

# The Decline of Son Preference in South Korea: The Roles of Development and Public Policy

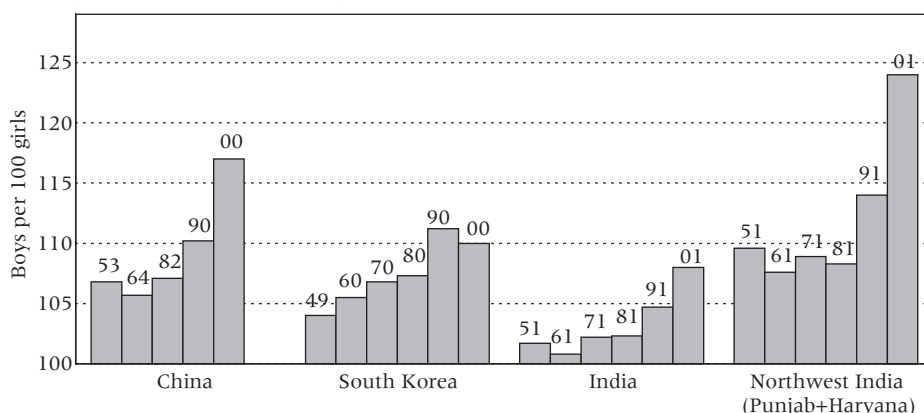
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ACROSS EAST ASIA and much of South Asia, child sex ratios have become more masculine in recent decades despite economic and social development and government efforts to induce parents to value daughters as highly as sons (Das Gupta et al. 2003, 2004). Figure 1 plots the trends in child sex ratios (the number of boys per 100 girls) in China, South Korea, and India since the 1950s. Only in Mao's China and in North Korea has public policy demonstrably helped normalize national child sex ratios. In both settings an ideology of gender equity backed up by collectivization and control over private lives sharply reduced the scope for households to prioritize resource allocation among their members.<sup>1</sup> More acceptable ways of reducing son preference are needed.

Until a few years ago, South Korea appeared to epitomize the pattern of rising sex ratios despite rapid development. Dramatic increases occurred in the country's levels of education, industrialization, and urbanization, as well as in women's education and participation in the formal labor force (see Table 1). By the mid-1990s, South Korea was officially included as a member of the developed countries' club, the OECD. Yet sex ratios at birth rose steeply during this period.<sup>2</sup>

This rise in sex ratios flew in the face of more than a century of social science theory. Early theorists focused on the profound cultural and behavioral implications of the shift from preindustrial to industrial economic organization.<sup>3</sup> Essentially, this involved a shift from localized communities bound by religious and other traditions to more complex and impersonal social groupings characterized by contractual associations. Accompanying

**FIGURE 1 Juvenile (0–4-year) sex ratios in China, South Korea, India, and Northwest India, 1950–2000**

NOTES: The numbers above the bars indicate the year in which the census was taken. The data for India are for the age group 0–6.

SOURCES: Official national censuses for each country.

this change was a shift whereby a person's social status derived less from "ascription" based on characteristics such as family of birth and more from individual achievement. Later theorists argued that "modern" societies and individuals are motivated by the pursuit of innovation and rationality, rather

**TABLE 1 Changes in levels of education and urbanization, South Korea, 1975–2000**

	1975	1980	1985	1990	1995	2000
<b>Women's education<sup>a</sup></b>						
Elementary school or less	77.1	67.0	54.1	43.0	35.0	30.4
Junior high school completed	12.1	16.5	20.5	20.3	17.1	14.3
Senior high school completed	8.4	12.9	20.2	28.4	34.8	37.3
College completed or more	2.4	3.6	5.2	8.3	13.1	18.0
<b>Men's education<sup>a</sup></b>						
Elementary school or less	53.1	42.8	31.9	23.3	17.8	15.1
Junior high school completed	17.7	19.8	20.5	17.6	14.2	12.3
Senior high school completed	19.7	25.4	32.1	38.9	41.4	41.6
College completed or more	9.5	12.0	15.5	20.1	26.6	31.0
<b>Other development indicators</b>						
% living in urban areas	50.9	68.7	74.3	81.9	86.7	88.4
% GDP from agriculture, fishery, and forestry	27.1	16.2	13.5	8.9	6.3	4.9
Female labor force participation rate (%)	—	42.8	41.9	47.0	48.4	48.8

<sup>a</sup>Highest level of education completed by women and men aged 25 and older.

SOURCE: Korea National Statistical Office 2006.

than adherence to tradition (e.g., McClelland 1961; Inkeles and Smith 1974). Increases in women's education and labor force participation were expected to reduce gender inequalities in intrahousehold allocation of resources. Yet, in the face of sweeping social and economic change in the late twentieth century, son preference remained high in South Korea.

Since the mid-1990s, however, sex ratios at birth in South Korea have steadily declined, setting a precedent in Asia. What light does the South Korean experience shed on the relationship between development and son preference? Further, what are the implications of the South Korean experience for trends in other countries such as China and India, and what policies might help reduce son preference there? Will those countries have to wait until they are as highly developed as South Korea before child sex ratios begin to normalize?

To understand the relationship between development and son preference, we need to clarify two distinctions in theory and practice. First, sociological theory indicates that economic development brings about normative and behavioral changes primarily at a societal rather than an individual level. Analysts of the diffusion of innovations have pointed out that new ideas are first adopted by those who are most exposed to new information, and then spread rapidly through a population (e.g., Rogers 1962; Granovetter 1978). Yet most analyses of son preference have focused on correlating individuals' characteristics with measures of their son preference, and therefore fail to capture the more important effects of underlying secular trends in a population. This may help explain why the literature shows mixed evidence that development mitigates son preference in Asia (Croll 2000).

A second point is the distinction between the intensity of son preference felt by people and its actual manifestation in sex ratios. Most studies focus on the latter.<sup>4</sup> These two phenomena can sometimes move in opposite directions, as in South Korea during 1985–95 when social norms regarding son preference were weakening yet new technologies were making it easier to manipulate the sex ratio at birth (Figures 2 and 3). The same applies as better technologies become available for ensuring child survival after birth, since parents can use such technology more assiduously for boys than for girls. Moreover, because more highly educated women are typically better able to access and implement these new technologies, studies can even appear to suggest that gender disparities among children can be worsened by development, and even by improvements in the position of women.<sup>5</sup>

We use these two distinctions to inform our analysis of the relationship between development and son preference in South Korea. Our analysis is facilitated by the fact that South Korean fertility surveys ask women about their underlying son preference. The usual practice in fertility surveys is to

ask respondents about their preferred number and sex composition of children. The Korean surveys ask respondents whether they feel it is imperative to bear a son. This question provides a measure of the underlying intensity of son preference. We analyze not only the individual-level characteristics correlated with this variable but also the secular trends in this variable. Throughout our analysis, we use the term “son preference” to refer to the underlying son preference, and not its manifestation in actual births.

### **Factors underlying son preference and forces of change**

The cultural underpinnings of son preference in South Korea arose from centuries of social engineering designed to make Korea a strong authoritarian state. These underpinnings have been reshaped by development and by public policies since the 1950s.

#### **The roots of son preference in Korea**

The patriarchal family system that underlies son preference in Korea was introduced through rigorous social engineering during the early and middle Choson dynasty (which lasted from 1392 to 1910). It replaced a much more bilateral family system, in which a couple might live with either the wife’s or the husband’s family, and in which both male and female offspring could inherit their parents’ property (Deuchler 1992: 80–81).

Deuchler (1992, 2003) describes this transformation of the dominant kinship system in Korea. The system was central to a neo-Confucian strategy of building a strong authoritarian state, borrowing heavily from readings of Chinese Confucian texts. These neo-Confucians believed that Buddhism, with its emphasis on individual self-realization and salvation, detracted from loyalty to the family and state. They sought to replace Buddhism with a tightly structured system of kinship and political relations designed to promote stability and loyalty to a series of corporate groups—the household, lineage, and state—underpinned by prescribed rituals.

At the core was a rigidly patrilineal kinship system, which detailed the roles and status of each member of a household and lineage, under the unchallenged authority of the male head of the family. These authoritarian kinship relations were mirrored through the political hierarchy, culminating in obeisance to the king.

Neo-Confucianism not only masculinized the public sphere..., but also established the family as the proto-typical metaphor of social relations among individuals and groups. (Moon 2002: 478)

Social organization was tied together by a threefold mechanism: the domestic sphere, represented by the wife, was subordinated to the public sphere, represented by the father and son, they in turn were the sovereign's subjects. (Deuchler 1992: 111)

Ancestor worship was strenuously promoted as a means of strengthening corporate bonds within the family and the lineage (Deuchler 1992: 133). This ensured that people sought not merely to ensure the welfare of current family members, but to ensure the well-being of generations of their ancestors through specified ritual practices, and to bear sons to ensure that the corporate group continued to endure in future generations. Over several centuries, the neo-Confucians and the Department of Rites refined the details of this patriarchal authoritarian regime and fought relentlessly against the survival of traces of the bilateral system of kinship.

Strong supernatural sanctions ensured conformity to Confucian rules. Kendall (1984) describes beliefs in ancestors and ghosts in rural Korea in the 1980s, and indicates how these beliefs generated pressure to conform to the needs of the corporate group (see also Janelli and Janelli 1982). Ancestors who bore sons and were cared for by their agnatic (male-line) descendants could be a benign influence on their family. But these ancestors could also be restless and dangerous if they died with unfulfilled desires, such as the wish to see their grandsons. Those who died unmarried or without male descendants were filled with resentment and could create problems for their siblings and other kin. A wide range of family members exerted pressure to ensure that each individual performed the filial duties of marrying and bearing sons quickly and caring for his or her ancestors.

This was a highly ascriptive system. Access to political power and to the economic and social assets of the lineage was regulated through one's position in the lineage. Appointments to government office depended on passing examinations, but candidates were only eligible to sit for the examinations if they had the right position in a noble *yangban* lineage (Deuchler 1992: 297; see also Lee 1984; United States 1990). State sanctions reinforced lineage rules: for example, the sons and grandsons of widows who defied the ban on widow remarriage were not allowed to take the civil service examinations.

Lineages formed part of larger superordinate lineages of increasing size and generational depth, which are sometimes referred to as "clans" in Korea.<sup>6</sup> Many villages had a dominant lineage to which the majority of men belonged. It was common for lineages to hold some joint property, which was used to support ancestor worship rituals and to help lineage members in need. Lineage members interacted frequently in the context of daily life and specified rituals, and offered mutual support and mutual supervision:

“the *p'a* [lineage] performed many of the social services on the local level that are now provided by public schools, police, and social welfare agencies” (United States 1990).

Lineage membership thus determined much of a person's life chances. Genealogies were carefully maintained, showing the exact nature of each male member's relationship to the lineage. The lineage was continued through the line of the eldest son in each generation, and other sons in each generation would start their own sub-lineages. This meant that the eldest son had the burden of caring for all male ancestors, and it was especially important for him to bear a son to continue the male descent line.

Women were severely marginalized by these strict rules of patrilineal kinship and inheritance, which placed the father and son in the public sphere and relegated women to the domestic sphere. Strict rules of lineage exogamy meant that wives would be outsiders in their husband's village: as a result, women were socially isolated while men were surrounded by networks of social support. At the time of marriage, a woman and her unborn children were formally transferred to her husband's family: only sons could care for their parents in this life and in their afterlife. A woman's primary duty was to bear sons for her husband's lineage.

### State policies reinforcing patriarchy, since the 1950s

Between the 1950s and the establishment of democracy in 1987, the Korean state sought to reinforce Confucian traditions in order to maintain social and political stability under a series of authoritarian governments. The rules of patrilineal social organization were formally legalized into the Korean Civil Code in 1958, in provisions also referred to as the Family Law. These provisions stipulated, for example, that family headship must be held by men in the line of the eldest son, that inheritance should be through the male line, that men must marry outside their lineage, that women should be transferred to their husband's family register upon marriage, and that children belong to the father's lineage even in the case of divorce.

From the 1960s onward, successive governments in Korea used their authoritarian power to effect rapid economic development through several highly directed initiatives. Promoting the traditional principles of loyalty to the ruler and filial piety, they largely freed themselves from the need to cater to competing constituencies. There was active repression of citizen demands for democracy and of trade union activity not approved by the military regimes, and calls for greater gender equity were mainly ignored (Moon 2002).

This suppression of competing constituencies enabled rulers to channel national resources toward rapid industrialization. Wages were kept low to

permit high levels of investment in industrial growth and to keep Korean exports competitively priced. For similar reasons, state expenditures on social welfare were curtailed. As late as 1989, when the country was just a few years away from becoming a member of the OECD, the government emphasized that families would continue to be primarily responsible for the social welfare of their members (Moon 2002: 483). The state encouraged offspring to support their parents through passage of a variety of measures, including tax breaks, housing loans, filial piety awards, and the annual observance of an "Old Age Day" (Prendergast 2005). This meant that women continued to bear the burden of caring for the young, the old, the sick, and the disabled.

To use women most effectively for national development, the government encouraged them to enter the labor force, where they worked primarily in low-paid jobs in factories and offices. Women were expected to leave work when they married and to return to work—often in the informal sector in sales and services—once their households needed them less (Choe and Park 2006). More recently, trends have seen greater employment of women in professional positions and women remaining in the labor market after marriage (Das Gupta et al. 2004).

Women's organizations were established by the state as part of national development drives. For example, the New Village Women's Association and Mothers' Clubs were established in the 1960s to implement state policies of population control and economic development, as well as to inculcate political loyalty (Moon 2002: 489; see also Whang 1981). Some spontaneous women's movements have pressed for greater gender equity and especially for reforms of the Family Law; however, these had limited success before democratization. In 1990 the Family Law underwent major reform, but as noted above the government was at that time still highly committed to maintaining traditional family roles (Kim 1991; Das Gupta et al. 2004). Therefore the system of male family headship was retained, leaving women in a subordinate position.

Koreans increasingly questioned the relevance of these traditions for organizing their lives. The women's movement gained momentum along with the success of civil society movements demanding an end to military rule, and it was successful in obtaining court judgments challenging the constitutional validity of key aspects of the Family Law (Lee 2001; Koo 2002). Individual petitioners were also successful: for example, in 1997 the Constitutional Court of Korea ruled unconstitutional the prohibition of marriage within the lineage. And in 2005 the Supreme Court ruled that women could remain members of their natal household after marriage, and that women and men have equal rights and responsibilities to care for their ancestors (Kim 2005). In the same year the government abolished male family head-

ship and allowed parents who so wished to register their children under the mother's family name beginning in 2008.

### **Forces of change: The roles of industrialization and urbanization**

Industrialization and urbanization have broken the stranglehold of the lineage and the family on the individual through many channels. With the advent of industrialization, increasing proportions of the population are able to earn a living independent of their position in the family and lineage, through jobs that they can acquire purely on the basis of their skills and qualifications. Increasing numbers also obtain formal education, which further reduces their dependence on the lineage and exposes them to new ways of thinking. In addition, growing proportions of the population have retirement savings for their old age.<sup>7</sup> As a result, older adults are less dependent on financial support from their grown children. However, this does not reduce the need for sons to support parents in their afterlife.

The organization of urban life also differs enormously from that of rural life in ways that reduce the centrality of sons in their parents' lives. While villagers spend their lives surrounded by members of their lineage and community, urban residents live and work in the diverse and impersonal settings of apartment blocks and office complexes. This reduces pressures to conform to traditional expectations of filial duty. Access to social support networks also differs: in rural areas women are isolated while men are surrounded by kin, but this does not hold in urban areas. In fact, churches and temples form a core part of urban social networks in South Korea today, and women are the main players in these networks.<sup>8</sup>

The greater physical mobility associated with nonagrarian life means that sons may no longer live near enough to their parents to help care for them. And married daughters may live near their parents, in contrast to the situation in rural areas where lineage exogamy is typically synonymous with village exogamy. Whether urban parents derive support from a child depends less on formal rules based on the sex and birth order of the child, and more on who lives in the same city and the strength of the parent-child relationship. These circumstances reduce the gap between the value of daughters and of sons to their parents.<sup>9</sup> Women's education and employment further enhance the potential value of daughters, especially when they are not isolated from their parents as they are in rural areas.

The conditions of urban life also make it easier for parents to implement greater gender equity in inheritance. Customary rules of inheritance are highly inflexible regarding immovable lineage assets such as land: giving these to a daughter would involve the radical action of passing land out of the lineage. Efforts in China and India to encourage equal inheritance of land

have met with violent resistance (Das Gupta et al. 2004). It is far easier to give daughters a share of savings and assets acquired on one's own in nonfarm occupations. It is also far easier for women to demand their rightful inheritance in urban areas, where legal recourse is close at hand. By contrast, in rural areas, legal recourse is distant and the woman is surrounded by entire male lineages hostile to her intent.

Decades of cumulative social change associated with the aforementioned trends seem to have relaxed the pressure to bear sons. As we discuss below, the felt need to have sons has declined sharply across all age groups and socioeconomic groups in Korea. The change in the strength of familial pressures to bear sons is illustrated by one woman's story of her own family, recounted in 1996.<sup>10</sup>

My eldest brother took a concubine and had a son with her because his own wife had not borne a son. My husband's parents disinherited their eldest son because he did not have a son, and gave their property to the second son: he never forgave his wife for not having a son. But my husband's youngest sister was supported by her husband although she had only daughters, even though his parents were terribly angry since they had adopted him in order to carry on their family. A few young couples now are able to bear the pressure of not having a son.

The national survey questionnaires to which we now turn our attention also reflect these changes in social norms. In 1991, women were asked how many brothers their husband had and his birth order among his brothers. In 2003, they were asked how many brothers and sisters their husband had and his birth order among them.

## Data and methods

We analyze data collected in the Korea National Fertility and Family Health Surveys of 1991 and 2003, which were conducted by the Ministry of Health and Welfare in cooperation with the Korea Institute for Health and Social Affairs. These nationally representative sample surveys use the preceding census for their sampling frame. The 1991 survey is the oldest nationally representative fertility survey in South Korea for which the raw data are still available, and the 2003 survey is the most recent one conducted. (The sampling method and survey contents are described in Korea Institute for Health and Social Affairs 1992, 2004.)

In both surveys, all women in the sample who were aged 15–49 and ever-married at the time of the survey were interviewed, and data were collected on their fertility history, attitudes to family-building, and background characteristics of the woman and her husband. The sample size was 7,000 women in 1991 and 6,500 women in 2003.

## Variables

Our dependent variable is whether or not the woman stated that it was imperative to have a son ("must have a son"). As Table 2 shows, this variable is clearly related to women's actual childbearing decisions: those who reported strong son preferences were far more likely than the others to manipulate their sex ratios at birth if they had not yet borne a son.

Our independent variables include socioeconomic characteristics of the woman and her husband. These have been shown in previous studies to be related to fertility attitudes and behavior, and therefore we hypothesize that they are similarly related to the strength of son preference. The educational levels of the woman and her husband are hypothesized to be inversely related to son preference, as is their employment status, especially in white-collar jobs. Rural residence is hypothesized to be associated with greater pressure to conform to traditional views on the need to bear sons, and residence in a metropolis to be associated with weaker son preference than residence in a small city. In addition, the 1991 survey asked about where respondents and their husbands had lived for the longest period before marriage, and we hypothesize that this will influence son preference similarly to current residence. We hypothesize that because traditional attitudes have been weakening over time, a woman's age will be inversely related to her son preference.

Additionally, we hypothesize that there is a secular trend in the intensity of son preference between 1991 and 2003 that cannot be explained by the other independent variables in our model. To test this hypothesis, we include for a pooled sample of the 1991 and 2003 surveys a dummy for the year of the survey (with a value of 1 if the respondent was interviewed in 2003 and 0 if she was interviewed in 1991).

A number of variables capture the extent to which women and their husbands are subject to familial pressure, which might be expected to be associated with stronger son preference. The extent of parental pressure to have sons is captured by whether the husband is the only son and thus is the only person who can ensure the continuity of the lineage. Ideally, we would have analyzed this effect for the eldest son, who is traditionally designated to continue the lineage, but this information is not available in the 2003 survey. Similarly, if the couple lives in a joint family—typically with the husband's parents, although this is not specified—we would expect the woman to be subject to greater pressure to have a son.

Women who indicate lower conformity to tradition in their marriage decisions by marrying at an older age are hypothesized to have lower son preference. In addition, the 1991 survey collected information on whether the parents arranged the marriage, and we hypothesize that an arranged marriage will be associated with stronger son preference.

The 1991 survey also asked about the woman's and husband's religion. We hypothesize that those who report that they are Buddhists will have higher son preference than others, as has been found elsewhere.<sup>11</sup> Very few people report their religion as Confucian, since Confucianism is viewed more as part of Korean culture than as a religion, but Confucian values are pervasive regardless of religious affiliation.<sup>12</sup> Such values are strongest among those who report themselves to be Buddhist—who are concentrated in the Eastern region, which also manifests the most conservative Confucian values.<sup>13</sup> After centuries of suppression of traditional Buddhist tenets, the term "Buddhist" has come to be largely synonymous with stronger adherence to Confucian family traditions and Korean folk religions<sup>14</sup>—as compared with Christians, whose religion has strong roots outside of Korean traditions.

## Methods

Our analysis has four steps. First, we examine the relationship between women's characteristics and their reported son preference in 1991 and 2003, using frequencies and chi-square tests (results not shown).<sup>15</sup> Second, we use multivariate logistic regression analyses to estimate the odds ratio for the association between a respondent's characteristics and having strong son preference, while adjusting for all other characteristics in the model. This is done separately for 1991 and 2003 using the same variables to facilitate comparison: a third regression is run including the variables available only for 1991; and a fourth regression used the pooled data from both the 1991 and 2003 surveys. Third, we examine changes between the two survey years in the probability of reporting intense son preference, within a given subgroup of women. This is done by merging the 1991 and 2003 datasets and conducting univariate logistic regression analyses for each selected characteristic of the woman. Finally, we decompose the contribution of two factors—changes in population composition and changes in social norms—to the decline in the intensity of son preference between 1991 and 2003. The first is the contribution attributable to increases in education and urbanization ("population composition"). This we estimate by holding the levels of son preference constant at those reported by specific education and urbanization categories of women in 1991, and increasing the proportions educated and living in urban areas from their 1991 levels to their 2003 levels. The second is the contribution of changes in social norms. This we estimate by holding population composition constant at its 2003 levels, and changing the level of son preference of each socioeconomic category of women from its 1991 level to its 2003 level. We also estimate the independent contribution of each of the variables in the model.<sup>16</sup>

To assess the robustness of our estimates of the contribution of each independent covariate, we also performed the decomposition without the constant term (results not shown).<sup>17</sup> A rationale for this approach is to make

the estimates for the independent contribution of each of the variables in the model more directly comparable, since the constant term refers to an underlying shift and is therefore applicable only to the part associated with changes in ideas of son preference.

## Trends in son preference

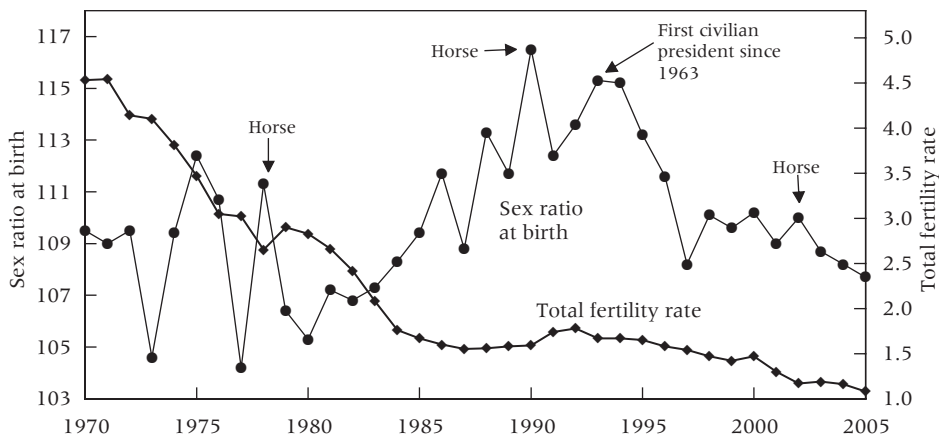
### Trends in the manifestation of son preference

Figure 2 shows trends in the sex ratio at birth and the total fertility rate between 1970 and 2005. Fertility levels declined rapidly between 1970 and 1985. The sex ratio at birth was high during the 1970s, even before the advent of sex-selective technology. This high ratio may reflect female infanticide at birth and failure to report the child as a live birth. Sex-selective technology had become widely available by the mid-1980s, and the sex ratio at birth rose sharply until the mid-1990s. Since then it has been declining but is still well above normal, and South Korea remains second only to China in the masculinity of its sex ratio at birth.

It is striking that the sex ratio at birth fell while the total fertility rate plummeted to just above one child per woman. Rapid reduction in fertility tends to increase pressure not to have girls: as the total desired number of children falls, less opportunity is left for tolerating daughters. There is some evidence of this in the disaggregated data: for example, sex ratios at birth rise sharply with parity in Table 2, especially among women who have not borne a son.<sup>18</sup>

Figure 2 has another interesting feature. The sharp annual fluctuations in the sex ratio at birth are related to the cycle of animal years: fewer girls

**FIGURE 2 Trends in the sex ratio at birth and the total fertility rate, South Korea, 1970–2005**



NOTE: Horse = Year of the Horse in the zodiacal calendar.

SOURCE: Korea National Statistical Office 2007.

**TABLE 2 Differences in family-building behavior by stated intensity of son preference, 2003**

2nd birth and above	Women stating "must have a son"		All other women		All women	
	N	Sex ratio at birth	N	Sex ratio at birth	N	Sex ratio at birth
At least one previous birth was a boy	414	105.0	1,838	114.0	2,252	112.3
All previous births were girls	450	194.1	2,149	118.4	2,599	128.6
Total	864	142.4	3,987	116.3	4,851	120.7

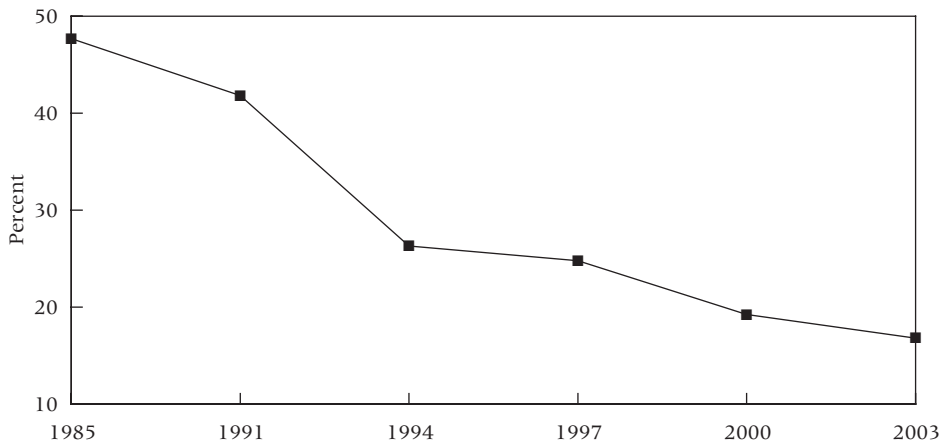
NOTES: N indicates the number of births from which these sex ratios at birth are derived. The births are derived from the fertility histories, so all births to women in the sample are included here. The woman's reported intensity of son preference is taken from a single question in the survey.

were born in those animal years (like Years of the Horse) that are associated with personality characteristics that would not make for good wives (Lee and Paik 2006). These annual fluctuations are much smaller after the mid-1990s, suggesting that as people abandoned their traditional beliefs about the place of men in the universe, they also abandoned their beliefs about personality characteristics associated with animal years.

**Trends in underlying son preference**

Figure 3 shows that the proportion of women in successive surveys who reported that they "must have a son" fell slowly between 1985 and 1991 and then dropped precipitately. The trend in underlying son preference is unidi-

**FIGURE 3 Trend in the intensity of son preference (percent of women reporting "must have a son"), 1985–2003**



SOURCE: Korea National Fertility and Family Health Surveys, various years.

**TABLE 3** Percent of women stating they “must have a son,” by birth cohort

Birth year	1991		2003	
	N	Percent	N	Percent
1955–64	3,416	35.0	2,934	19.3
1965–74	627	27.1	2,761	13.1

SOURCES: 1991 and 2003 Korea National Fertility and Family Health Surveys.

rectional, uncomplicated by the sharp changes in actual sex ratios at birth caused by animal years or improved access to sex-selective technology. As mentioned above, the reported intensity of son preference is clearly associated with actual family-building behavior.

The most striking evidence of a secular decline in son preference is the fact that women with similar individual characteristics showed lower son preference in 2003 than in 1991. Comparing the responses obtained from women of the same birth cohort in 1991 and 2003, we find an approximate halving of the proportions reporting strong son preference over this 12-year period (Table 3). For example, 35 percent of women born in 1955–64 said that they “must have a son” when interviewed in 1991, but only 19 percent of such women were of this view in 2003. This interpretation of the two-way table is borne out by the multivariate analysis in Tables 4 and 5. This secular trend in son preference is analogous to that shown in responses about family size preferences in India, where it is not uncommon for older women to say, “In my day we reproduced like animals, but things have changed and I have told my daughter-in-law to get sterilized after two children.”

### Correlates of son preference: Odds of stating “must have a son”

The univariate analysis of the socioeconomic characteristics that we hypothesize to be associated with son preference produced associations in the expected directions (results not shown). Woman’s and husband’s education, woman’s and husband’s occupation, urban/rural residence, religion, whether the husband is his parents’ only son, whether the couple live with their parents (typically the husband’s parents), whether the parents arranged the marriage, and the woman’s birth cohort and age at marriage all show significant differences in the expected directions in both the 1991 and 2003 surveys. Son preference declines with increasing socioeconomic status, lower parental control, younger birth cohort, and older age at marriage. “Buddhists” show significantly higher son preference, as do women whose husbands are the only son, couples who live with their parents, and those whose marriages were arranged by their parents. Where the same variable is available for both

survey years, there is a significant weakening between 1991 and 2003 of the strength of the association between that variable and son preference.

The results of the multivariate logistic regressions in Table 4 show the odds ratios of women stating a strong son preference relative to the base category within each variable. We ran models with the same variables for the 1991 and 2003 surveys to facilitate comparison of the results from the two surveys (columns 1 and 2). We also ran a model using the pooled sample of women in both surveys to test whether there is a secular trend in son preference between 1991 and 2003, independent of the other variables in our model (column 3).

In addition, we ran a separate regression for the 1991 survey which added variables that were unavailable in the 2003 survey (results not shown). The addition of these variables changed little in the results, except for muting the effect of women's education. Here we report the results of this model only for these additional variables.

### Education and occupation

Higher levels of women's education are associated with lower son preference, and the odds of strong son preference with increasing education decline more sharply in the 2003 survey than in 1991. The association is much weaker for husband's education in 1991, and not significant in 2003. Women with white-collar jobs showed significantly lower odds of strong son preference in 1991, but not in 2003. This may be because women's participation in white-collar work has increased over time, so it is less indicative of nontraditional attitudes now than it was in the past. Husband's occupation does not show a significant association in either survey year. These results on the couple's education and occupation indicate that over time women's educational level has become the dominant socioeconomic factor associated with the level of son preference.

### Rural/urban residence

Living in an urban area is significantly associated with lower son preference, and the effect is even sharper for metropolises than for small cities. This is true for both 1991 and 2003, but differentials by residence had become less sharp by 2003. Information on previous residence is available only for 1991; it shows a significant negative association for a woman's previous residence, but not for that of her husband.

### Religion

Being "Buddhist" is strongly associated with women's higher son preference. As noted above, traditional Buddhism was suppressed in Korea, and people

**TABLE 4 Association of women's characteristics with the intensity of son preference, ever-married women aged 15–49 (multivariate logistic regression analyses, dependent variable = 1 if the woman stated "must have a son")**

Variable	Odds ratio			
	1991	2003	1991 and 2003 (pooled)	
<b>Woman's education</b>				
Junior high school completion or less	1.00	1.00	1.00	
More than junior high school	0.73***	0.62***	0.55***	
Senior high school completion or more	0.73**	0.49***	0.47***	
<b>Husband's education</b>				
Junior high school completion or less	1.00	1.00	1.00	
More than junior high school	0.88*	0.99	0.86***	
Senior high school completion or more	0.80**	1.05	0.89	
<b>Woman's occupation</b>				
No job	1.00	1.00	1.00	
White-collar job	0.69**	1.08	0.88	
Blue-collar job	1.03	1.13	1.12**	
<b>Husband's occupation</b>				
No job	1.00	1.00	1.00	
White-collar job	1.30	1.20	1.19	
Blue-collar job	1.24	1.28	1.12	
<b>Residence</b>				
Rural area	1.00	1.00	1.00	
Small city	0.52***	0.83*	0.60***	
Metropolis	0.33***	0.67***	0.43***	
<b>Year of woman's birth</b>				
(1991 survey)	(2003 survey)			
< 1949	< 1960	1.00	1.00	—
1950–54	1960–64	0.55***	0.75***	—
1955–59	1965–69	0.49***	0.67***	—
1960+	1970+	0.32***	0.72***	—
<b>Woman's age at marriage</b>				
< 20		1.00	1.00	1.00
20–21		0.88	1.22	0.99
22–23		0.85*	1.01	0.91
24–25		0.78**	1.08	0.90
26+		0.62***	0.78*	0.68***
<b>Husband is the only son</b>				
No		1.00	1.00	1.00
Yes		1.35**	1.65***	1.62***

/continued

**TABLE 4 (continued)**

Variable	Odds ratio		
	1991	2003	1991 and 2003 (pooled)
<b>Living with parent(s)</b>			
No	1.00	1.00	1.00
Yes	1.32***	1.03	1.15**
<b>Year of survey</b>			
1991	—	—	1.00
2003	—	—	0.34***
Constant	1.21***	-1.05	0.53***
Log L	-4,214.91	-2,816.63	-7,175.76
% concordant	70.1	63.4	72.5
Sample size	6,905	6,482	13,387

NOTE: Significance of odds ratios is based on the Wald test statistic. \*p<0.1, \*\*p<0.05, \*\*\*p<0.01.  
 SOURCES: 1991 and 2003 Korea National Fertility and Family Health Surveys.

who report themselves to be “Buddhist” are among the most conservative adherents of Confucian values. The association is not significant in the case of husbands. These data are not available for 2003.

**Parental pressure**

If the husband is his parents’ only son—and therefore the only source of a continued line of male descendants—his wife is significantly more likely to report that she “must have a son.” Interestingly, this association intensifies between the 1991 and 2003 surveys. Living with parents shows a significant positive association with son preference only in the 1991 survey. Although our data do not clarify why this shift has taken place, one reason may be related to the popular perception that children now seek to live with their parents in order to obtain help with childcare, rather than because of the traditional expectation of supporting aging parents.<sup>19</sup>

**Women’s autonomy in marriage**

In 1991, older age at marriage was associated with lower son preference. This relationship is almost nonexistent in 2003. Data available from only the 1991 survey indicate that women with arranged marriages were more likely to show traditional values of son preference.

**Woman’s birth cohort**

The younger the woman, the lower the son preference in both 1991 and 2003. This confirms the trend found in reported son preference in Table 3.

The trend remains significant even after controlling for many socioeconomic and cultural factors associated with son preference.

### Secular trend 1991–2003

From the model with the pooled sample of women in the two surveys, we found a strikingly large and significant secular trend between 1991 and 2003. Controlling for all the above independent variables, the odds ratio of stating “must have a son” was only 0.34 in 2003 as compared with 1991.

### Explaining the decline in son preference: A decomposition analysis

We now analyze the relationship between Korea’s socioeconomic development (as measured by education and urbanization) and the decline in reported son preference between 1991 and 2003. We decompose the respective contributions of (1) changes between 1991 and 2003 in “population composition,” that is, the proportions of the population who are educated or living in urban areas—holding each group’s intensity of son preference constant at 1991 levels; and (2) changes in “social norms” between 1991 and 2003, that is, keeping the proportions of the population educated and living in urban areas constant at their 2003 levels—but changing the intensity of son preference to reflect actual declines in reported son preference in each education and urban/rural residence group.

Both population composition and social norms have changed rapidly during this period. Table 1 showed the dramatic increases in levels of education and urbanization in South Korea. Table 5 shows the sharp decline between 1991 and 2003 in the odds ratio of women stating they “must have a son”: in 2003, it is roughly one-third of its 1991 level within any given category of education and urban/rural residence. The exception to this is in rural areas, where the odds ratio dropped to less than one-fifth its 1991 level. This is especially notable because it implies rapid diffusion of new norms to rural areas and consequent homogenization between rural and urban areas.

The results of the decomposition, in Table 6, show the contribution of each variable to the overall decline in the probability of stating “must have a son” over the period 1991–2003, other things equal. The most striking result is that changes in social norms account for as much as 73 percent of this decline, and changes in population composition (increases in education and urbanization) account for only 27 percent of the decline. This is consistent with the findings in Table 3, which showed that son preference declined with birth cohort and that women of the same birth cohorts were far less likely to report strong son preference in 2003 than in 1991. It is also consistent with

Table 5, which shows similar declines in son preference across all education and residence groups—except among rural residents, who actually showed a steeper decline in son preference than urban residents.

That changes in social norms were widespread across the entire population between 1991 and 2003 is indicated by the fact that the estimate of the constant term is significant, positive, and large. The inclusion of the constant term renders the association between son preference and education insignifi-

**TABLE 5 Changes in the probability of stating “must have a son,” 1991–2003, ever-married women aged 15–49 (univariate logistic regression analyses)**

Variable	N	Odds ratio
<b>Woman’s education</b>		
Junior high school completion or less		
1991	3,350	1.00
2003	1,416	0.33***
More than junior high school completion		
1991	2,894	1.00
2003	3,303	0.38***
More than senior high school completion		
1991	698	1.00
2003	1,803	0.36***
<b>Husband’s education</b>		
Jr high school completion or less		
1991	2,188	1.00
2003	1,100	0.28***
More than Jr high school completion		
1991	3,082	1.00
2003	2,766	0.33***
More than Sr high school completion		
1991	1,666	1.00
2003	2,656	0.35***
<b>Couple’s residence</b>		
Rural area		
1991	1,715	1.00
2003	828	0.18***
Small city		
1991	1,817	1.00
2003	2,889	0.31***
Metropolis		
1991	3,416	1.00
2003	2,812	0.35***

NOTE: Significance is based on the Wald test statistic. \*p<0.1, \*\*p<0.05, \*\*\*p<0.01.  
 SOURCES: 1991 and 2003 Korea National Fertility and Family Health Surveys.

**TABLE 6** Decomposition of the relative contribution of changes in population composition, and changes in social norms within given population groups, to the overall 1991–2003 decline in the probability of women stating they “must have a son”

	Population composition		Social norms	
	Estimate	Percent contribution	Estimate	Percent contribution
<b>Total decomposition</b>	0.0673	26.9	0.1829	73.1
<b>Woman’s education</b>		19.0		3.5
More than Jr high school completion	0.0134***	5.4	0.0015	0.6
Sr high school completion or more	0.0342***	13.7	0.0073	2.9
<b>Husband’s education</b>		2.5		-7.7
More than Jr high school completion	-0.0010***	-0.4	-0.0100	-4.0
Sr high school completion or more	0.0072*	2.9	-0.0092	-3.7
<b>Couple’s residence</b>		5.4		-36.4
Small city	0.0284***	11.4	-0.0399***	-16.0
Metropolis	-0.0149***	-5.9	-0.0511***	-20.4
Constant			0.2844***	113.7

NOTES:

1) The observed gap in son preference and the gap in the mean of the predicted probability between 1991 and 2003 are both 0.25.

2) Positive (negative) estimates represent positive (negative) effects on the reduction in son preference.

3) Significance is based on the z-value statistic. \*p<0.1, \*\*p<0.05, \*\*\*p<0.01.

cant, and urban residence becomes associated with increased son preference (see also Table 5). When the constant term is eliminated (results not shown), husband’s education and urban residence become significantly associated with lower son preference. However, the overall results are similar across the two models: changes in social norms account for 73 percent of the total change with the constant term and 81 percent without it.

Turning to the contribution of changes in population composition to the decline in son preference between 1991 and 2003, we find that increases in women’s education contributed as much as 19 percent of the total decline, particularly increases in the proportions of women in the highest education group. Changes in husbands’ education levels have a more mixed and muted effect. Another 11 percent of the decline is contributed by increases in the proportion living in small cities. Increases in the proportion living in metropolitan areas have the opposite effect, possibly because persons with high levels of education are concentrated in large cities and the education variable captures the effect of residence in large cities.<sup>20</sup>

## Discussion

South Korea has long been a trendsetter in economic development in Asia, and is now also a trendsetter in reversing rising child sex ratios. We have

analyzed this case to understand how son preference is affected by development and to throw light on the prospects for achieving more equitable child sex ratios elsewhere in Asia.

We discuss the cultural roots of son preference and how they are affected by development. In Korea, Confucian administrators constructed an authoritarian society based on a rigid system of corporate patrilineages subservient to the king. Corporate loyalty was underpinned by ancestor worship rituals, with the threat of supernatural sanctions if people did not carry out their filial duties—of which the primary one was to bear sons to ensure the continuity of the corporate group. Lineage membership passed strictly through the male line and determined much of an individual's access to economic opportunities and social status. Women were thoroughly marginalized in this system.

This preindustrial social organization disintegrated in the face of industrialization and urbanization. Avenues opened up for obtaining livelihoods and social status that were independent of lineage membership and adherence to familial expectations. The accompanying urbanization resulted in people no longer being surrounded by patrilineal kin in their place of residence and work. This also opened up a possibility for relationships between parents and their children to be driven by affect rather than by rigid rules of gender and birth order. All these changes helped undercut the bases for son preference.

Our findings highlight the importance of societal as opposed to individual change in the decline of son preference. A simple comparison of the responses given by women of the same birth cohort when interviewed in 1991 and 2003 shows that the proportion reporting strong son preference in each cohort halved over this period. The multivariate analysis shows that the odds of a woman stating she "must have a son" in 2003 were only a third of the 1991 levels, after controlling for a wide range of socioeconomic characteristics. A similar decline is evident within each socioeconomic group. Our decomposition analysis indicates that nearly three-quarters of the decline in son preference between 1991 and 2003 is attributable to changes in social norms sweeping across the population, and only a quarter is attributable to increases in the proportions educated and living in urban areas.

This suggests that the impact of development worked largely through triggering normative change within the society as a whole, rather than just through changes in individuals as their socioeconomic circumstances improved. This observation applies not only to overall increases in education and urbanization, but also to increases in female education and employment. To the extent that these gains increased women's economic value, their contribution was largely via their impact on social norms, rather than at the individual level. Our results are similar to Lesthaeghe's (1983) conclusions that related fertility trends in Europe to ideational change brought about by changing economic conditions and the growth of secular individualism.

The decline in the intensity of son preference began among the educated professional urban elites and spread quickly across the rest of Korea's population. This follows the pattern put forward in studies of the collective adoption of new ideas: a slow start, initiated by those with the greatest exposure to new information, and then a snowballing of adoption through the rest of the population.<sup>21</sup> Now the most conservative groups, such as rural residents, show the maximum fall in son preference. Interestingly, the demise of traditional beliefs is also reflected in the fact that the sex ratio at birth shows less conscious manipulation in response to the animal year: parents are less concerned to avoid bearing daughters in inauspicious years.

The sex ratio at birth in South Korea nevertheless remains high. The belief that one must fulfill the filial duty to continue the male family line remains significant. Even in 2003, women continued to report significantly higher son preference—controlling for a range of other characteristics—if their husband was an only son and therefore the only source of male descendants. Reduction in the manifestation of son preference has also been slowed by fertility decline, as evidenced by women's increasing efforts to manipulate the sex ratio of their second and later births if they have not already borne a son.

The South Korean case throws light on the role of public policy in reducing gender inequity. On the one hand, the government's policies of rapid economic development induced a breakdown of preindustrial social structures, raised levels of female education, and promoted female labor force participation. On the other hand, successive authoritarian military regimes maintained laws and policies that kept women marginalized in their domestic and public lives—laws and policies that were amended only recently as the political environment changed. It is possible that without these state efforts to keep women marginalized, the sex ratio at birth would by now be normal, instead of merely at the elevated levels prevailing before the advent of sex-selection technology.

What light does the South Korean experience suggest about the likely course of child sex ratios in China and India? As was shown in Figure 1, in both countries these ratios continue to rise. The cultural roots of son preference lie in similar kinship systems in South Korea, China, and the parts of northwestern India where child sex ratios are very high (Das Gupta and Li 1999; Das Gupta et al. 2003, 2004). In many ways, South Korea is much better positioned than China and India for a reduction in child sex ratios. It is far ahead of these countries in terms of industrialization and urbanization. It also has the advantage of being a small and homogeneous country, where ideas can diffuse rapidly through the population.

Yet our results suggest the potential for child sex ratios in China and India to begin to normalize before these countries become highly developed.

First, rapid changes even in the rural areas of these countries are conducive to reduced son preference: the spread of nonfarm employment diversifies sources of livelihood, making people more independent of familial pressures and traditions, and high levels of circular migration spread urban ways of thinking.

Second, public policies in China and India are in place to increase gender equity through interventions aimed at changing people's perception that daughters are less desirable than sons, and by bringing women increasingly into public life. These interventions include vigorous media campaigns to change ideas about gender roles and equity; legislation to enhance gender equity in domestic and public life; sponsorship of grassroots women's organizations; and even financial incentives to parents to raise daughters.<sup>22</sup> This active approach contrasts sharply with that of South Korea, where earlier military regimes sought to uphold authoritarian Confucian traditions and to keep women marginalized. These policies were gradually reversed only after three decades of military rule had come to an end. The South Korean experience suggests that the Chinese and Indian governments may be adopting the right approach to reduce son preference, by focusing on interventions that seek to alter societal norms and to accelerate the process of diffusion of new values—rather than relying solely on measures such as increasing female education.

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## Notes

We are grateful for comments from Minja Kim Choe, Martina Deuchler, Andy Foster, Michael Lokshin, Peter Miovic, and Shahid Yusuf. We are also grateful for feedback on an earlier draft from participants at a seminar at Brown University. The findings, interpretations, and conclusions expressed in this article are entirely those of the authors. They do not necessarily represent the view of the World Bank, its Executive Directors, or the countries they represent.

1 This is documented for China in Das Gupta and Li (1999) and for North Korea in Goodkind (1999).

2 The sex ratio of the total population did not rise correspondingly, since female life expectancy at birth has risen more rapidly than male. See Klasen and Wink (2002) for a discussion of overall sex ratio trends for a large number of countries.

3 For example, Toennies discussed a shift from *Gemeinschaft* (community) to *Gesell-*

*schaft* (purposive association); Maine a shift from status to contract; Durkheim, a shift from mechanical to organic solidarity; Weber a shift from behavior motivated by tradition, affect, or values to a goal-oriented rationality; and Parsons a shift from ascribed to achieved status.

4 We are grateful to P. N. Mari Bhat for pointing out this distinction. See Das Gupta and Bhat (1997).

5 For example, more educated women in Punjab showed the largest disparity between the mortality rates of second- and higher-order daughters and the mortality rates of their sons and firstborn daughters. Being better able than uneducated women to use modern health practices to ensure child survival, they applied their abilities more assiduously to ensuring the survival of their wanted children (Das Gupta 1987). As the study pointed out, this did not mean that educated women had stronger son preference than others, merely that they were better able to implement their preferences.

6 As Martina Deuchler (personal communication) points out, the term “clan” is inadequately defined in terms of anthropological terminology. As used in the Korean press and elsewhere, it refers to a high level of superordinate lineage, where men are linked by relationships stretching several generations into the past.

7 Private pensions cover a very small percentage of people, even today. The universal social pension system started in 1999, but only a small number of people receive pensions, and the sums are small.

8 We are grateful to Minja Kim Choe for drawing our attention to this.

9 Prendergast (2005) discusses how daughters offer gifts and physical help to their parents, and thereby maintain a bond of mutual support even after they are married. He also discusses sons’ and daughters’ changing roles in caring for their elderly parents.

10 Field interviews conducted by Bae Hwa-Ok and Monica Das Gupta in 1996; see Das Gupta et al. (2003).

11 Kim and Song (2005) show the correlation between Buddhism and son preference. Chai Bin Park and Cho (1995) show that son preference is highest in the Eastern region, where Buddhists are concentrated. For a discussion of the relationship between son preference, religion, and induced abortion in South Korea, see Chung (2007).

12 Insook Park and Cho (1995); United States (2005); Kim and Song (2005). In the 1991 Fertility and Family Health Survey, Buddhists and Christians each constituted about 30 percent of the population, those with “no religion” 39 percent, and the remainder (including Confucians) less than 1 percent.

13 Kim and Song (2005); Insook Park and Cho (1995). For an anthropological account of how Confucianism permeated Korean society, see Walraven (1999).

14 See for example Cho (1998); Insook Park and Cho (1995); Kim (2004); Kim and Song (2005); United States (2005); and Park (1983).

15 The results can be obtained from [wchung@yuhs.ac](mailto:wchung@yuhs.ac)

16 In order to decompose the main factors underlying the decline in the probability

of stating “must have a son” (intensity of son preference), we used the econometric method extended from original models within regression analyses suggested by Oaxaca and Blinder (Blinder 1973; Oaxaca 1973) to models of discrete choice with a binary dependent variable (Borooah and Iyer 2005; Gomulka and Stern 1990; Nielsen 1998). Yun (2004) and Powers (2006) recently developed a method to overcome a “path dependence” problem—namely that, in nonlinear models, the independent contribution of one variable to the difference depends on the values of the other variables and on the order in which these variables are entered in the decomposition. Applying this method to the difference in the probability of stating “must have a son” between the respondents in the 1991 and 2003 surveys, we separated the contributions due to changes in “population composition” (differences in measured characteristics between cohorts) from contributions due to changes in social norms (differences in coefficients, or differences in the effects of those characteristics between cohorts). A detailed description of the method is available from «[http://econ.worldbank.org/external/default/main?pagePK=64165259&theSitePK=469372&piPK=64165421&menuPK=64166093&entityID=000158349\\_20071009133451](http://econ.worldbank.org/external/default/main?pagePK=64165259&theSitePK=469372&piPK=64165421&menuPK=64166093&entityID=000158349_20071009133451)».

17 Powers (2006) noted that the constant term represents a shift (i.e., a change that cannot be attributed to change in model coefficients and model covariates).

18 The discussion in this paragraph draws on Choe (1987); Choe and Kim (1998); Das Gupta and Bhat (1997); Das Gupta et al. (2003); and Larsen et al. (1998).

19 Prendergast (2005) describes how parents can no longer expect to be cared for by their children as a matter of right, but instead need to negotiate a good relationship with them, including through offering childcare or financing to buy a house.

20 We found significant associations among three variables pertaining to population composition. For example, the gamma statistic between woman’s education and a couple’s residence was 0.33 (p value=0.000) in 1991 and 0.25 (p value=0.000) in 2003; and that between woman’s education and husband’s education 0.93 (p value=0.000) in 1991 and 0.91 (p value=0.000) in 2003.

21 See for example Rogers (1962); Granovetter (1978); and Montgomery and Chung (1999). For an application to demographic trends, see Bongaarts and Watkins (1996).

22 For descriptions of the media campaigns see Naqvi (2006) for India and Das Gupta et al. (2004) and Croll (2000) for China and India. For the proposed national financial incentive programs in China, see Xinhua (2006), and for India see *The Hindu* (2006).

Various Indian states have had incentive programs in place since the early 1990s. Perhaps the most notable example is "Apni Beti Apna Dhan," which offers cash to women when they give birth to a girl, and sets aside a sum of money to be cashed when the girl turns 18. This was started in Haryana state in 1994 and taken up by several other states. A version of this is now under consideration for financing by the central government.

## References

- Blinder, A. S. 1973. "Wage discrimination: Reduced form and structural estimates," *Journal of Human Resources* 8: 436–455.
- Bongaarts, John and Susan Cotts Watkins. 1996. "Social interactions and contemporary fertility transitions," *Population and Development Review* 22(4): 639–682.
- Borooh, V. K. and S. Iyer. 2005. "The decomposition of inter-cohort differences in a logit model: Extending the Oaxaca-Blinder approach with an application to school enrolment in India," *Journal of Economic and Social Measurement* 30: 279–293.
- Cho Sungtaek. 1998. "Buddhist philosophy, Korean," in E. Craig (ed.), *Routledge Encyclopedia of Philosophy*. London: Routledge. Retrieved 31 January 2007, from «<http://www.rep.routledge.com/article/G201SECT11>».
- Choe, Minja Kim. 1987. "Sex differentials in infant and child mortality in Korea," *Social Biology* 34(1-2): 12–25.
- Choe, Minja Kim and Seung-Kwon Kim. 1998. "Son preference and family building during fertility transition: Implications for child survival," *The Journal of the Population Association of Korea* 21(1): 184–228.
- Choe, Minja Kim and Hyung Ae Park. 2006. "Fertility decline in South Korea: Forty years of policy-behavior dialogue," *Korea Journal of Population Studies* 29(1): 1–26.
- Chung, Woojin. 2007. "The relation of son preference and religion to induced abortion: The case of South Korea," *Journal of Biosocial Science* 39(5): 707–719.
- Croll, Elisabeth. 2000. *Endangered Daughters: Discrimination and Development in Asia*. London and New York: Routledge.
- Das Gupta, Monica. 1987. "Selective discrimination against female children in rural Punjab, India," *Population and Development Review* 13(1): 77–100.
- Das Gupta, Monica and P. N. Mari Bhat. 1997. "Fertility decline and increased manifestation of sex bias in India," *Population Studies* 51(3): 307–315.
- Das Gupta, Monica, Jiang Zhenghua, Xie Zhenming, Li Bohua, Woojin Chung, and Bae Hwa-Ok. 2003. "Why is son preference so persistent in East and South Asia?: A cross-country study of China, India and the Republic of Korea," *Journal of Development Studies* 40(2): 153–187.
- Das Gupta, Monica, Sunhwa Lee, Patricia Uberoi, Danning Wang, Lihong Wang, and Xiaodan Zhang. 2004. "State policies and women's agency in China, the Republic of Korea and India 1950–2000: Lessons from contrasting experiences," in V. Rao and M. Walton (eds.), *Culture and Public Action: A Cross-Disciplinary Dialogue on Development Policy*. Stanford: Stanford University Press
- Das Gupta, Monica and Li Shuzhuo. 1999. "Gender bias in China, South Korea and India 1920–1990: The effects of war, famine and fertility decline," *Development and Change* 30(3): 619–652.
- Deuchler, Martina. 1992. *The Confucian Transformation of Korea: A Study of Society and Ideology*. Cambridge, MA and London: Council on East Asia Studies, Harvard University (Harvard-Yenching Institute Monograph Series 36).

- . 2003. "Propagating female virtues in Choson Korea," In Dorothy Ko, JaHyun Kim Haboush, and Joan R. Piggott (eds.), *Women and Confucian Cultures in Premodern China, Korea, and Japan*. Berkeley: University of California Press
- Goodkind, Daniel M. 1999. "Do parents prefer sons in North Korea?," *Studies in Family Planning* 30(3): 212–218.
- Granovetter, Mark. 1978. "Threshold models of collective behavior," *American Journal of Sociology* 83(6): 1420–1443.
- Gomulka, J. and N. Stern. 1990. "The employment of married women in the United Kingdom, 1970–1983," *Economica* 57: 171–199.
- Inkeles, Alex and David H. Smith. 1974. *Becoming Modern: Individual Change in Six Developing Countries*. Cambridge, MA: Harvard University Press.
- Janelli, Roger L. and Dawnhee Yim Janelli. 1982. *Ancestor Worship and Korean Society*. Stanford: Stanford University Press.
- Kendall, Laurel. 1984. "Wives, lesser wives, and ghosts: Supernatural conflict in a Korean village," *Asian Folklore Studies* 43: 215–225.
- Kim, Doo-Sub. 2004. "Missing girls in South Korea: Trends, levels, and regional variations," *Population* 59(6): 865–878.
- Kim, Doo-Sub and Yoo-Jean Song. 2005. "Does religion matter? A study of regional variations in sex ratio at birth in Korea," paper prepared for the CEPED-CICRED-INED conference on Female Deficit in Asia: Trends and Perspectives, Singapore, 5–7 December.
- Kim, Elim. 1991. "Reformed family law and movement for reforming family law," Korean Women's Development Institute Research Report 200-3 (summarized in *Women's Studies Forum*, Vol. 8) <http://www2.kwdi.re.kr/board/view.php?db=project&category=1&no=79&page=5>.
- Kim, Tong-Hyung. 2005. "Supreme Court rules against male-centred clan system," *Korea Times*, 21 July <http://times.hankooki.com/lpage/nation/200507/kt2005072117115511950.htm>.
- Klasen, Stephan and Claudia Wink. 2002. "A turning point in gender bias in mortality? An update on the number of missing women," *Population and Development Review* 28(2): 285–312.
- Koo, Hagen. 2002. "Engendering civil society: The role of the labor movement," in Charles K. Armstrong (ed.), *Korean Society: Civil Society, Democracy, and the State*. London: Routledge.
- Korea Institute for Health and Social Affairs. 1992. *1991 National Fertility and Family Health Survey Report*. Seoul: Korea Institute for Health and Social Affairs.
- . 2004. *2003 National Fertility and Family Health Survey Report*. Seoul: Korea Institute for Health and Social Affairs.
- Korea National Statistical Office. 2006. *Vital Population Statistics*. Seoul: Korea National Statistical Office.
- . 2007. *Vital Population Statistics*. Seoul: Korea National Statistical Office.
- Larsen, Ulla, Woojin Chung, and Monica Das Gupta. 1998. "Fertility and son preference in Korea," *Population Studies* 52(3): 317–325.
- Lee, Jungmin and Myungho Paik. 2006. "Sex preferences and fertility in South Korea during the Year of the Horse," *Demography* 43(2): 269–292.
- Lee Ki-Baik. 1984. *A New History of Korea*. Cambridge, MA: Harvard University Press for the Harvard-Yenching Institute.
- Lee Suk-Tae. 2001. "Problems with Korea's family 'headship' system," *Quarterly Sahoe Bipyong* [http://www.koreafocus.or.kr/main\\_view.asp?volume\\_id=16&cate\\_code=D&g\\_cate\\_code=DA&g\\_code=722](http://www.koreafocus.or.kr/main_view.asp?volume_id=16&cate_code=D&g_cate_code=DA&g_code=722).
- Lesthaeghe, Ron. 1983. "A century of demographic and cultural change in Western Europe: An exploration of underlying dimensions," *Population and Development Review* 9(3): 411–435.
- McClelland, David C. 1961. *The Achieving Society*. Princeton: D. van Nostrand.
- Montgomery, Mark R. and Woojin Chung. 1999. "Social networks and the diffusion of fertil-

- ity control in the Republic of Korea," in Richard Leete (ed.), *Dynamics of Values in Fertility Change*. Oxford: Oxford University Press.
- Moon, Seungsook. 2002. "Carving out space: Civil society and the women's movement in South Korea," *The Journal of Asian Studies* 61(2): 473–500.
- Naqvi, Farah. 2006. "Images and icons: Harnessing the power of mass media to promote gender equality and reduce practices of sex selection," BBC World Service Trust India «[www.bbcworldservicetrust.org](http://www.bbcworldservicetrust.org)».
- Nielsen, H. S. 1998. "Discrimination and detailed decomposition in a logit model," *Economic Letters* 61: 115–120.
- Oaxaca, R. 1973. "Male–female wage differentials in urban labor markets," *International Economic Review* 14: 693–709.
- Park, Chai Bin. 1983. "Preference for sons, family size, and sex ratio: An empirical study in Korea," *Demography* 20(3): 333–352.
- Park, Chai Bin and Nam-Hoon Cho. 1995. "Consequence of son preference in a low-fertility society: Imbalance of the sex ratio at birth in Korea," *Population and Development Review* 21(1): 59–84.
- Park, Insook and Lee-Jay Cho. 1995. "Confucianism and the Korean family," *Journal of Comparative Family Studies* 26(1): 117–134.
- Powers, Daniel A. 2006. "Multivariate decomposition for nonlinear models with an application to differences in infant mortality over time and across groups," Population Research Center Working Paper, University of Texas at Austin.
- Prendergast, David. 2005. *From Elder to Ancestor: Old Age, Death and Inheritance in Modern Korea*. Folkestone: Global Oriental.
- Rogers, Everett M. 1962. *Diffusion of Innovation*. New York: Free Press.
- The Hindu*. 2006. "Insurance cover for girl child proposed," «<http://www.hindu.com/2006/12/19/stories/2006121902311100.htm>».
- United States. 1990. *A Country Study: South Korea*. United States Library of Congress «<http://lcweb2.loc.gov/frd/cs/krtoc.html#kr0020>».
- . 2005. *Country Profile: South Korea*. United States Library of Congress, Federal Research Division. May 2005 «[http://lcweb2.loc.gov/frd/cs/profiles/South\\_Korea.pdf](http://lcweb2.loc.gov/frd/cs/profiles/South_Korea.pdf)».
- Walraven, Boudewijn. 1999. "Popular religion in a Confucianized society," in JaHyun Kim Haboush and Martina Deuchler (eds.), *Culture and the State in Late Choson Korea*. Cambridge, MA: Harvard University Asia Center.
- Whang, In-Joun. 1981. *Management of Rural Change in Korea*. Seoul: Seoul National University Press.
- Xinhua. 2006. "Government takes action to address gender imbalance" «<http://www.npfpc.gov.cn/en/en2006-10/news20061009-1.htm>».
- Yun, M-S. 2004. "Decomposition differences in the first moment," *Economic Letters* 82: 275–280.

