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Aging Asian countries with urbanization, feminism, mobility, and housing

Fertility rates decline as countries get wealthier, and this makes future growth projections halter. However, immigration increases to fill in the gaps in the labor market. Declines in birth rates are also generally good for the environment. The world is pushing nations to go greener with carbon-reducing technologies and legal enforcement, but what produces the largest carbon footprint is having and raising another child. It's greater than flying to the opposite side of the world, raising cats and dogs, and constantly running air conditioning and lights. This means that attempts to conserve energy and pollute less on individual levels have much less significance than not having children. Or perhaps the idea that the economy must always boom may be a mistake. The Impossible Hamster (and Economic Growth)¹ provides a good analogy on why a society that continuously grows economically is not sustainable. A hamster doubles its weight every week from birth to puberty, and if it didn't stop growing at maturity, we would get a 9 billion-ton hamster on its first birthday that could eat all corn produced annually worldwide in one day and would still be hungry. This is why things in nature only grow to a certain extent. The same applies to economics. Growth needs resources, and the better the technology, the more efficient the use of resources will be, but the input never reaches zero, not to mention that most countries are still developing and don't even have such technology.

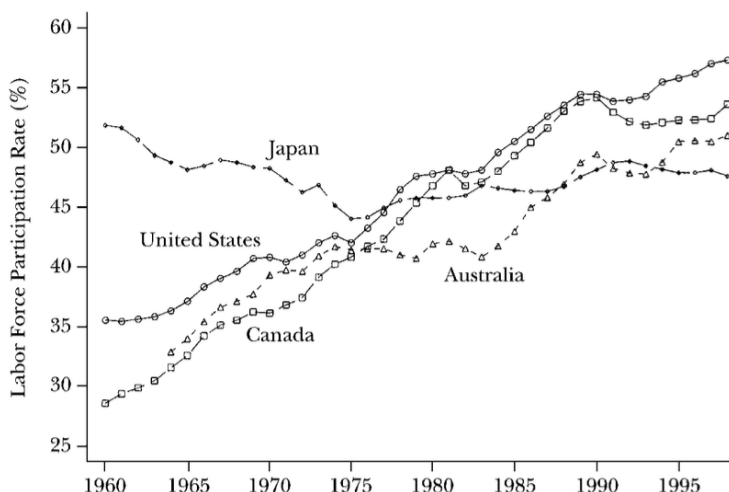
¹ by the New Economics Foundation (NEF, 2010)

Am I arguing that humans should stop reproducing because they pollute too much?

Perhaps. But I don't have to argue for this. Global fertility rates—especially for OCED countries—are on a constant decline anyway.

We will look at the cases of Japan and Korea because they share extremely aging populations and low fertility rates². Are Japan and Korea dying countries because their fertility rates are so low? Both the government and some NGOs claim that their low fertility rates are a serious problem, but that may be an exaggeration. Interestingly, unlike most OECD countries where women's participation in the workforce has had an increasing trend for the last 70 years, we see that Japan is the opposite in Figure 1.

Labor Force Participation Rates in North America, Australia, and Japan, 1960–1998



Note: Rates are from the Bureau of Labor Statistics website and were adjusted by the bureau to be comparable to the American concepts of the labor force, except in the treatment of age cutoffs and of layoffs. The U.S. data relate to the population older than 15. The Canadian, Australian, and Japanese data relate to the population older than 14. The data are for the civilian noninstitutionalized working age population, except for Japan, where the institutionalized working population is included.

Figure 1.

Women's labor force participation rates in Japan have fallen or remained stagnant over time.

Costa (2000) attributes this underperformance to the decline of family enterprises,

² Kang, 2017

discrimination, and social norms.³ Similarly, South Korea ranked near the bottom of the gender parity index in 2022, with a score of 0.689 which isn't too different from 0.687 from last year⁴. This index has a few components, and the worst among them for South Korea was the economic participation and opportunity component—including labor force participation, wage equality, and representation in senior and management positions—with a score of 0.592⁵.

However, their education levels are steadily increasing. Kang (2017) says that women attain higher levels of education and are more likely to participate in the labor market and thus less likely to have children⁶.

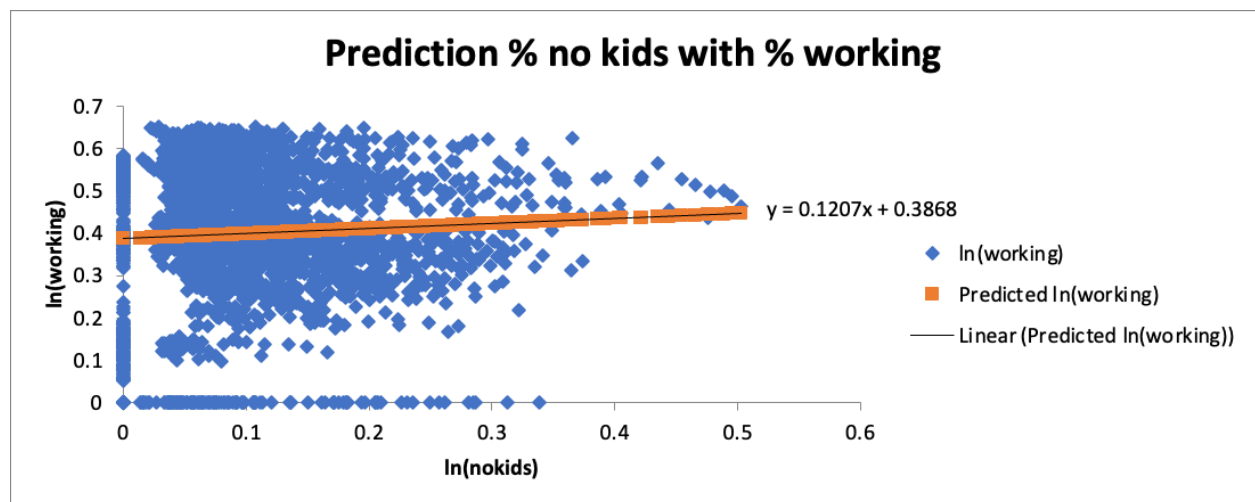


Figure 2.

From the given Excel data, this regression analysis gives us $\beta_{\text{no kids}} = 0.1207$, t-statistic = 3.0384, p-value = 0.0024. With a 95% significance level, we can say that with 1% increase in no kids (therefore 1% less chance of having children) increases chances of working by 0.1207%.

³ Costa, 2000

⁴ Choi, 2022

⁵ Choi, 2022

⁶ Chang et al, 1998, as cited in Kang, 2017

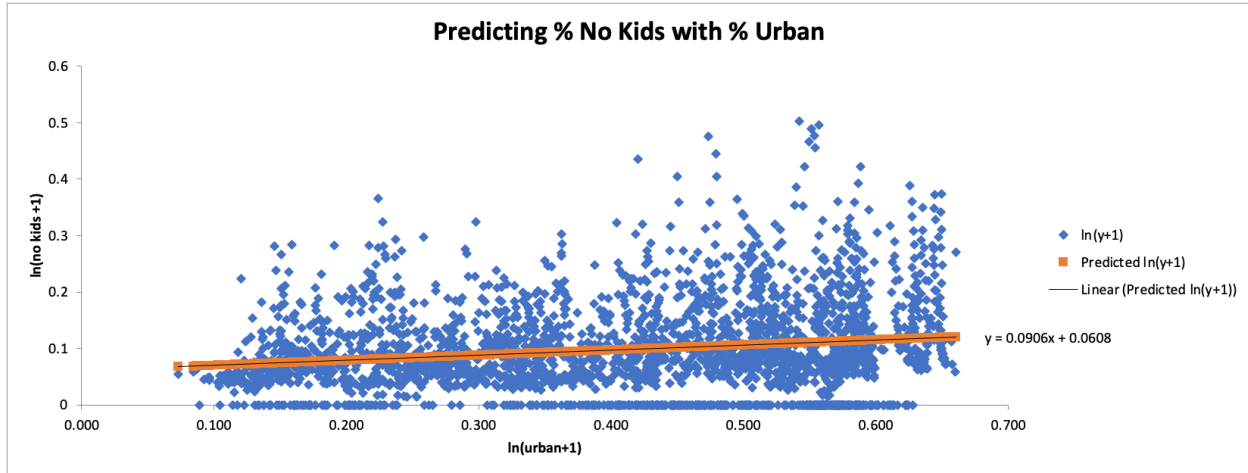


Figure 3.

This graph is plotted using the regression of the percentage of living in urban settings and the percentage of not having kids. The R^2 was very low but does slightly follow the trendline, and the β % urban was 0.07358 with a t-statistic of 9.5473, and p-value of 2.9E-21. Correcting for the fact that both the dependent and independent variables are in percentage, I repeated the process with log-log regression with % urban and % no kids and added 1 to both variables to account for $\log(0)$ because some % no kids were 0. Thus the new regression equation:

$$\widehat{\log(\text{no kids})} = 0.0608 + 0.0906\log(\text{urban}) + \epsilon$$

with a t-statistic of 9.2203 and p-value of 5.7848E-20. This regression predicts that if urban increases by 1%, no kids will increase by 0.0906%, in other words, the likelihood of them having children declines by 0.0906%.

These two results are as expected. As we have established before, women are increasingly more aware of the disadvantages that pregnancy and raising children have on their careers and therefore choose to reproduce less. This is the opposite of how developing countries have a high fertility rate as they view children as workers that could be employed for agricultural and domestic labor. As people agglomerate in urban areas, they're less likely to engage in

agricultural and manufacturing jobs and participate in service jobs. Education then becomes more important and accessible for most families in urban settings. But the costs of education increase at the same time as taxes increase in bigger cities with a bigger tax base, and even more so when schools specialize and elite universities become more desirable as highly specialized jobs like neurosurgeons, lawyers, and engineers that require a lot of training but don't have enough demand in non-urban settings gain sustainable demand.

The opportunity cost of having children is so great for women in the developed world as they reside in the city, get more education, and have good careers. Costa (2000) illustrates that 37% of female executives and vice presidents are childless compared to 5% of their male counterparts. While we could attribute female employees in lower positions not having children to not having enough resources to provide care for their children—this includes education, healthcare, housing, and babysitting or daycare. Before the proliferation of the nuclear family, multiple generations of a family lived together, so relatives and grandparents were able to take care of the children without outsourcing it to daycare. This parallels with how domestic work was typically assigned to women, so men could participate in the labor force. But just like how nuclear families declined with individualism and capitalism, pre-existing social norms about the patriarchal structure are in question, requiring more service work to raise children. Outsourcing care for children is difficult because children cannot properly assess the quality of service and report if violence or harassment are to occur. In South Korea, almost all parents—even in cases when one parent focuses on parenting without another job—send their young children to kindergartens, and unlike in the U.S., said kindergartens operate from 8 AM to as late as 5:30 PM, although parents need to prove both parents are working for the whole-day or afterschool services. The same continues with elementary schools and middle schools, as is the fate of

working moms. A systematic problem comes in as the birth rates and the number of children is declining: fewer teachers are hired. With limited financial resources, public educational institutions try to hire as few teachers as possible, naturally overworking them. Poor working conditions and workload exhaust and undermine their compassion and caring for the children. More problems arise when parents cannot pick up their children on time. The children that are left until the closing hours feel distressed because their peers all leave before them, and are left alone with exhausted teachers by themselves. But it is not really the parents' fault when they may get an unexpected workload, get stuck in traffic, run into emergency situations at work, or encounter any other unforeseen events that are out of their control.

In many Western and European countries, maternity and paternity leave are formally legalized, but not in many Asian countries. For instance, in South Korea, many large corporations give proper maternity and paternity leave, but in smaller companies, it's not enforced as well, and parents are pressured to return to work as fast as possible. Such demand is stronger for men as people in managerial positions tend to still hold onto patriarchal values. So more men don't use all of their paternity leave, which puts more burden on the mother.

Another thing to note is that 60% of Korean men in their 20s strongly agreed that feminism is female supremacy and the same group has gone against the attempts to revise the current rape law to meet the global standard recommended by the UN⁷. This coincides with women gaining more power and education, and the acknowledgment that they may remain as secondary earners in a household, women are less likely to dive into marriage, let alone give birth to children⁸.

⁷ Kim and Lee, 2023, as cited in Jung, 2023

⁸ Goldin, 2006

Now let's look at how cities and urbanization come into play. Star cities in the U.S. like Los Angeles and New York have rival cities like Chicago, Washington D.C., San Francisco, and Boston. But South Korea only has Seoul. Seoul is both the capital and financially biggest city in the country, unlike the U.S. where the two cities are different, with each being Washington D.C. and New York. Due to the concentration of capital and infrastructure, everyone believes in the need to be in the undisputably largest city, Seoul. Busan and other cities are noticeably smaller in financial and firm activities. This one grand star city sucks up all talent and capital, leaving other cities and non-urban areas often deserted and undesirable. Seoul has great public transportation and infrastructure that enables people to commute without having private transportation, but this increases home and commercial building prices greatly. Work from home (WFH) was introduced and popularized during the COVID-19 pandemic, but after the pandemic died down, most workplaces reverted back to the on-site working models and only a small portion remained hybrid. I believe this is due to how proximate the offices are to the workers. Ironically, if workers were far from offices, it would provide a need for remote work, but the perception of proximity of commute leads to path dependency.

Another big factor that makes youth give up on forming families and having children is the loss of upward mobility. Lee (2016) argues that Koreans have a pessimistic income prospect and perception of equal opportunity after the financial crisis of 1997⁹. When people believe there is great inequality, they demand redistribution. In Korea, social mobility has been declining and researchers using panel data found an income correlation between father and son to be 0.4, which is a strong correlation that only enlarges when applied to low-income families¹⁰. The public

⁹ Lee, 2016

¹⁰ Choi & Hong, 2011 as cited in Lee, 2016

shares a sentiment that previous generations had it easier when climbing the social ladder, and on the other hand, baby boomers and Generation X often claim the opposite.

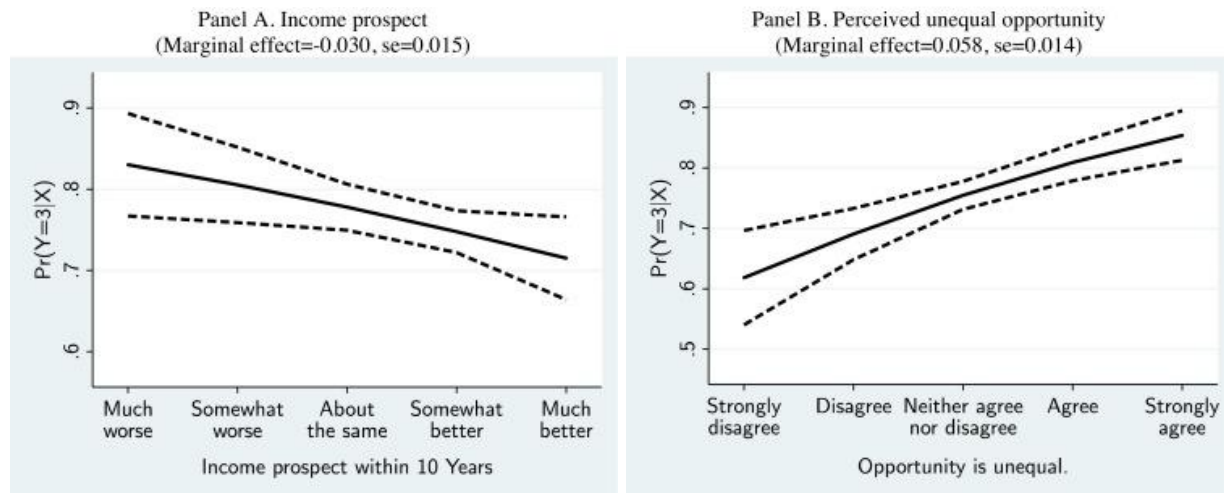


Figure 4. Effect of income prospect and perceived unequal opportunity on the probability of supporting redistribution in Korea.

When regressing intergenerational mobility on demand for redistribution, income prospect, age, college graduate, and retired each had coefficients of -0.168**, -0.017***, -0.257*, 0.672** respectively. Income prospect and age are as we've speculated and are statistically significant. College graduate improves upward mobility, so has a negative slope, and vice versa for retired.

Now we discuss housing prices. Chung and Kim (2004) illustrate how the ratio of housing price to annual household income (housing price to income ratio—PIR) in Seoul is about 10:1, meaning that the average household has to work for ten years to be able to afford a house. This ratio is three or four times greater than other advanced countries. According to Bloomberg, a general rule kept by real estate agents and home buyers is that this ratio should be about 2.6¹¹. In 2018, some of the least affordable cities were Los Angeles (9.6), San Francisco (9.2), and

¹¹ Florida, 2018

New York (5.4); note that these are not just costs but functions of cost and income, which partially explains how New York has a lower PIR than San Francisco¹². But how did Seoul have 10 in 2004? A massive bubble was going on. Their bubble was largely speculative, and it was the most severe in the most expensive areas including Gangnam District—which remains Korea's one of the most expensive areas to this day—that has five times the normal demand¹³. The actual value of a housing unit can be evaluated using hedonic pricing by regressing housing prices on the characteristics—the size of a house, distance to public transportation, distance to the city center, quality of educational institutions in proximity, etc—of the house. While most of these are statistically significant, it is overshadowed by the investments in housing speculation and don't imply causation. But some factors that investors took note of were: low interest rates on savings, expanding money supply, increase in home mortgage loan funding, housing supply and demand mismatch, and government stimulus programs¹⁴. This paper was written after the Japanese bubble bust in the 1990s and before the 2007 subprime mortgage crisis in the U.S.

Unsurprisingly, the general public was aware of the existence of bubbles, but underestimated the significance and risks, naively assuming that it had lots of time before it busted. They were right in the fact that it was long until the bust. Housing prices kept surging and became more unaffordable for the working class people, which is why a Chonsei policy was implemented, where a 70% lump-sum of the housing price is paid by the tenant and then returned to the tenant without interest at the end of the lease that usually lasts two years¹⁵. Chonsei is a unique policy that was enabled because it met the needs of both the tenant and landlord (investor). The tenants could do without the hassle of negotiating annually and did not have to pay a monthly expense,

¹² Florida, 2018

¹³ Chung & Kim, 2004

¹⁴ Chung & Kim, 2004

¹⁵ Chung & Kim, 2004

and the landlord also had less hassle, but more importantly, could use the lump-sum down payment for other investments. But did this solve the problem of PIR being extremely high? No! To this day, many young people blame the overheated housing market as the reason for not getting married and having children. There's a key flaw in the Chonseï system. The tenants can pay the lump sum and borrow the houses as long as they want, but they're losing money in the long run. The landlords get to expand their portfolio and gain from investments, or interests at least. Therefore, this system does not work to reduce inequalities or redistribute wealth. Young couples wouldn't be able to save more with both renting and Chonseï, which are legitimate reasons for avoiding marriage, and subsequently, raising children.

We took a look at many factors that were deterring marriages and fertility rates in developed countries. I think young people are choosing to not reproduce for good reasons and immigration will partially solve the decline in the labor force.

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