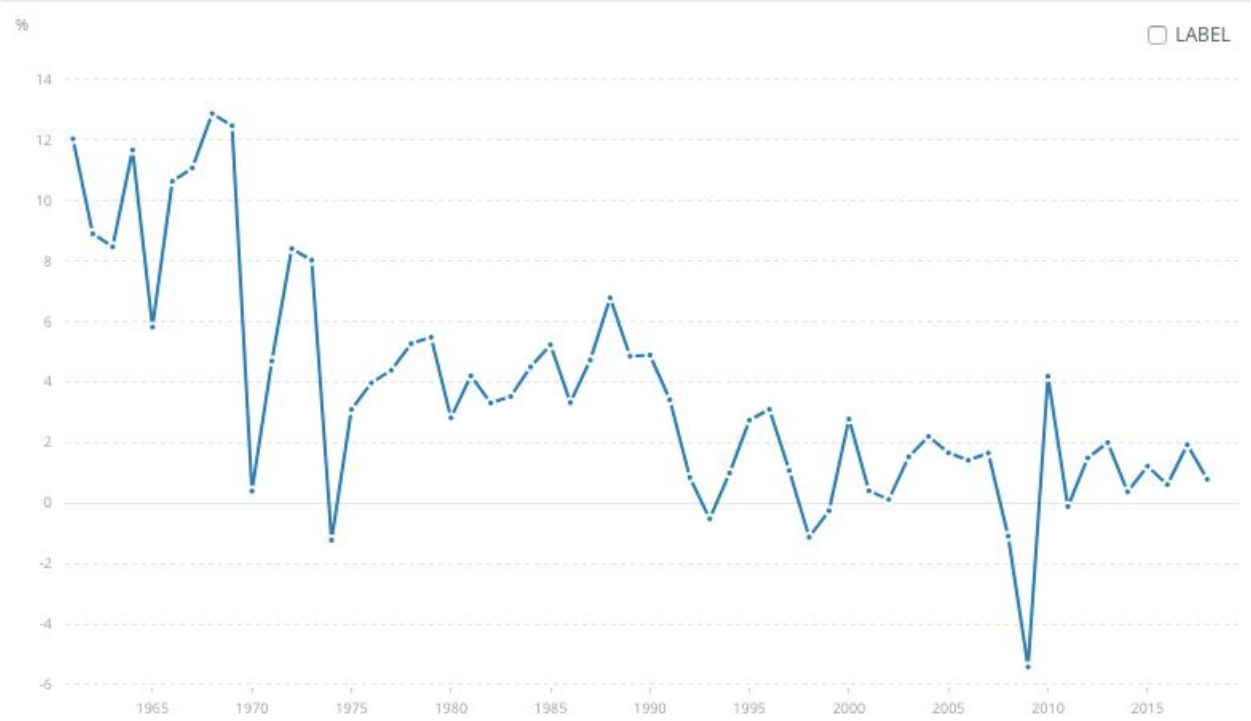
Section I: Historical Overview

After World-War II, Japan was devastated by the destruction wrought by the United States. The United States occupied Japan from 1945 to 1952, primarily as a method of creating a much more internationally friendly Japan. There was little demand for any reparations from Japan, as the US occupation ensured that Japan would be dependent on US support for the foreseeable future. The US occupation was a defining time for Japan. Without it and the subsequent alliance with the US and influx of foreign investment prompted by these treaties, Japan would not have been half as successful as it was through the 1970s and 1980s. Japan grew an average of 9.3% from 1958 to 1968. Some counterfactuals claim that without the US, it would have only grown 3.6%. Japan continued to reach growth of nearly 6% up until the late 1980s. Japan was able to ride this expansion out until 1991, fueled by a global boom in consumer electronics.

In 1985, the United States began worrying about its trade deficits and the value of the dollar, especially concerned about the Deutsche Mark and the Yen. The generally accepted notion was that by depreciating the dollar, trade deficits would shrink, and the international economy would be more stable. In order to do this, the US gathered its top trading partners, including Japan and Germany, and they signed the Plaza Accords, agreeing to appreciate their currencies to the dollar, which reduced trade deficits and stabilized the dollar. At the same time, Japan had very low interest rates, which contributed to the formation of a bubble in most asset

prices. Once the bubble burst, the Bank of Japan tightened monetary policy significantly, going from a 2.5% interest rate in 1989 to 6% in 1990. The hike caused deflation, which has continued in Japan since the 1990s into today. The banking system collapsed when the bubble burst, with the whole system falling into a liquidity trap. The Bank of Japan earned a reputation for being untrustworthy, which harmed their interventions to stop deflation.

Fig 1: Japan GDP growth (annual %) from 1960 to 1990 (World Bank, 2019)



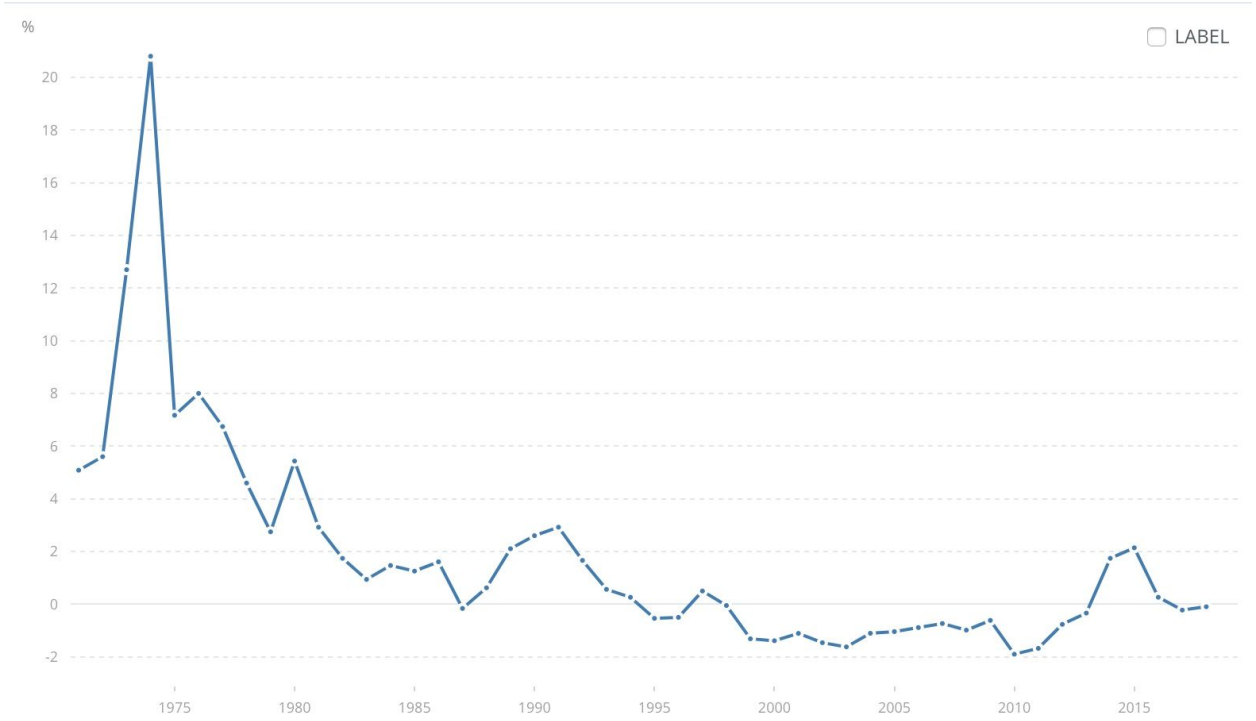
From February 1991 to October 1993, Japan experienced a recession that was exacerbated by constraints on lending and competition from other growing economies in the region. The Bank of Japan's response to this crisis was moderate, with the effect of their policies that lowered interest rates greatly limited by a corresponding decrease in inflation. In 1995, The Bank of Japan intervened in the ongoing financial crisis as a lender of last resort, extending credit to banks in distress. This period also marked the first instance in which the Bank of Japan utilized a low interest rate policy, bringing rates down to 50 basis points. This policy aimed to

induce investment and growth and initially appeared to be successful in doing so. After a brief period of stability and what initially appeared to be the start of a recovery, with inflation under 1% and a growth in GDP of over 3% in 1996, Japan's financial instability returned in 1997. GDP growth and consumer spending were already beginning to slow before the onset of the Asian Financial Crisis in July of 1997. The regional nature of the recession meant that many of Japan's closest trading partners were also experiencing slow-downs in growth, thereby further compounding the contraction in Japan's economy. With interest rates already low enough to have essentially reached the zero lower bound, the Bank of Japan was out of conventional tools to combat the severe recession. These constraints led the Bank of Japan to implement a variety of unconventional monetary policy measures in order to respond to this crisis and establish stability in the early 2000s.

Amid the crisis of 1997, The Bank of Japan Act restructured the Bank of Japan, enabling it more structural independence from the government and more freedom to determine the instruments used in achieving its goal of price stability. This act is perhaps an example of an attempt of forward guidance, in that the official restructuring of the Bank of Japan may have had a positive effect on the public's expectations for the ability of the new central bank to address the crisis and achieve the goals outlined in its charter. Furthermore, the independence of the central bank enabled it to pursue other forms of unconventional monetary policy in the early 2000s. These included Zero Interest Rate Policies, Quantitative Easing, and expanding the range of instruments available to the Bank of Japan.

From 2004- 2007, Japan experienced a real GDP growth rate of about 2%, accompanied by a near-zero inflation rate. These sustained signs of recovery led the bank of Japan to begin to phase out many of the unconventional policies it had implemented in the early 2000s. In the spring of 2006, the quantitative easing policy came to an end. These signs of recovery abruptly reversed during the 2008 financial crisis sparked by the collapse of Lehman Brothers, and financial turmoil fell over Japan.

Fig 2: Inflation rates (GDP deflator) from 1972 to 2018 (World Bank, 2019)



The Bank of Japan has reached the zero lower bound of nominal interest rates, cannot use forward guidance because no one trusts the central bank, and already owns assets worth about 101 percent of Japanese GDP. There is very little to no room for monetary policy to effect any changes. Currently, Japanese debt is over 200% of GDP, leaving fiscal policy limited by the amount Japan can borrow, which as of yet has not been reached. With so little ability to

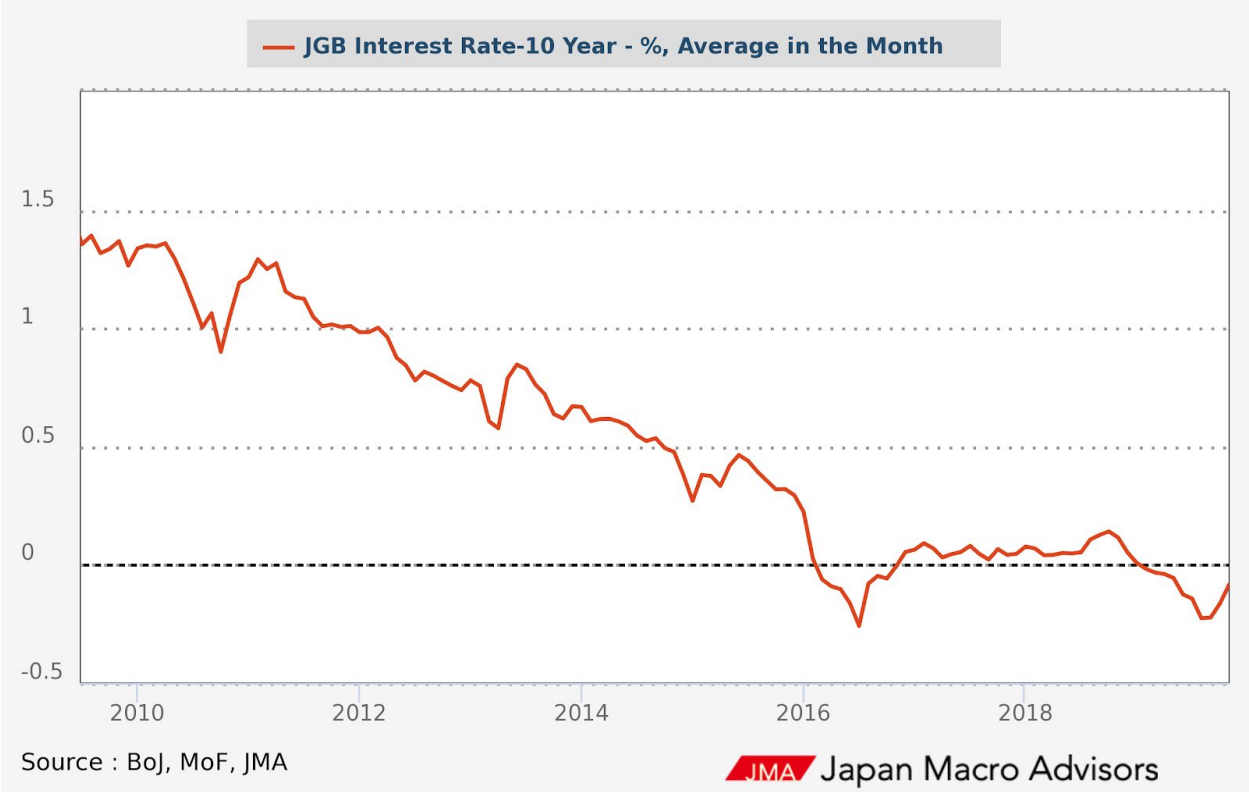
maneuver, when another financial crisis hits, Japan may be unable to react in order to offset the damage done to the economy. It is unclear that any traditional monetary or fiscal policies are left to manipulate.

One thing that stands out about Japan's macroeconomic backdrop is its unemployment record. One theory is that the country has a flexible remuneration system. The segmentation of income into wages, overtime, and bonuses reduced rigidities in labor markets produce low unemployment rates and reduce unemployment volatility. Job stability however is on the decline due to the popularity of short term contracts, and wage inequality has risen (Vollmer, 1988).

Section II: Current Monetary Policy

In response to the state of the economy, the Bank of Japan has attempted multiple conventional and unconventional policy measures. Their primary targets are to achieve a "price stability rate" of 2% year-on-year growth rate of the consumer price index (CPI) (Bank of Japan, 2013). One way that the Bank of Japan attempts to achieve this target is through the setting of interest rates. The Japanese economy has been on the zero lower bound since the early 2000s. The absence of conventional policy prompted the Bank of Japan to experiment with negative interest rates starting from 2016, and they have maintained the -0.1% interest rate ever since. In order to disincentivize the switch to bonds with negative interest rates, the BoJ practices "yield curve control" under which they participate in open market operations and buy Japanese government bonds such that the 10-year bond remains at around a zero percent interest rate. As per the BoJ Statement on Monetary Policy for October 2019, they will continue buying government bonds at an annual pace of about 80 trillion yen. (Bank of Japan, 2019)

Fig 3: Japanese government bond (10Y) interest rate in context of "Yield control curve" practices were introduced in 2016. (Japan Macro Advisors, 2019)



Apart from negative interest rates, the BoJ is also attempting unconventional monetary policy through quantitative easing. The first round of large scale quantitative easing in 2013 nearly doubled the size of the monetary base. Since then, the BoJ has entered a second indefinite round of Quantitative easing for "as long as it is necessary for maintaining that (price stabilizing) target." In their latest statement issued in October 2019, they announced purchases of exchange-traded funds (ETFs) worth 6 trillion yen and Japan real estate investment trusts (J-REITs) worth 90 billion yen. They also announced that the BoJ would maintain commercial paper worth 2.2 trillion yen and corporate bonds worth 3.2 trillion yen. Finally, they have attempted forward guidance as an unconventional policy tool. (Bank of Japan, 2019)

The effectiveness of any of these policies is highly questionable. A lack of trust in the Bank of Japan has meant that forward guidance has had little effect. By announcing to fund quantitative easing indefinitely, the Bank of Japan is inherently printing unlimited money. Further, the monetary base which continues to grow is currently at 577 trillion yen and is a massive 106.7% of real GDP. Negative interest rates have helped in a reduction of deposit and lending rates; however, the effect on GDP is unclear, and they have hurt regional bank profitability.

Despite all of these indicators, the Japanese economy appears to be functioning normally, which begs the question: why would we want to attempt to change the monetary policy? Although the economy is functional, the current monetary policy or generally the position of the central bank means that the Bank of Japan will have very limited or no tools left at their disposal if a crisis should occur. Interest rates being at the zero lower bound implies that there is no room for adjustment in the face of crises. Further, the continued and prolonged quantitative easing brings into question the sustainability of the growing the monetary base. As demonstrated by Eberly, Stock, and Wright, anticipated quantitative easing becomes less effective, which complicates the BoJ's ability to use it again in the face of a crisis. Finally, it is possible that by maintaining the price level by massive purchases of assets, the Bank of Japan is creating a price bubble.

These trends of using large stimuli to energize the economy are not restricted to monetary policy but are very much seen in Japanese fiscal policy as well. The BoJ's had a measured response to the 2008 financial crisis until the election of Shinzo Abe as the prime minister who called for broad structural reforms and stimulus packages. It was under these policies, now

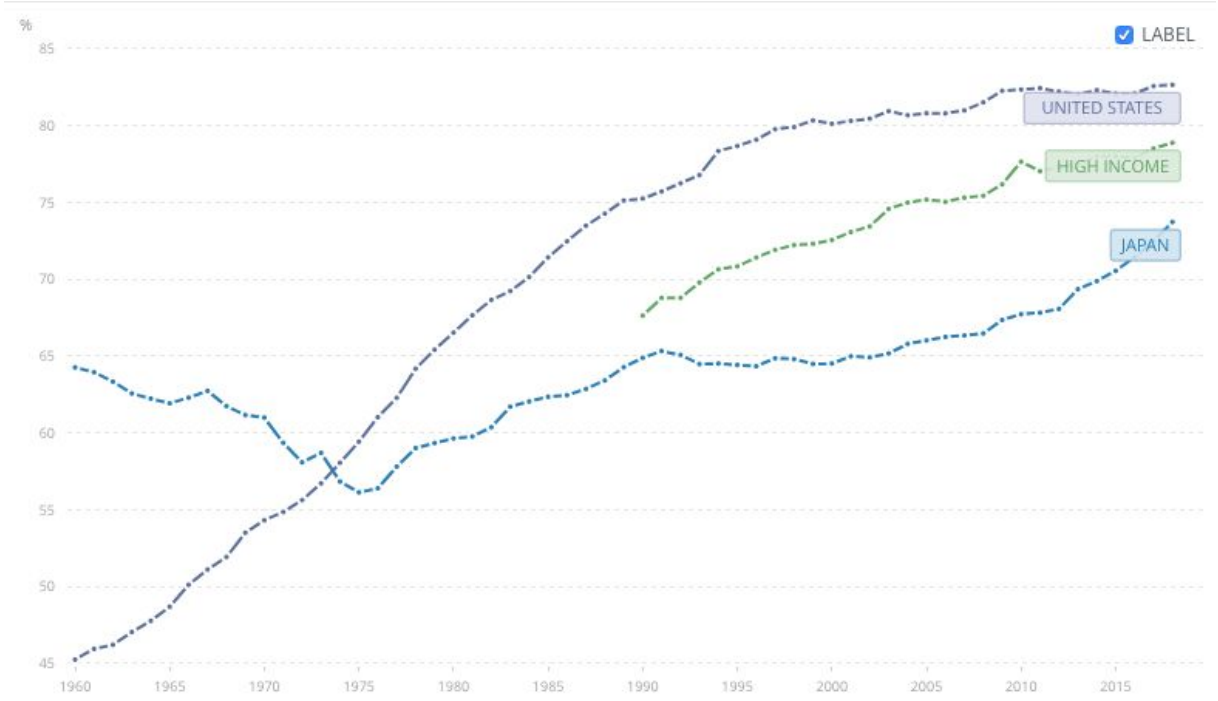
referred to as Abenomics, that the Bank of Japan started its first round of Quantitative easing. The next section will look more closely at Abenomics, Japanese fiscal policy, and its effect on the macroeconomy.

Section III: Current Fiscal Policy

Prime Minister Shinzo Abe won his first term running on his economic plan, which has three main staples, of which two introduced fiscal policy reforms. The structural reform sought to improve the country's attractiveness in international markets, reform its domestic labor markets, and forge multilateral trade partnerships. The first Abenomics package came in 2014. Its composition embraced corporate tax cuts, wielded protectionism in agriculture markets, called for multi-faceted labor market reform to combat supply problems from an aging population, and overhauled regulation in energy, environmental, and healthcare sectors. The proposal had the support of the majority in parliament but was later revised to include a platform centered around raising birth rates and expanding social security in response to the labor shortage that continues to dampen economic growth (McBride, 2018).

By raising female participation in the workforce, the second wave of Abenomics aimed to raise the female employment rate in hopes that better status in labor markets could fuel a boost in fertility rates. While Japan has some success achieving its goal of female participation in the workforce, it has raised participation rates above 50% as well as educational attainment rates -- the economic gains from the change have been hard to attribute. Many Japanese work part-time or non-salary positions and have done little to improve economic outcomes for the demographic (Shambaugh, et al, 2017).

Fig 4: The ratio of female to male labor force participation rate (%) (national estimate) - Japan, High income, United States (World Bank, 2019)

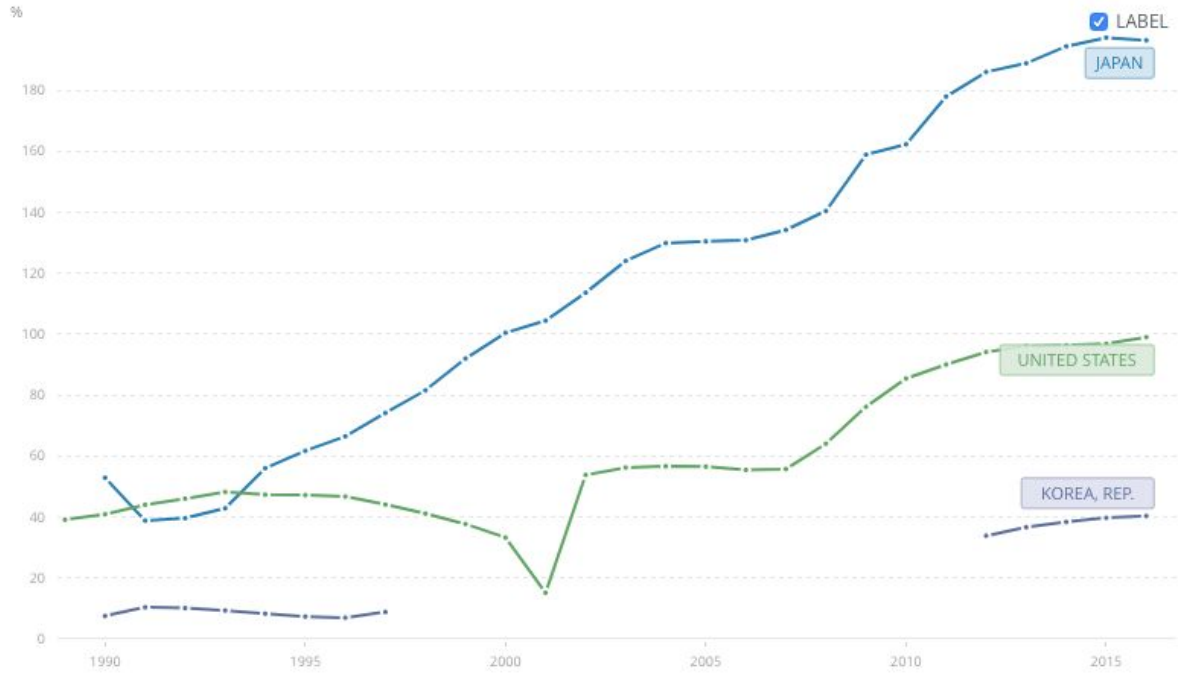


Japan struggles with a severe government borrowing problem, boasting a gross debt to GDP ratio of 238.20% in 2018. They have run fiscal deficits for longer than the US or Europe. Inactive monetary policy and active fiscal policy is a prime determinant of Japan's 30 years of running large deficits. In other words, the monetary authority has used monetary policy to target the money supply and price level compared to an active policy that is used to dampen the adverse impacts of contractions and contain bubbles during expansions. Since the 1990s, fiscal policy regimes have been active, deliberately intervening in the course of the economy to support growth and smooth out business cycles. Abenomics also attempted to chip away at primary deficits by increasing the national consumption tax from five percent to eight percent in 2014 with plans to hike again in 2017. The policy dragged on consumer spending, causing policymakers to postpone the levy of ten percent until October of 2019.

The fiscal stimulus provided in these packages has not been able to stabilize GDP growth, namely wage growth and GDP per capita have remained well below peak levels seen in the 2001 and 2009 melt ups. Namely, persistent inflation is elusive, and deflation has hindered the government's ability to reduce its outstanding debt as a portion of aggregate output. Some evidence suggests that if the monetary authority could induce inflation without hindering growth, debt maturity extensions combined with repressive policy measures to devalue the government debt. However, such a strategy seems futile, the BOJ has run the printing press indefinitely, while inflation remains muted. Without significant growth or primary surpluses, the government will eventually meet the demise of its budget constraint (Doi, et al, 2011).

Some evidence points to secular stagnation as the source of Japan's economic woes. Aging households have are propped up by large fiscal packages leading some to attribute the poor performance to secular stagnation where the older population is hoarding savings over investing. Some evidence finds that among a large sample of countries as well as a strictly OECD subset, there is no relationship between population aging and slower growth of PPP adjusted per capita GDP. There is also some correlation between an aging population and the adoption of automotive technologies by examining the changes in hours worked by robots and comparing it to changes in the ratio of old to young workers (Acemoglu, 2017).

Fig 5: Central government debt, total (% of GDP) - Japan, United States, Korea, Rep. (World Bank, 2019)



Not much has been done to combat Japan's ever-growing debt, although easy fiscal policy has not always been a staple of domestic policy strategies. Some economists argue that the primary surplus did not respond positively to increasing debt to GDP ratios in either regime, suggesting that reducing the debt requires a tax rise significantly more substantial than any that have occurred in recent decades. In other words, past administrations of austerity have done as much to reduce gross debt as expansionary policies have (Doi, et al, 2011).

The evidence suggests that the current trajectory of Japan's government debt is not sustainable. However, the debt itself is not an imminent crisis. As long as the monetary authority accommodates with rates lower than the growth rate, debt levels will not completely explode.

Can Japan continue to use fiscal stimulus with such an outstanding borrowing position? If the country enters a period of sustained growth and inflation, the debt ratio will fall, tax revenues will grow, and the contractionary forces of austerity. Nevertheless, one must proceed with caution; over-borrowing could impair the country's creditworthiness. The government owns 70% of its issued debt. If international lenders where to dump the 30% they own, it could raise interest rates, increase service payments, and send Japan deeper down the rabbit hole of endless borrowing.

Section IV: Policy Choices

Our monetary policy recommendations are based on the tools within the BoJ's arsenal; The BoJ has the power to influence overnight lending rates through its Complementary Lending Facility to cap on uncollateralized overnight lending rates. The BoJ can also print money at its discretion, and purchase assets on open markets. Through open market operations, we can control the level of yields as well as the slope of the general yield curve through the influence of long-term rates. Our fiscal policy choices could consist of cutting or boosting expenditures and targeting primary and secondary surpluses/deficits. We can also collect tax revenue through seignorage and other taxes. While we do recognize the importance of these policy levers, we find that after reviewing the history of Japan's economy as well as the policy measures put in place by the monetary and fiscal institutions, the most productive strategies for long-run price stability and growth are more likely to be through structural reforms, namely in labor markets.

Section V: Policy Recommendations

With respect to monetary policy, we propose maintaining overnight interest rate targets of zero or lower to incentivize spending and investment. Although this policy has squeezed domestic banks and constrains monetary policy intervention, it is necessary to maintain manageable secondary deficits and support asset prices. Alongside this, we plan to continue yield curve control policies and recommend that interest rates on government bonds be kept at near-zero to disincentivize substituting away from money to bonds. We also believe that the Bank of Japan should continue printing money to maximize inflation tax revenue and hopefully conjure inflationary pressures. Finally, we recommend that the Bank of Japan be as transparent as possible, committing itself to the publication of robust data in order to stabilize the public's expectation and solidify public confidence in the Bank of Japan

In terms of fiscal policy, we stress the importance of bringing down deficits in the long run through passive tax revenue and modest tax hikes during periods of expansion. We recommend against the use of aggressive austerity to wrangle the debt due to its contractionary effects and the further strain it could have on the government balance sheets. Moreover, the falling population may reduce aggregate social security payments for future generations which have been the largest growing portion of annual expenditures in recent decades.

Japan faces structural problems in labor markets due to the demographic shift it is experiencing. Fertility rates are low, the population is aging and disproportionally old, and life expectancies are rising. We believe that boosting the population growth rate could have a substantial effect on labor markets by providing a much-needed supply boost. An influx of a younger generation is expected to boost consumption, induce spending, and normalize inflation.

We recommend de-regulating immigration laws and incentivizing participation of foreign workers in domestic labor markets.

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