From the past to the future: what we learn from China's 2020 Census

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Abstract

The population of China has entered an era of low fertility and aging, with a slower growth rate in the last decade. This commentary briefly reviews demographic changes in China in the last seven decades with some important years of change in mortality, fertility and urbanization, and discusses future trends according to the information provided by the 2020 Census. China has experienced “compressed” population change, and population aging will continue to advance, meanwhile the size of the population is expected to reach its peak in the near future. To prepare proper response to the challenges proactively, institutional change which adapts to population changes is necessary.

Keywords Population census · Low fertility · Negative growth · Aging · China

The results of the seventh national census conducted in 2020 have been released by the National Bureau of Statistics (2021) in May 11, 2021, which unsurprisingly revealed that China's population is in an era of low fertility and aging, and the population growth has almost come to a halt. Since the founding of the People's Republic of China, significant changes have taken place in the size and structure of the population, as well as fertility, mortality and migration over the seven decades. China experienced demographic transition in half a century, from high fertility and high mortality to low fertility and low mortality, and recorded a high growth rate in the 1960s and 1970s. Negative population growth is expected in the near future with a peak size slightly more than 1.4 billion. Compared with the global average trend and regional changes, population dynamics of China transformed dramatically from high growth to low growth in a relatively short period of time, and tends to stay at the lowest growth rates in the world in next decades. The 2020 Census is likely to be the last one to witness China's population growth in this century.

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The process of population transition in China has been greatly compressed in time, brought by socioeconomic development and institutional changes including relevant policies. China's death rate declined rapidly in the 1950s, falling by half in 8 years, and further declined to less than 7 per thousand in the late 1970s. Benefited from the improvement of public health, control of infectious diseases, and development of maternal and child health care in both urban and rural areas, the infant mortality rate dropped dramatically from about 200 per thousand in 1949 to 107 per thousand in 1955, and further to 48 per thousand in 1975. The under-five mortality also dropped significantly during the 20 years. The newly published infant mortality is 5.4 per thousand and under-five mortality is 7.5 per thousand for the year of 2020 (Xinhua, 2021).

Similar to most of other Asian countries, the fertility transition in China had been driven by multiple forces. The sharp reduction in mortality rate, establishment of urban social security system, development of primary education, and improvement of women's status especially female labor participation encouraged by the government, all provided necessary and ready preconditions for the fertility decline, while contraceptive services was lagged far behind. The nationwide family planning programme launched in the early 1970s and guided by a strategy of "later (in marriage and childbearing), longer (in birth spacing), and fewer (children in a life)", along with universal coverage of free contraceptive services generated a remarkable effect together with other social progress mentioned above.

Initiated from urban fertility decline in 1964, fertility transition took place within three decades. The total fertility dropped from nearly six children per couple in 1970 to 2.3 in 1980. Following the fluctuation over the decade of the 1980s, it finally fell below replacement level in 1992 (Yao & Yin, 1994, p. 144). The total fertility rate has stayed at 1.6 or lower in the twenty-first century, with the exception of a slight up in 2016 and 2017 due to likely the effects of the adjustment of fertility policy, which released a long-delayed potential desire for second child (Wang & Wang, 2019). Although there have been different estimations about period fertility, and different opinions on how to deal with tempo effect caused by delayed childbearing (Guo et al., 2018), a consensus on the fact of low fertility in China has been reached among demographers. The number of children ever born for women aged 50 was 1.65 in 2015 and declined gradually by age to 1.52 at the age of 40 (Department of Population and Employment NBS, 2016, p. 369), implying the persistence of low fertility and more so among younger cohorts. Due to the decline in the number of women at childbearing age and aging of this group as well as the persistently low fertility rate, the number of births in 2019 fell to 14.65 million, the lowest in the last 50 years, and further reduced to merely 12 million in 2020 with a total fertility of 1.3, the downward trend seems irreversible. The 2020 Census once again confirms that China is already in an era of low fertility, and even among the countries with the lowest fertility in the world (Guo et al., 2019).

The so-low fertility rate would certainly bring about age structure change of the population, that is, population aging. Due to reduced number of births, the 0–14 population size in China has continued to shrink since 1982, and its share in the total population has gradually decreased accordingly. The share of 0–14 population was 17.95% in 2020, which is lower than the proportion of people aged 60 and

over (18.70% in 2020) according to the released results of 2020 Census. The size of 15–59 population has continued to decline since 2012. As the “baby boom” cohorts who were born in the 1960s continue to exit from labor force, the decline in the working-age population will accelerate and is estimated to decrease at the range of about 200 million by 2050 (Wang, 2019). Meanwhile the working-age population is not only shrinking but also aging, given the proportion of aged 45 and above is increasing. The aging of China's population is advancing so rapidly that the number of people over the age of 65 stood at 190.64 million in 2020, accounting for 13.5% of total population, and the number will likely reach its peak at about 400 million in 2059, makes more than 30% of the total population, while those aged over 80 (oldest old group) will reach a peak about 160 million around 2070, accounting for about 40% of the elderly population (Wang, 2019). The primary driver of China's population aging shifts in different stages, which was driven by fertility decline and low fertility before 2010, and then turns to the growth of elderly population from 2010 to 2040, and longevity after 2040 (Li, 2018). The proportion of oldest old at age 80 and above will rise rapidly after 2040.

The annual rate of natural increase of China's population was at as high as 2.7% in the late 1960s, it dropped to below 1% in 1998. The average annual rate of natural increase over the decade of the 2000s was 0.57%, and it further dropped to 0.53% over the decade of the 2010s. China's population is approaching to zero growth and expected to turn downward sometime in the next few years, much earlier than what was projected by many previously. For example, the population was expected to peak its size at 1.6 billion at the middle of the twenty first century in 2000, and a few years later a peak size of 1.5 billion by 2033 was projected in 2007.¹ More projections in recent years are most likely close to possible reality in near future. The substantive downward shift of the peak size by about 200 million and the up-moving of the peak timing by around 20 years, show different understandings of population dynamics under the regime of low fertility, and the debate over the last four decades is still anything but not ending (Guo & Wang, 2020).

Some provinces in China have already experienced negative population growth in the first decade of twenty-first century due to out-migration of young people, while three provinces (Liaoning, Heilongjiang, and Jilin) in northeast China have had negative rate of natural increase since 2011 one after another, because of less births and labor out-flow. The 2020 Census recorded negative population growth in the last decade in six provinces, while population size of Guangdong becomes the largest in 2020 and with highest population growth rate in the last decade due mostly to the inflow of young labors.

With an accelerated and persistently progress in urbanization, the proportion of population living in urban areas has increased from 49.68% in 2010 to 55.88% in 2015, and to 63.89% in 2020, an increase of about 14 percentage points in merely

¹ China's Population and Development in Twenty First Century. December 19, 2000. <https://www.chinanews.com/2000-12-19/26/62210.html>; Research Report on National Population and Development Strategy, January 11, 2007. http://www.gov.cn/gzdt/2007-01/11/content_493677.htm. (all in Chinese) Accessed May 13, 2021.

one decade. The size of migrants has been increased to 375.82 million in 2020, implies that population mobility is quite enormous. Although the major flow of migration remains from rural areas to urban areas, there have been more urban to urban migration and backflow of rural migrants in recent years. As a result of younger and better-educated people tend to move from less developed rural areas to more developed urban areas, some rural communities are experiencing more advanced population aging. As the low fertility and low mortality are relatively stable and predictable, population mobility in China will become the crucial determinant of population redistribution and regional population structure change, and even the population dynamics as a whole in the future (Gu, 2014).

The population of China has shifted from high-speed growth in the middle and late 1960s to decline soon. This “compressed” population change took place in a large population, which will undoubtedly bring relatively greater impacts. Population decrease will be a reality for China, its socioeconomic consequences on all aspects and on families as well as individuals in the future will soon become increasingly visible and should not be underestimated, and we should be prepared with proper responses as soon as possible. Many studies in recent years analyzed the characteristics of China’s population decline and discussed possible socioeconomic consequences, and call for identifying strategic choices to response to possible challenges, including a clear understanding of medium and long-term population change and prioritize major tasks, change ideology and pay more attention to population structure change, and learn from international experiences and lessons (such as Lu, 2019).

The process of aging, the slow-down of growth rate and the momentum of negative growth of China’s population in the twenty first century will mainly depend on fertility. The low fertility in China is featured by weak childbearing desire, low parity progression ratio to the second child, and continuous postponement of marriage and childbearing. The ideal number of children reported in national surveys is among the lowest in the world. Although most married couples have children, a large proportion of them have only one child with no intention to have another one. The postponement of marriage and childbearing has become widely observed in both urban and rural areas in the twenty first century, which is one of the main reasons for the decline in the total fertility rate (Gu et al., 2020). Compared with other parts of East Asia, there is still a great potential for further postponement of marriage in China (Jones, 2019). In view of the fact that the constraining factors to fertility desire and to having a second child will not change fundamentally in a short run, mainly the burden of childrearing and difficulties in reconciling career development and childbearing/childrearing especially for professional women, China will be in a state of low fertility for a long time and is at a real risk of falling into an extremely low fertility, while it is already existed in some parts of China.

Looking at the demographic changes in the last seven decades in China, many changes are often intertwined with socioeconomic factors and public policy changes. In particular, the effects of public policies in different historical stages played different roles on fertility, mortality and migration in China, jointly with socioeconomic factors. The trend of population decrease and aging in the twenty first century has been determined, while many policies, systems, social norms, family traditions and

practices in China were developed when the fertility rates were higher and population structures were younger, which obviously become outdated against the current population situation. Some suggestions have been proposed that in an aging society, population-related policies should change the “traditional (often with a demographic target)” mindset, and making institutional change which is adapted to population changes (such as Hu & Peng, 2020).

China has just formulated the 14th Five-Year Plan (2021–25), which proposes to implement a national strategy of proactive response to population aging, including reducing the burden of childbearing, childrearing and children's education, improving the policy system to support child care services and early childhood development, and improving the old-age care service system. Socioeconomic development and public policies, including but not only population and family planning policies, have played important roles together during demographic transition in China, public policies especially family-related policies will also have an important role to play in the new era.

Declarations

Conflict of interest The author declares there is no conflict of interest.

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