A basic study of China's low fertility rate and its influencing factors

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Abstract

As the most populated country in the world, China seems would lose its 1st position within 10-year. In TOP-20 population countries, the total fertility rate of 1.635 is only greater than Japan with 1.478, and Iran with 1.621(The World Bank, n.d.). Reduced working-age population and increased elderly population would eventually bring China a series of social problems, more and more jobs will be vacant, national innovation capacity will decline, and social pension pressure will increase. This study will briefly introduce some concepts, demonstrate some facts via data analysis, figure out some relationship between these data, and finally have a discussion. The study results could be used as a fundamental resource of the population study in the future.

Keywords: fertility rate, influencing factors, family planning policy, China

Introduction

China's fertility rate has fallen from the highest level in decades, from 6.385 births per woman in 1965 to 1.683 births per woman in 2017(The World Bank, n.d.), and now more and more young couples choose not to give a birth, the reasons behind this seem to be complexed, some of which are not even quantifiable. The intertwined and mutually influential factors have caused the situation today. It is undeniable that China's demographic dividend is almost over. Before the not-too-distant future coming people should have to know what it will and how it will happen.

Japan in the 1990s is an example. Its total fertility rate first time fell below the replacement threshold of 2.1 in 1974 and continued dropping to the lowest 1.26 in 2005. Along with the increased death rate in the 1990s, the Japanese economy had begun to fall into a long-term slump. Japan's GDP per capita was 51% higher than that of the United States in 1995. In contrast, by 2015 it was 41% lower than the United States (The World Bank, n.d.). Lee and Mason (2015) analyzed National Transfer Accounts data for 40 countries showing that fertility rate above the replacement level of 2.1 would be most beneficial for the government, on the contrary, fertility rate below replacement level of 2.1 would maximize per capita consumption and undermines living standards, especially taking account into the cost of providing capital for a growing labor force.

To avoid the above situation as much as possible, it is necessary to study the low fertility rate in China and find a solution. For this purpose, the study will include a literature review to support the findings and may also find the gap between the earlier researches. The study will collect and analyze data from the World Bank Open Data and the National Bureau of Statistics of China. The main research questions of this study are what causes the low fertility rate in China and how they affect it?

Literature Review

a. National policy factors (Political factors)

Data for the total population of China reveal that between 1949 and 1981 China's total population increased from 541 million to 1 billion (National Bureau of Statistics of China

[NBSC], n.d.). But in fact during this period the Chinese government had already consciously controlled population growth, that promoting birth control in 1950-60s, promoting late marriage, late childbearing, and less birth in the 1970s, and One-Child Policy in 1980s (The China Government Website, n.d.). Shen (1985) posed that the population of China during the 1950-80s has a young age structure and the median age is 22.9 years, however, the rural population accounts for as high as 80%. By given this demographic situation, the Chinese government started to control population growth. Family planning became a basic national policy of the People's Republic of China since September 1982 that people should plan to give birth according to population policies, and it was enshrined in the Constitution in December of the same year. The main content and purpose are promoting late marriage, late childbearing, less birth, and thus plan to control the population. Data revealed that China maintained the total fertility rate around 2.6 during the early 1980s, and then after had a dramatically decreasing till the middle of the 1990s. Now the fertility rate in China has remained at around 1.6 for more than 20 years (The World Bank, n.d.). To avoid various problems caused by the low fertility rate, in 2015 the Fifth Plenary Session of the 18th Central Committee of the Communist Party of China, the Chinese government officially changed the existing one-child policy to two-child policy, which is proposed to help address the aging problem in China. However, Li (et al. 2019) posed that via their study the implementation of the two-child policy will just have a limited effect on China's fertility rate increasing, as well as the national population size and structure. The policy will not change China's aging population growth trend.

At the moment, China's family planning policy seems only affected the total fertility rate

during the 1950-90s, and the demographic dividend played an important role in the country's economic growth. In contrast, the new two-child policy did not bring the expected results, or at present, there is no significant effect. Other impacts of the family planning policy will also be discussed in a later review.

b. Economic factors

Data revealed that with the development of the economy, the percentage of the urban population in China has increased year by year (The World Bank, n.d.). So, if we only detect the relationship between the Gross Domestic Product (GDP) and the total fertility rate, it would be negative. It is impossible for people to improve their living standards but not want to have children. However, Poston's (2000) study between Mainland China and Taiwan indicated that higher levels of social and economic development are associated with lower fertility rates among some provinces and counties. At the same time, given the different levels of development across the strait, Poston also believes that the impact of many other factors needs to be considered. When analyzing the relationship between GDP and fertility rate in each province, the results are very well interpreted that, minority ethnic groups provinces have higher fertility rates even if they are economically backward since the family planning policy is relatively loose; there are more Han ethnic group people, but the provinces with poor economic development have low fertility rates; for other provinces, the fertility rates are basically around 1.2 regardless of the economic development.

Another closely related to economic development is the real estate industry. Buying a house is just a matter of the people, especially the newlyweds. But for now, China's housing

prices are difficult for most people to bear. Glaeser et al. (2017) posed that between 2003 and 2014, China's real terms housing price rose more than 10 percent per year and are now many times higher than the construction cost of apartments. Even so, the demand for the house is still very large. The pressure to buy a property reduces the willingness to have children to a certain extent. Also, traditionally speaking, unlike many western countries, in most China, the man's family has to bear all the costs of marriage which include buying the wedding house, if they don't buy a house they even not have a chance to get married, not to mention having children. And when marriage is being talked, the marriage rate and divorce rate are following. Data revealed that since the beginning of the 21st century, China's marriage rate has declined since 2013 after a couple of years' rising. Unexpectedly, the divorce rate has increased year after year. Unstable marital status is also an important factor leading to low fertility rates.

Education level is another indicator of economic development. Data revealed that the number of graduates in China has increased year by year, although there is less study in China, Dreze and Murthi (2004) used the data on Indian districts for 1981 and 1991 to examine, then they posed that women's education is the most important factors explaining fertility differences across the country and over time. Monstad et al. (2008) also stated that the increasing educational level leads women to a postponement of first births and results in more women remaining childless or having fewer children.

Economic factors are not as mandatory as political factors, but their influence is relatively broader and deeper. As an external factor, its impact on society is extremely far-reaching. For different individuals and families, the impact varies from person to person.

c. Cultural factors

As a traditional agricultural country, China has demanded more labor than any country since ancient times. Men's status in society is much higher than that of women. Therefore, during the implementation of the family planning policy, selective abortion based on the sex of the fetus is also a key to the imbalance of males and females today. Murphy et al. (2011) investigated the determinants of son preference in rural China. Their analysis confirmed the conventional idea that son preference is embedded within patrilineal family structures and practices. Although their analysis results also showed that the son's preference may diminish over time, concerted efforts are still required, like improving welfare supply and institutional discrimination against rural populations, and promoting multiple dimensions of gender equality, including land rights, wage levels, and education.

Another culturally influential factor is the Chinese Zodiac, which is less talked with the fertility rate. The Chinese Zodiac is a classification scheme that assigns animals and their well-known attributes to each repeated 12-year cycle. Yip et al. (2002) stated that the Chinese still value the zodiac, although the overall fertility rate is reduced in the long-run, there is a significant increase in the Year of the Dragon. Subramaniam et al. (2012) did the same type of research. Their results revealed that the Year of the Dragon significantly increases the Chinese fertility rate in the long-run, the fertility rate is still affected to some extent by the zodiac.

Data Description & Analysis

According to the National Bureau of Statistics of China, the population data of 1981 and before were household registration statistics; the data of 1982, 1990, 2000 and 2010 were the projections of the current census data; the data of the remaining years was estimated from the annual population sampling survey. All data are from the National Bureau of Statistics of China and the World Bank Open Data. Some data has been removed and integrated for analytical purposes. All data will record in the reference directory. Data analysis and interpret at this stage is limited to a single time-series variable and categorical variables. Next, a fertility model may be established and used for prediction in the future.

In the process of collecting and analyzing data, I found that many countries in East Asia and Europe had already experienced a period of the low fertility rate, but there was no serious population disaster. Jin (2014) stated that in some of low fertility rate countries, their fertility rate has even begun to rise since the year 2000, the Low Fertility Trap Hypothesis has been challenged, it may only be a summary of the phenomenon of fertility changes in the short term, and it cannot be summarized as a theory. Therefore, I am also very interested in whether China's future fertility changes will pick up. Even if it does not rise, how can the country ensure economic development and stability under a low population?

Discussion

China's low fertility rate that lasts more than 20 years has made its demographic dividend no longer obvious. The slowed down economic growth and the increased burden of people's lives have also weakened the individual's willingness to give birth. In the face of such a bad cycle, China has adjusted its family planning policy. However, it has not been as effective as the government expected. The analysis of this study shows that in the past few decades, China's one-child policy has had a major impact on the total fertility rate, economic and cultural factors seem to have a greater impact at present. Family economic status, an individual's educational level and preference are all important factors. From a national perspective, long-term and positive policy adjustments may help the country get out of the woods.

The limitation of this study is the accuracy of the data, given that all data is macro big data. Besides, some of the factors cannot be quantified that can only be analyzed empirically.

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