

Japan's Anti-Malthusian Era - a comprehensive on depopulation in developed countries

Prisha Visveswaran¹, Ashoka University
Bsc. Economics and finance (UG 2021-24)

Abstract

This research article tries to analyze Japan's aging population with the help of existing literature and data on its fast changing demographic. This will be analyzed in two-partite manner– Japan's cultural and societal contributions to a lowering fertility rate and why western precedent policies of childcare and maternity leave services do not seem to have an impact on increasing the fertility rate. By analyzing the problem from the country's cultural context, this paper will argue that East Asian countries are less likely to adapt their culture of rigid gender structures to a developing economy which causes them to be stuck in an Anti-Malthusian trap where technological development leads to lowering fertility rates. We will see how imitating prenatal policies of the West will not easily work in Japan and how the country needs to use its existing skilled workforce in order to globalize its economy such that the country is not intensely dependent on its domestic labor force. We will also see that adapting to the older population is detrimental to moving forward for East Asian countries whose culture will take longer to change compared to the West.

¹ E-mail: prisha.visveswaran_ug24@ashoka.edu.in

1. Introduction

When we start talking about the success stories of countries reaching the developed nation status in Asia, one is only ever met with awe and appreciation. It is unprecedented and mind-boggling how countries like South Korea, Taiwan and Japan- who were once at the brink of unsolvable poverty, having completely turned around the fate of their nations. These countries were war stricken, colonized and invaded, their people suffering one of worst living conditions in the world and yet, today they are world leaders- they are producers of cutting edge technology, manufacturing giants and their consumer goods are household names in the rest of the world. Samsung, LG, HTC etc are mere examples of the bigger picture- with intensive development plans and restructuring of their economy, they have almost managed to stand at par with the looming West and place themselves as global powers.

The case of Japan might be the most interesting one yet. Prior to the 1970s, Japan experienced a period of rapid economic growth facilitated by the imitation of Western developed technology. This resulted in Japan “catching up” with developed nations like the United States. However, a model of imitation would not lead to a sustainable growth path for a developed nation. This caused Japan's economic reforms to be centered on financial restructuring and the promotion of investment activities by the public sector which resulted in a large-scale focus on innovation by the government. The automobile sector flourished, giving rise to household names like Toyota, Honda, Suzuki, Yamaha and Subaru. It also established itself as a technological giant with companies like Mitsubishi spearheading. It has an established export sector and a thriving IT industry, employing and developing human capital to furnish an already skilled population.

Evidently, the rapid development in Japan was not costless. Technological and economic development have hiked up standards (and costs) of living in the country. Despite the wealth of Japan, the per capita income does not reflect equitable growth. All of these factors combined have resulted in a major demographic transition in the country where the population is now aging with a below average fertility rate of 1.36 births as per 2020. Combined with a high life expectancy of 84.62, 29.8% of the population is aged 65 and above, which is reflected in the dwindling workforce of the country (Lam, 2009).

In 1798, Thomas Malthus came up with his infamous population theory, also known as the Malthusian Trap. The Malthusian Population Trap refers to the idea that increased food production as a result of advanced agricultural techniques creates higher population levels. These higher population levels then lead to food shortages, as the new population must live on land that was previously used for crops (Malthus, 1798). The only way to escape this trap was via rapid technological development, as was shown by the case of the Industrial Revolution in Britain.

At a very early stage of economic development, poverty prevents households from raising children and accumulating capital. In the poverty trap, although the fertility rates are high, the population cannot grow due to high infant mortality. After an economy gets out of the trap, not only the population itself but also its growth rate increases with per capita income. However, when per capita income reaches a certain level, the population growth rate begins to decline with an increase in income. As a result, the population itself starts decreasing with income. This is what some advanced economies are currently experiencing. These phenomena constitute the typical demographic transition, which explains the Japanese issue (Nakamura, 2018).

This article aims to provide an insight into this paradoxical anti-Malthusian Trap, where the economy is stuck in a negative demographic transition due to rapid economic growth. Technology, which was supposed to save the human race from the Trap, has resulted in a trap of a different kind- people in advanced countries don't want to have children because they are simply too costly. This directly impacts the labor market and the notion of steady state output and per capita growth- which is driven by population and technological growth (Solow, 1956). The negative rate of population growth in Japan in recent years stands to impact its overall output growth in the steady state. This article will try to analyze the institutional and policy related reasons as to why this is happening and why Western reforms and adjustments will not easily enable Japan to combat this crisis.

2. The disappearing babies of Japan- a result of rapid growth or an institutional inevitability?

Japan hit its lowest fertility rate (TFR) in the year 2005 at an astounding 1.26. This decline is not a new phenomenon, but has been slowly coming to the forefront ever since 1974 (World Bank,

2021). Fertility is something that has been postponed in Japan- women who are unmarried and working, are called the “parasite singles” in the community. The Japanese aging phenomenon might not just be a result of technological growth but could also have diverse sociological factors such as delaying the marriage age, educational and labor market provision for women, high divorce rates and social stigma attached to cohabitation. These factors, combined with the rapid increase in income and standards of living, could have contributed to the drastic demographic changes facing the country.

It would make it easier to understand the unique problem faced by Japan if we compare it to the case of dropping fertility rate in one of the Western countries. The United States, for example, is the largest economy in the world that has long since reached advanced status. However, it maintains a close to average TFR of 1.64 as of 2020 and has a constant population growth of 1%. The drop below the average rate of 2 indicates that women in the US are also postponing having children, but this effect is not really seen in the birth rate of the country, which is pretty high (Fehr, 2008). The steady flow of immigrants adding on to the population and the varied schooling and childcare benefits provided incentivizes having children, which is not as costly as in Japan.

Japan not only has different institutional provisions unlike the US, it also boasts an entirely different culture. Marriage and childbearing are synonymous in the country, with children born outside of wedlock being socially and legally stigmatized. Hence, if a woman wants to have a child, she has to get married. Additionally, there are strictly divided gender roles that come within the marriage package- the men would go to work and the woman was responsible for the upbringing, education and skill training of the child. The Japanese cultural context is one in which domestic tasks have been strongly regarded as unsuitable for men. Japanese wives spend an average of almost 30 hours per week on housework, whereas husbands spend between two and three hours (Tsuya, 2005).

The dramatic increase in the labor force participation by women has also contributed to delayed or negated pregnancies. The Japanese workforce is a highly competitive and skill heavy sector, which requires the brightest minds and the best education. This competitive nature is not lenient towards women temporarily quitting the workforce to give birth and rejoining at the same

position as they were in before. The cut-throat competition provides a lack of job security for the Japanese youth, which is magnified and near impossible for young and married women (Tsuya, 2009). Adding to these, Japan experienced a surge in divorce rates, which contributes to delayed childbearing plans and an aging population.

The consequences of continued low fertility are well known and a source of great concern in Japan. Some have argued that policies aimed at work–life balance, such as having more family-friendly work arrangements and increasing the availability of affordable childcare, will lead to fertility levels closer to replacement level (McDonald, 2006). Some of these policies are being attempted in Japan but it is unclear how successfully they will be implemented and how effective they will be. This goes on to show that the increase in expenses is the surface explanation of why a demographic transition is happening in Japan. The institutional and cultural reasons could have a greater bearing on long term demographic implications and these points need to be considered while developing a long-term contingency plan for an adjustment to development schemes.

3. Can Japan regain its TFR- better immigration or vigorous pro-natal propaganda?

Policymaking with the intention of raising the fertility rate of a country is intrinsically problematic because the burden of the task, in the end, falls upon the women in the population. Increased education and better access to job opportunities is one the factors of delayed childbirths in advanced nations and all of this starts with giving women rights. One of the most notorious examples of birth control and fertility related policies is China. It implemented the stringent One-Child Policy in order to curb its population growth which resulted in a demographic transition with the fertility rate falling from 2.54 to 1.18 (Jiang, 2016). Post this, it implemented a policy that incentivized having a second child by promising the mothers giving a second birth up to 100,000 dollars as monetary benefit. This not only results in wildly fluctuating changes and disregard of public sentiment, it also shows the country's view of women as breeding stock, which is reflected upon its policies.

These methods cannot be adapted in Japan because 1) the women would not easily agree to vigorous pro-natal policies and 2) Japan would not be able to escape diplomatic reprimanding by

the global community if it did force its women into childbearing. Pro-natal policies would place an additional burden on the working women who are already struggling to maintain a work-life balance in the Japanese social norms. The steep trade-off between motherhood and work is controversial in Japan, with the added incentives of childcare centers, educational and monetary incentives not doing much to increase the TFR. So the question remains- are there any other route that is not centric on the women being “incentivized” to marry and procreate?

Open immigration could be one such solution. The Japanese cultural system as of now is quite averse to foreign immigrants. There have been cases of widespread discrimination, social fetishization and a hostile workplace environment for people who migrate from countries like South Korea, Africa, USA and India. However, one could assume that a shift in policy that allows for a friendlier environment for immigrants could boost migration into Japan and shift the Old Age Dependency Ratio (OADR) towards the younger generation that is more apt to be in the workforce. However, data and predictive research suggests otherwise. Migration policies could be efficient in reducing the high OADR to 2014 levels, but only if there is a steady stream of 300,000 or more foreign migrants every year till 2050 (Parsons, 2018).

Based on a purely migration-focused policy, Japan would have to achieve a population composed of 30% foreign-born migrants to retain its 2015 OADR of 0.43 (Parsons, 2018). Not only is this policy unfeasible with the current socio-political climate of Japan, it is also improbable to assume that such a large stream of skilled foreign migrants would be willing to go to Japan with such high demands for them all over the world. A sudden increase in the population would also place a burden on social security and public services, which cannot be adapted suddenly.

4. Conclusion- what can be done?

If we compare the relative situations of countries like Japan, South Korea and Taiwan to other developed countries in the world, there is a recurring pattern of East Asian countries being more prone to a low TFR post-development. East Asian countries are the global regions with the lowest TFR, and in order to understand why this is the case, we need to look at policymaking

from a cultural perspective. Countries like Japan have regressed from having high fertility rates that gradually drop as the country gets more advanced. As seen before from existing literature reviews, this is because gender roles are strictly segregated in the country's culture. Family-building is seen as a societal role rather than personal in order to keep in line with the country's gender expectations. This is different from countries in the West that revised and changed their gender expectations as they developed economically. This doesn't necessarily mean that Asian countries oppress their women more, it's just that once women get certain economic power in society they are less likely to continue with their biological expectations as the two don't go hand in hand easily in East Asia. This immediately puts a block on policies like maternity leave and childcare support at work, because Asian culture at its root is not in line with these very western policies.

This can better be understood with an example. There has been an empirical change in childcare spending in the US between 1970 and 2010 which has resulted in increasing fertility (O'Neill, 2022). Childcare almost acted like additional wages for a mother's unpaid labor, which made having children worthwhile. However, in addition to the unpaid labor of a mother in the workplace, Japanese women also have to suffer the consequence of highly divided household work, for which they are not being compensated. In addition to the biological difficulty of having children, they face the societal pressure of doing household chores which takes a toll on their work-life balance.

East Asian cultures find it harder to adapt their culture to a developing economy at global standards, resulting in them getting stuck in the anti-Malthusian Trap. This is one of the main reasons why western policies like childcare support are not having as much of an impact as their precedent. Therefore instead of pushing for policies that imitate the west, they need to design policies that are in line with their own pace of cultural change.

If we go back to the first and foremost lesson taught in the Solow Growth Model class for macroeconomics, we will end up with this equation,

$$\frac{\dot{Y}}{Y} = g + n$$

which basically means that in the long run, growth of output (Y) (given by the left hand side of the above equation) in the country is driven by growth of technology (g) and growth of population (n). In the specific case of Japan, the growth of population is negative, but at a small level. Japan can offset this by following rigorous policies that are focused on adaptation to the situation and betterment of existing resources. It is blessed with a highly skilled and educated workforce and it needs to invest at a faster rate on technological development (which will boost its g) that can offset the negative effects of depopulation. Along with a moderate policy approach to open immigration and pro-natal policies, it needs to work on adapting its current labor market to the older population. Instead of trying to incentivize women by blatantly improving childcare facilities, work incentives and promoting the “family agenda”, Japan needs to find the correct mixture of adapting and correcting policies to this depopulation phenomenon that does not pressurize almost half of their population. For instance, South Korea, which faces a lower TFR than Japan, has tried to make its economy increasingly globalized in terms of technological development. The Hallyu Wave, a global Korean phenomenon, has forced the country’s culture to adapt according to western standards, which has reduced the rigidity of gender roles. Although this may not immediately reflect via an increased TFR, globalization and opening up boundaries makes a country less dependent on its demographic changes in terms of growth.

Policymaking should also focus on pension plans for the elderly, who are becoming a larger share of the population. They must be incentivized to earn, consume and save at faster rates and be provided with better social security. The focus must be on improving the existing labor productivity in such a manner that it can be adapted to demographic transitions that seem like inevitable additions to the human evolution process.

References

- Shirahase, Sawako. *Review of Population and Social Policy*, No. 9, 2000, pp. 47–63.
https://www.ipss.go.jp/publication/e/R_S_P/No.9_P47.pdf
- Larry L. Bumpass, Ronald R. Rindfuss, Minja Kim Choe & Noriko O. Tsuya (2009) *THE INSTITUTIONAL CONTEXT OF LOW FERTILITY*, *Asian Population Studies*, 5:3, 215-235,
DOI: [10.1080/17441730903351479](https://doi.org/10.1080/17441730903351479)
<https://www.tandfonline.com/doi/full/10.1080/17441730903351479?src=recsys>

- Yutaka Kosai, Jun Saito and Naohiro Yashiro. *The American Economic Review*, May, 1998, Vol. 88, No. 2, Papers and Proceedings of the Hundred and Tenth Annual Meeting of the American Economic Association (May, 1998), pp. 412-416. <https://www.jstor.org/stable/pdf/116958.pdf>
- Fehr, Hans, et al. “Fertility, Mortality and the Developed World’s Demographic Transition.” *Journal of Policy Modeling*, vol. 30, no. 3, Elsevier BV, May 2008, pp. 455–73. Crossref, <https://doi.org/10.1016/j.jpolmod.2008.01.002>.
- Galor, Oded, and David N. Weil. “Population, Technology, and Growth: From Malthusian Stagnation to the Demographic Transition and Beyond.” *The American Economic Review*, vol. 90, no. 4, 2000, pp. 806–28. JSTOR, <http://www.jstor.org/stable/117309>. Accessed 27 Mar. 2023
- Nakamura, Tamotsu. “Solow Meets Stone-Geary: Technological Progress and the Demographic Transition.” *Metroeconomica*, vol. 69, no. 4, Wiley, Aug. 2018, pp. 768–90. Crossref, <https://doi.org/10.1111/meca.12212>.
- Brander, James A., and Steve Dowrick. “The Role of Fertility and Population in Economic Growth: Empirical Results from Aggregate Cross-National Data.” *Journal of Population Economics*, vol. 7, no. 1, 1994, pp. 1–25. JSTOR, <http://www.jstor.org/stable/20007418>. Accessed 27 Mar. 2023.
- SCHOPPA, Leonard J. “The Policy Response to Declining Fertility Rates in Japan: Relying on Logic and Hope Over Evidence.” *Social Science Japan Journal*, vol. 23, no. 1, Oxford UP (OUP), 2020, pp. 3–21. Crossref, <https://doi.org/10.1093/ssjj/jyz046>.
- Lee, Grace H. Y., and Sing Ping Lee. “Childcare Availability, Fertility and Female Labor Force Participation in Japan.” *Journal of the Japanese and International Economies*, vol. 32, Elsevier BV, June 2014, pp. 71–85. Crossref, <https://doi.org/10.1016/j.jjie.2014.01.002>.
- Jiang, Quanbao, and Yixiao Liu. “Low Fertility and Concurrent Birth Control Policy in China.” *The History of the Family*, vol. 21, no. 4, Informa UK Limited, Oct. 2016, pp. 551–77. Crossref, <https://doi.org/10.1080/1081602x.2016.1213179>.
- Parsons, Alexander J. Q., and Stuart Gilmour. “An Evaluation of Fertility- and Migration-based Policy Responses to Japan’s Ageing Population.” *PLOS ONE*, edited by BalticaCabieses, vol. 13, no. 12, Public Library of Science (PLOS), Dec. 2018, p. e0209285. Crossref, <https://doi.org/10.1371/journal.pone.0209285>.
- Lam, Peng Er. “Declining Fertility Rates in Japan: An Ageing Crisis Ahead.” *East Asia*, vol. 26, no. 3, Springer Science and Business Media LLC, Aug. 2009, pp. 177–90. Crossref, <https://doi.org/10.1007/s12140-009-9087-y>.