Son preference and sex choice: evidence from immigrants to Canada

Looking at sex selection among Asian immigrants to rich countries makes it possible to disentangle the economic and cultural motives for 'son preference'. *Doug Almond* finds significant differences in sex ratios arising from differences in parents' religion.

The last decades have seen high and rising male sex ratios at birth in a number of Asian countries, notably India and China. In China, more than 120 boys were born per 100 girls in 2005 (Li, 2007). Initial claims that the sex ratio was driven by some unknown racial specificity of Chinese people have given way to recognition that daughters are being 'deselected' (Scharping, 2003).

Sex ratios in India are not quite as stark, but show a steadily increasing trend. According to the 2001 census, there were 108 boys per 100 girls in the 0-6 age group, up from 105.8 in the 1991 census.

High and rising sex ratios raise the question of what causes parents to select sons. One set of arguments emphasises socio-economic and institutional factors. In the absence of savings or pensions, the poor rely heavily on children for support in old age, a task that under patriarchal norms falls on sons (Chung and Das Gupta, 2007). For India, it has been argued that high and rising dowry payments place families with daughters at a disadvantage, and even that families depend on males for physical protection (Oldenburg, 1992).

But in both India and China, the sex ratios are the highest in the richest areas, casting doubt on sex choice being the result of economic necessity alone. For example, according to the 2001 census, Punjab, one of the richest Indian states, had 125 boys per 100 girls in the 0-6 age group.

Another strand of explanations stresses the cultural value attached to a male offspring. According to Hindu tradition, only a son can light a man's funeral pyre. Similar beliefs characterise Chinese traditions, where lineage is traced solely through the male. Failure to produce a son is considered tantamount to 'extinction' of the family line, a grave affront to Confucian values, which emphasise filial piety and ancestral worship.

With communism, Confucianism lost its status as state-sanctioned doctrine, but its continued relevance is evident in the current Chinese law on population and birth, which states that it is 'forbidden to discriminate against or mistreat women who give birth to female infants and women who do not give birth. It is forbidden to discriminate against, mistreat, or abandon female infants.'

For brevity, let us refer to the two motives as the economic and the cultural. If the economic motive were the predominant reason why parents practice sex selection, then we would expect the practice to fade as India and China continue on their path of economic growth. If on the other hand, the cultural motive is important, it is less clear why economic development would change son preference or sex selection.

The relative importance of these two factors is hard to disentangle. But by studying Asian immigrants to Canada where the economic motives favouring sons in the host country are arguably not operative, we hope to shed some light on the issue.

Before describing our study, note the two principal ways to achieve a son: parents may continue childbearing until a son is born or they may practice sex selection. The two methods obviously have different implications for the number of surviving offspring and their sex ratio.

The first method is commonly referred to as a 'stopping rule', and as such does not imply abnormal sex ratios. The number of observed children is higher, since daughters are not suppressed. Lower desired fertility, for example, from a higher opportunity cost of mothers' time, is one mechanism through which economic development could reduce the attractiveness of this method.

Sex selection means that sons can be achieved at lower fertility, and pre-natal sex determination combined with elective abortion has drastically reduced the physiological cost of this choice. Whether it also reduces the moral cost may be culture-specific. While the high sex ratios in China at birth have drawn attention to pre-natal 'deselection' of daughters, the cause is often attributed to the desire to bear a son in Chinese society.

The possibility that the moral cost of sex selection may also vary across cultures has received far less attention. But whereas the abortion of a female foetus because of her sex may be deemed regrettable but understandable in some societies, it would be judged much more harshly in others, including by those otherwise wedded to abortion on demand.

We consider sex ratios among South and South East Asian immigrants to Canada using the 2001 and 2006 censuses. Canadian immigrants offer an interesting case for several reasons. Many of the socio-economic and institutional factors advanced to explain high sex ratios in India and China are not 'portable' to Canada, to use the terminology of Fernandez and Fogli (2009).

Canada is a rich OECD country with extensive welfare provisions, so that poverty and the need to rely on sons for support in old age are less likely to be a factor. Most family heads are admitted based on a points system or through 'investor' or 'entrepreneur' provisions, further ensuring low rates of poverty among immigrants.

Given the large income differences between Canada and India, a daughter's dowry would not be onerous (should it be required). Moreover, the role of land, to pass on or to farm, is likely to be limited since recent immigrants have been decidedly urban, vocationally and locationally.

The economic opportunities for sons and daughters are similar in Canada. International comparisons of crime rates are difficult due to variation in definitions, but homicide rates are lower than in the United States and the

need for physical protection through sons is likely to be minimal. Another advantage of the Canadian setting is that there is obviously no one-child policy to heed.

What Canada does share with India and China is access to technology for pre-natal sex selection and a liberal abortion policy. In fact, Canadian abortion law is among the most permissive in the West. Moreover, abortion procedures are covered by public health insurance with no co-payments, rendering the monetary cost of an abortion negligible.

As Figure 1 shows, sex ratios are abnormally large at higher parities if previous children have been all girls, confirming patterns documented for immigrants from India, China, Korea and Taiwan to the United States and the UK. Unlike US census data, however, we can go further to study assimilation across generations. And there is information on religion, providing an additional insight into the role of culture.

We find higher sex ratios among first generation immigrants who arrived in adulthood. Moreover, while first generation immigrants exhibited higher sex ratios at third parity, they also seem more willing to continue to a third birth than second generation immigrants. Second generation immigrants do not appear to use the family size channel, but we cannot reject the possibility that they practice sex selection to achieve sons.

Perhaps our most striking finding concerns (self-declared) religion. Religion is interesting because while no religion condones infanticide (traditionally, the main method of sex selection), Christianity and Islam feature strong prohibitions, whereas other religions are silent on the topic.

We find high sex ratios to be entirely driven by immigrants who are neither Christian nor Muslim, the highest sex ratio being found for Sikhs. For this group, there are more than two boys per girl for the third child if the two older children were girls, implying a sex ratio that is 100% above normal.

By contrast, Asian immigrants who are Christian or Muslim (mainly from Pakistan, Bangladesh, the Philippines and Hong Kong) exhibit normal sex ratios, irrespective of parity and sex mix of previous children. This finding resonates with research indicating that Christian South Koreans are much less likely to practice sex-selective abortions than Confucians or Buddhists (Chung, 2007).

The absence of skewed sex ratios could mirror an absence of sex preference among Christians and Muslims, but that does not appear to be the case. Christian or Muslim parents were about five percentage points more likely to continue to a third child if the first two were girls, suggesting that the explicit bans on post-natal sex selection (infanticide) in these religions may also protect the unborn girl against pre-natal sex selection.

This article summarises 'O Sister, Where Art Thou? The Role of Son Preference and Sex Choice: Evidence from Immigrants to Canada' by Doug Almond, Lena Edlund and Kevin Milligan (http://www.nber.org/papers/w15391)

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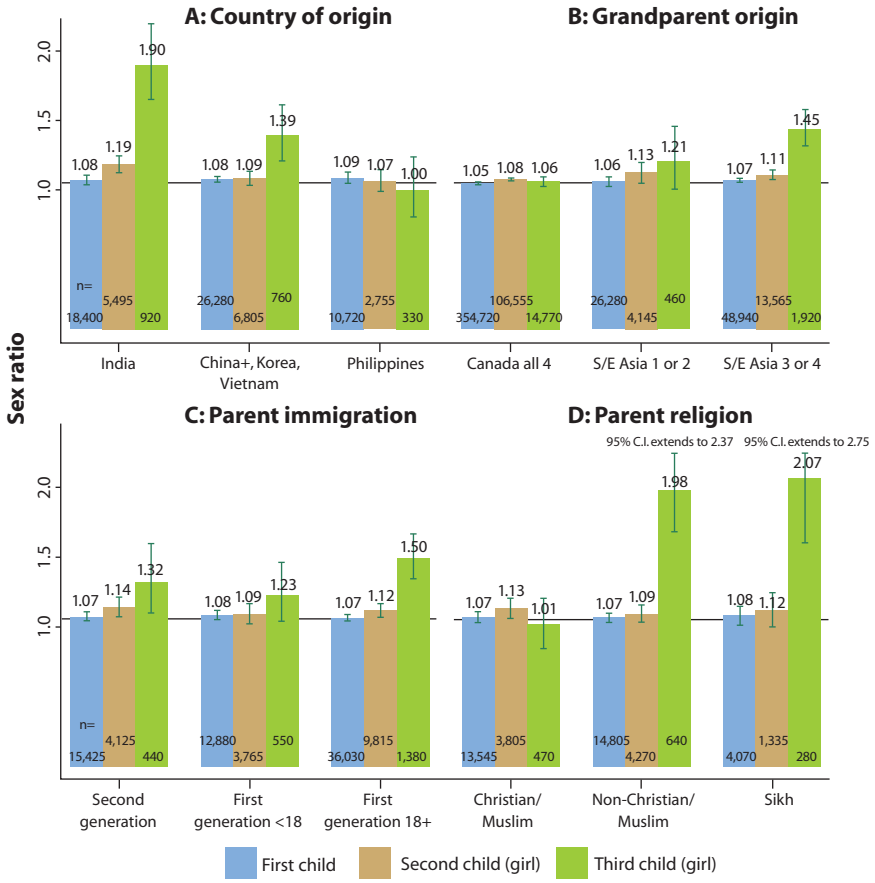
Figure 1: Sex ratios at birth among immigrants to Canada



Further reading

Woojin Chung (2007) 'The Relation of Son Preference and Religion to Induced Abortion: The Case of South Korea', *Journal of Biosocial Science* 39: 707-19

Woojin Chung and Monica Das Gupta (2007) 'The Decline of Son Preference in South Korea: The Roles of Development and Public Policy', *Population and Development Review* 33(4): 757-83

Raquel Fernandez and Alessandra Fogli (2009) 'Culture: An Empirical Investigation of Beliefs, Work, and Fertility', *American Economic Journal: Macroeconomics* 1(1): 146-77

Philip Oldenburg (1992) 'Sex Ratio, Son Preference and Violence in India: A Research Note', *Economic and Political Weekly* December 5-12: 2657-62

Thomas Scharping (2003) *Birth Control in China, 1949-2000: Population Policy and Demographic Development*, Routledge

Shuzhuo Li (2007) 'Imbalanced Sex Ratio at Birth and Comprehensive Intervention in China', paper presented at the fourth Asia Pacific Conference on Reproductive and Sexual Health and Rights, October 29-31, Hyderabad, India (http://www.unfpa.org/gender/docs/studies/china.pdf)