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Seeing is believing- can increasing the number of female leaders reduce sex selection in rural India?

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ABSTRACT

Cultural values regarding gender roles encourage gender discrimination and the practice of sex selection. Increasing political and work force participation of women challenges such norms. Exploiting the implementation of an Indian law that required one-third of local political seats to be reserved for women, I investigate the impact of female leadership on sex selection in rural India. I find an increase in the survival of higher birth order girls if political seats at the local level have been reserved for women. I argue that the likely underlying mechanism is a change in beliefs due to exposure to female leaders.

1. Introduction

Sex selection has been linked to skewed sex ratios in several Asian countries.[1] Although the normal child sex ratio is considered to be 105 boys per 100 girls, the 2011 Indian census revealed that this ratio was 109 boys per 100 girls in India. Methods to control the sex of a child range from sex-selective abortions to infanticide and neglect which results in death of a female child (Das Gupta et al., 2003).[2] The Indian government's legislative efforts to curb the practice of sex selection have been largely ineffective. Despite a 1996 ban on prenatal sex detection by ultrasound, the sex ratio at birth in India has tended to skew more male since 1980 (Arnold et al., 2002).

While improved enforcement of the ban might succeed in reducing sex ratios, such a policy could have unwanted consequences. Research suggests that in countries with a preference for boys, prenatal sex selection may be a substitute for forms of postnatal discrimination such as infanticide, malnourishment, and an overall lower level of investment in female children (Kalsi, 2015; Lin et al., 2014). Given the issue of substitution across forms of discrimination, policies aimed at reducing the demand for boys by targeting the underlying son preference are preferable to policies that restrict the supply of sex selection technologies. In this paper, I explore whether improving the status of women within society could reduce son preference.

I take advantage of a 1993 amendment to India's constitution, which established a three-tier system of rural governing local bodies (Panchayats) within each state. States were required to develop Panchayats at the village, the block, and the district level. The law also required that these newly developed Panchayats reserve one-third of all political positions, including those of chairpersons, for women. As a result, a state's adoption of the law led to a drastic increase in female political representation at local levels within the state.

Increased female political representation has been shown to improve the status of female constituents. For instance, female political reservations have been linked to an increased likelihood that a woman will be elected in the future (Beaman et al., 2009) and that a woman will speak at a political meeting (Beaman et al., 2010). Moreover, parents have been shown to report higher aspirations for their daughters after being exposed to female leaders (Beaman et al., 2012). Recent work has also linked reservations of political seats for women to increased reporting of crime against women (Iyer et al., 2012) and increased establishment of female-owned businesses in the informal sector (Ghani et al., 2014). I extend the literature by investigating if increased female representation improves the desirability of a daughter and thus reduces sex selection in rural India.

However, improved status of females is not the only mechanism through which female leadership could alter sex ratios. Research has shown that female political involvement shifts policymaking towards increased investment in goods preferred by women (Beaman et al., 2010; Chattopadhyay and Duflo, 2004); although, this finding does not extend to South Indian states, where gender disparity is of lesser

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[1] See Anderson and Ray (2010), Das Gupta (1987), Goodkind (1996), Lin et al. (2014), and Qian (2008).

[2] Appendix B summarizes the historical context of the availability of sex-selective abortions in India.

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concern (Ban and Rao, 2008). Additional evidence indicates that health is also an area where female leaders invest more than their male peers (Bhalotra and Clots-Figueras, 2014). Taken together, these studies suggest that female leaders may invest differently in fertility and health services, which in turn could affect sex ratios. In this paper, I establish a link between female leadership and reduced sex selection in rural India. I argue that the mechanism is increased status of women and not differential investments made by women politicians.

Similar to Iyer et al. (2012) and Ghani et al. (2014), the methodology used in this paper also relies on the timing of state-level implementation of female political seat reservations. Exploiting variation both in the timing of when a state had its first Panchayat elections (effectively the first time seats for women were reserved) and in the birth order of children, I estimate a difference-in-differences (DD) model. The model investigates birth order-specific effects because sex selection is known to increase disproportionately at higher birth orders.[3] Prior to female seat reservations, my sample consists of 117 boys per 100 girls at birth orders 3 and greater, 107 boys per 100 girls at the second birth order, and 106 boys per 100 girls at the first birth order. I find that higher birth order children born in rural India following a Panchayat election that reserved seats for women are less likely to be male, while there is no evidence that sex ratios changed for second and first-born children. The estimates imply that post-reservations, there are between 6 to 12 fewer boys per 100 girls at birth orders 3 and greater in rural India. These effects are large and imply an increased survival of approximately 900,000 to 1,800,000 high birth order girls over the course of the study.

By investigating child death rates, I test whether the underlying mechanism is that changes in health services disproportionately favored highest birth order girls. I do not find that high birth order girls, amongst children who have survived infancy, have different survival rates during early childhood than girls in general, suggesting that health services remained constant across birth orders. I also test the claim that female leaders directly reduced sex selection fertility services by investigating the impact of female reservations on sex ratios across different socioeconomic statuses. Studies have shown that the use of sex selective abortions is most common amongst more educated women, and less educated women do not appear to rely on abortions as a method of sex selection (Jha et al., 2011; Pörtner, 2016). Thus, restriction of fertility services should more directly impact more educated women. I find that the effects in this paper are strongest for poor and illiterate women, suggesting that the restriction of fertility services likely does not explain the results. Rather, because the least educated women do not rely on abortion as a means to sex select, the reduction in sex ratios documented in this paper is likely driven by increased survival of high birth order girls.

While the main analysis in the paper exploits state-level variation in the timing associated with an increased total level of female leadership within a state, I also investigate if female headship at the district-level Panchayat explains the reduction in high birth order sex ratios in rural areas. I find that the effect is not explained by female headship at the district-level Panchayat, suggesting that female leadership at lower-level Panchayats (the village or the block level) is likely driving the results. Surprisingly, however, I also find that female headship at the district level reduces high birth order sex ratios in the urban population within the district. This is unexpected as the amendment affects local-level government for rural, and not urban, India. I argue that there are reasons to believe that exposure to district-level women leaders is more prominent in urban towns due to the location of district-level offices and media exposure. Consistent with exposure to women leaders being the mechanism, I find that seat reservations for women at the district-level Panchayat decreases the high birth order ratio of boys in areas where exposure to district Panchayat leaders is arguably high, but not in the areas where the Panchayats target their goods and services.

This paper begins with an overview of the policy change in Section 2.1. The timing of when states in the sample have an election is explicitly discussed, and the choice of states in the most preferred sample is explained in Section 2.2. The data sets are explained in Section 3, and Section 4 provides summary statistics. The methodology relies on variation in the timing around when a state has a relevant election reserving seats for women and the birth order of children; the corresponding estimating equation is introduced in Section 5. Section 6 presents the main results. Various robustness checks are reviewed in Section 7. Section 8 explores possible mechanisms consistent with the results. Section 9 concludes.

2. Background

2.1. Historical context of the 73rd amendment

Prior to the adoption of the 73rd and the 74th Amendments, states were the smallest units of government recognized by the Indian constitution.[4] The 73rd Amendment decentralized government in rural India, while the 74th Amendment did so in urban India. The amendments were a response to a public debate over the national government's failure to deliver public services, infrastructure, and alleviate poverty. There was a general consensus among politicians that devolving powers to the local level was the solution (Chaudhuri, 2003). Earlier incarnations of the legislation were defeated because the states did not have enough discretion in the implementation of the bill (Chaudhuri, 2003). Allowing states flexibility in design and implementation, the 73rd and the 74th Amendments were re-introduced in the Parliament and were eventually passed in December of 1992. The 73rd Amendment went into effect in April of 1993, whereas the 74th Amendment went into effect in June of 1993 (Chaudhuri, 2003). This paper exploits the implementation of the 73rd Amendment, and hence focuses on rural India.

The 73rd Amendment established a pyramid structure for a three-tiered local rural government, with the village-level Panchayat at the base. The Gram Sabha, or the people, elect members of the village Panchayat and also help to hold elected members accountable and ensure funds are being used properly. The block-level Panchayats are next up in the hierarchy of local Panchayats, and they provide the link between the village and the district-level Panchayats. The district Panchayat provides a direct link between the state and local governments. A graphic representation of the structure of local government in rural India is shown in Fig. A1 of the Appendix. The task of the new local government bodies was to implement development plans based on local needs of rural areas. Responsibilities included land improvement, infrastructural and ecological development, poverty alleviation, and development of women, children, and individuals of historically disadvantaged castes.

The 73rd Amendment included both mandatory and discretionary provisions. The mandatory provisions called for the establishment of local Panchayats at the village, the block, and the district levels. Further requirements were direct elections, mandatory every 5 years, for Panchayats at all three levels. One-third of total seats, including those of chairpersons, were to be reserved for women at Panchayats at all three levels. Note that the law did not require reservations at any state level branch of government, but only at the three tiers of the Panchayat Raj Institutions within the state. However, states had elections that reserved seats for women at all three levels at the same time. Thus, timing of state-level election refers to the timing of increased female political representation at the three Panchayat levels within the state.

[3] Chu (2001), Ebenstein (2007), Lin et al. (2014), and Kalsi (2015) also report that sex selection is greatest for higher birth orders. Das Gupta (1987) provides evidence that higher birth order girls are more discriminated against in rural Punjab, India.

[4] This section draws heavily from Chaudhuri (2003) and Vyasulu and Vyasulu (1999).