

The Dynamic Relationship Between Sex Preference of Children and Sex Ratio at Birth in China: 1979-2017

Jiawei Hou¹, Baochang Gu², Yinfeng Zhang³

Sex ratio at birth (SRB) is a basic indicator reflecting the gender equality at the beginning of life. According to the survey data of the National Bureau of Statistics of China, the sex ratio at birth in 1982 was 108.5, which was beyond the normal range and has been rising since then. Although the SRB began to decline after 2008, from 120.6 in 2008 to 112.6 in 2015, it has not yet returned to the normal range.

Over the course of changing trend of SRB in China, was the son preference intensified or weakened, or was intensified first and then weakened? How to explain that son preference has been weakening, but the SRB is still on rise? The present study found that from 1979 to 2017, at any point of time, the son preference was stronger than the daughter preference. However, both son and daughter preferences have been weakening, and the cultural atmosphere of the whole society has been also changing from sex preference to no preference. Nevertheless, due to the difference in the speed of weakening in preference for sons and for daughters, it made the SRB went up first with slower weakening of son preference than that of daughter preference in the 1990s, and the same way went around in the 2000s. This changing process is influenced by the “relative strength effect” between son preference and daughter preference, which means the direction and speed of the relative change of the numerator and the denominator will lead to either increase or decrease of the relative strength of SRB. The perception on SRB is likely affected by an “anchoring effect”. The decrease and increase of “relative strength” is just like the “anchor”, and thus people often think that the change of numerator is the same as that of the relative number.

1. The changing trend of son preference

Based on the cross-temporal meta-analysis of 152 survey results, the proportion of ideal number of sons and daughters in China shows a significant downward trend, as shown in Figure 1, which indicates that people's preference for their children's sex is weakened to varying degrees. Even in rural areas where the SRB is high, the proportion of ideal number of son is decreasing, as shown in Figure 2.

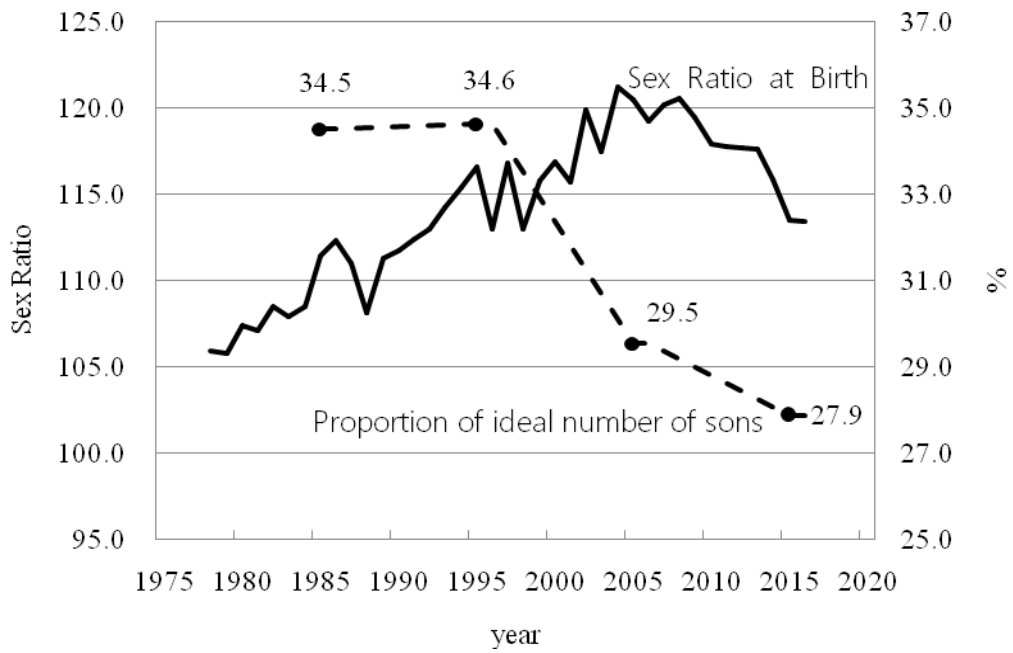


Figure 1 Proportion of ideal number of sons and SRB

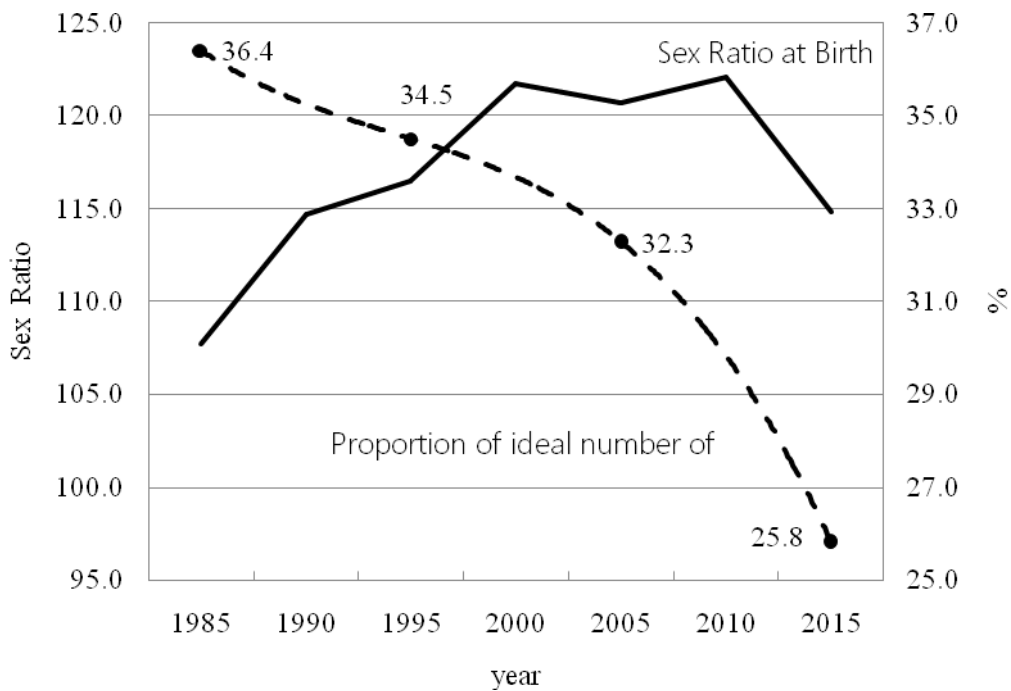


Figure 2 Proportion of ideal number of sons and SRB

2. The trend and decomposition of the ideal sex ratio of children

Since 1979, the ideal sex ratio of children has risen first and then declined. The average ideal sex ratio of children rose from 107.3 in 1979-1989 to 113.6 in 2000-2009, and fell back to 100.2 in 2010-2017, which was very close to the 100 that

indicates equality between men and women.

Above all, the ideal number and proportion of sons and daughters in china significantly declined. But why is the ideal sex ratio of children rising first and then falling? The key point to reveal the relationship between the sex preference for children and the ideal sex ratio of children is that the ideal sex ratio of children is “ratio”, that is, the decrease or increase of relative number is determined by both the numerator and the denominator. For example, if the numerator increases and the denominator decreases, the ratio will increase. Affected by the “anchoring effect”, when the ideal sex ratio of children and SRB increase, we often think that the son preference is stronger or the daughter preference is weakened .In fact, the change direction of the numerator and the denominator is not necessarily reversed, and there is also consistency. For example, when the numerator and the denominator decrease simultaneously, but the decline speed is not the same, the ratio will increase or decrease. The change in the ideal sex ratio of children coincides with this situation, which indicates that the "relative number fluctuation effect" objectively exists.

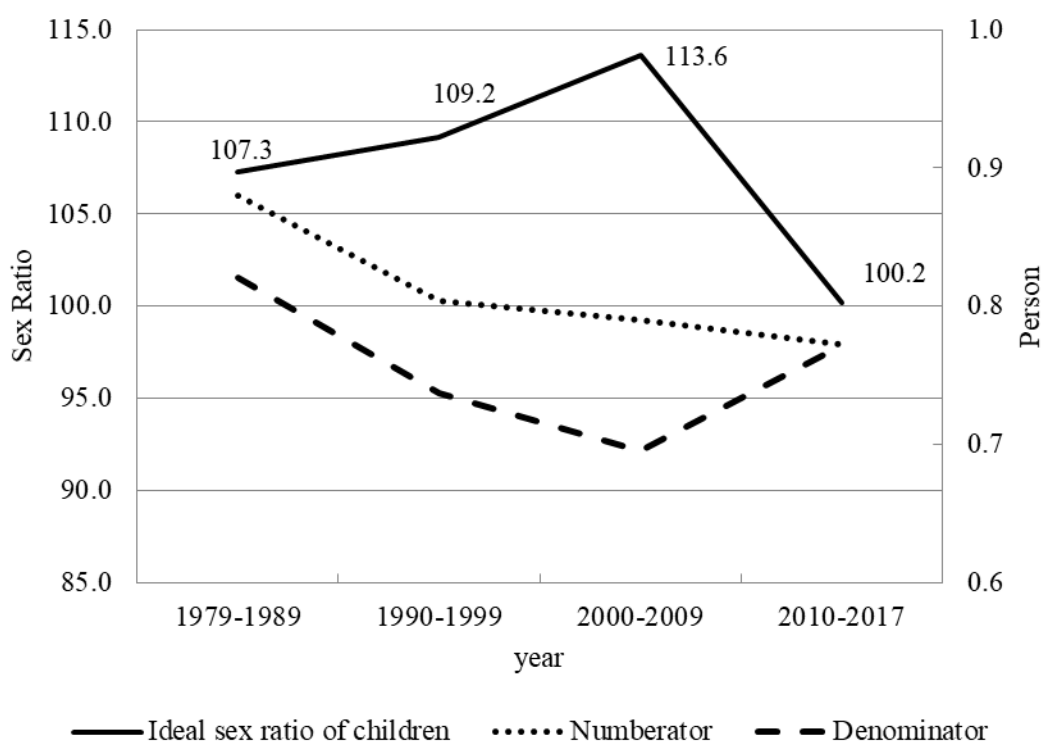


Figure 3 Numerator, denominator and the ideal sex ratio of children

3. “Relative number fluctuation effect” of SRB

The SRB also shows the “relative number fluctuation effect”. Table 1 shows that from 1990 to 2000, the decrease speed of male birth population was slower than that of female, and the same way from 2000 to 2005, that is, numerator reduction is slower than the denominator, which resulted in the increasing trend of SRB. From 2005 to 2010, the decrease speed of male birth population is faster than that of female, that is, the numerator reduction is faster than the denominator, resulting in the decreasing trend of SRB. From 2010 to 2015, the numerator-male birth population is still decreasing, while the denominator-female birth population has increased slightly, which then resulted in the obvious decreasing trend of SRB.

Table 1 Number of birth population by sex

	Births		Increase rate		SRB
	Male	Female	Male	Female	
1990	12969084	11655803			111.3
2000	7606007	6508529	-0.414	-0.442	116.9
2005	7557811	6373132	-0.006	-0.021	118.6
2010	7487489	6348698	-0.009	-0.004	117.9
2015	7275355	6461742	-0.028	0.018	112.6

4. Conclusion and Discussion

The SRB is the key point of the population structure, and it is also the direct reflection of gender equality at the beginning of life. In the past, people tend to attribute the increase in the sex ratio at birth to the “boy preference”, however, it is the result of “anchoring effect”. This study attempted to use the cross-temporal meta-analysis, combined with the National Bureau of Statistics data, to re-examine the trends of son preference, ideal sex ratio of children, and SRB from a dynamic and relative perspective.

Firstly, a comprehensive analysis based on 152 survey results shows that since 1979, boy preference has shown a significant weakening trend, and Chinese society has been quietly shifting from sex preference to no sex preference.

Secondly, from 1979 to 2017, the ideal sex ratio of children in China experienced a process that rising first and then falling, showing a “relative number fluctuation effect”.

Thirdly, in the declining process of fertility rate, both male and female births are decreasing. In the early stage, the decrease speed of female births was faster than that of male, which led to an increase in the SRB. Then the decrease speed of female births was slower than that of male, eliciting a decrease in the SRB. The male births continued to decrease whereas the female births was slightly increased, resulting in a decline in the SRB.

After the reform and opening up, urbanization has become a prominent representation of the rapid changes and transformation of Chinese society. Urbanization has greatly promoted the transformation of Chinese society from a traditional society to a modern society, and has also enabled more and more people to migrate into urban areas from rural areas. This inevitably lead to fundamental changes in people's means of livelihood and lifestyle, and influence people's ideas and behaviors, including people's sex preference for children. People naturally reduce the ideal number of sons and daughters, so that the sex preferences are virtually weakened. Accordingly, "selective birth" is no longer an important or primary consideration for people's reproductive behavior.

1. Central University of Finance and Economics, Beijing, China.
2. Renmin University of China, Beijing, China.
3. Tianjin Academy of Social Sciences, Tianjin, China.