Sex-ratio imbalance in Asia: Trends, consequences and policy responses

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A distinctive dimension of Asia's recent population dynamics has been its unexpected "masculinisation" – the increasing proportion of males in its population. While the sex ratio of almost all other populations in the world tends to gradually diminish, as a result of increased life expectancy favourable to women, the proportion of boys in Asia's population of children started to rise during the late 1970s, a trend that was not identified immediately for lack of proper data. Initially, the huge gap observed between the number of men and women represented, to a large extent, the legacy of mortality conditions that had been unfavourable to women during the past century. But it emerged that a new, unexpected phenomenon was also underway: sex ratio at birth was tilting towards boys, in a way that had never before been recorded in demographic history.

This paper offers a regional overview of the mechanisms and consequences of these growing gender imbalances, as observed today in Asia. We first examine the extent and timings of the trend towards more masculine populations, as well as its demographic determinants such as sex ratio at birth and mortality differentials. We will then show that this phenomenon is also characterised by distinctive regional and social variations within Asian countries. A set of population projections for four countries and regions over the 2000-50 period illustrates the potential implications of various scenarios of skewed sex ratio at birth on society. We then present a general explanatory framework that accounts for increasing sex ratio among children, and examines the roles both of son preference and of newly available sex-determination technology. The last part of this review is devoted to the future prospects of gender imbalance in Asia, as well as the potential "tragedy of the commons" resulting from it. Finally, we discuss the responses by government authorities and civil-society organisations to this rising peril.

1 Asia and its male majority

With an overall sex ratio almost stable – close to 105 throughout the time from 1950 until 2005 – Asia has long had the highest proportion of males in the world. In 2005, the estimated overall sex ratio was of 107.5 males per 100 females in India, as against 106.8 in China, 106.0 in Pakistan and 104.9 in Bangladesh – four countries that accounted for 43 per cent of the world's population in 2005. On the contrary, Southeast Asia is the only region within Asia to be female-dominated and, in 2005, it displayed a sex ratio comparable to that observed in Africa and Oceania.

If its overall sex ration was the same as observed elsewhere in the world, in 2005 Asia's population would have comprised of about 163 million more women than reported. The region's female-to-male demographic gap has therefore more than tripled between 1950 and

2005. Over this period, the female deficit in Asia, measured as the proportion of women, increased from 7.6 to 8.5 per cent of the observed number of women.

In the absence of gender discrimination against one particular group, values of the child sex ratio should fall below 105, as a result of higher child mortality among boys. But in Asia as a whole, the child sex ratio instead recorded a slight increase over the past half century – from 105 in the mid-1950s to 108 in 2005, the latter a value clearly above standard levels. More detailed data show that this overall increase in the proportion of boys among children is chiefly the consequence of increasing distortion observed in East and South Asia.

In 2005, six Asian countries reported a severe sex-ratio imbalance, with levels for children above 108: India, South Korea, Georgia, Azerbaijan, China and Armenia. Detailed figures for China and India show that the child sex ratio in these countries has long been above normal values, as seen in the data from the 1950s and 1960s. But in addition to this legacy, the situation worsened in these countries from the early 1980s onwards. This was the case especially for Azerbaijan and China, where, by 1990, the sex ratio among children had already reached the record value of 110. Along with China, several Caucasian countries had a child sex ratio above 115 in 2005, while countries outside of Asia usually record values of 101-105.

Since the sex ratio has remained generally stable in Asia, the growing contribution of the younger generation to the overall sex-ratio imbalance has in fact offset the opposite progress in sex ratio as observed among adults, as improvements in mortality among adults have particularly benefited the female population. What have recently changed in Asia is the overall age patterns of sex discrimination: sex discrimination used to be more evenly distributed over the lifespan, but there is now a deep change affecting the new generations at the bottom of the age pyramid.

We recognise here the emergence of a new demographic regime of gender discrimination, in which male dominance is much more pronounced among the young (including the unborn) than it was in the past. While progress in life expectancy among adults has now significantly increased women's advantage above age 40 in most Asian countries, an opposite mechanism is also at work among children. The fact that the child sex ratio has unexpectedly increased is going to influence the entire population over the coming decades: the entire population will gradually grow increasingly more masculine in their make-up, as the new generations born after the 1980s grow older.

2 The components of Asian masculinisation

The sex ratio at birth (SRB, the ratio of boys born per 100 girls) is generally supposed to lie within a range of 104-106, subject to local biological variations. In 1950, three out of the four regions of Asia had a normal SRB – 105 in West and Southeast Asia, and 106 in South-Central Asia. East Asia has long been much more masculine, however, with SRB reaching 109 already by the mid-century. The situation in these four regions remained unchanged until the 1980s. Thereafter, there was an increase in SRB in East Asia from 1980-85, and in South-Central Asia from 1985-90, while the situation remained normal elsewhere in Asia. A further deterioration occurred in East Asia in the early 1990s, with SRB eventually reaching 114 in 2000-05 under the influence of China and, to a lesser extent, South Korea. In South-Central Asia, trends are mainly driven by India, where SRB increased to 107.

In 2000-05, five countries in West and East Asia had a very unbalanced SRB, with values above 110. China's most recent SRB estimate is above 120. India is in an intermediate position, as the national SRB average was 108 during this time period, though the country's northwestern states do record values close to those of China.

The origin of this rise in SRB is linked to the introduction of sex-selective abortions in many Asian countries. While there are other methods with which to alter the sex ratio of a newborn, the abortion of female foetuses is by far the most common practice accounting for today's skewed SRB values. This development, after all, specifically followed the arrival of ultrasound and amniocentesis technologies in the late 1970s, which made it possible for the first time for parents to know in advance the sex of their child – and, potentially, to eliminate female foetuses.

Asia is particularly intriguing because, although overall childhood mortality has continuously declined, the relative plight of girls has in some cases worsened over time. In most countries in the world, female mortality among children is only 80 per cent of that of male children. But mapping such values for Asia shows that this mortality ratio tends to increase as we approach a "central" region extending from India to China. In the latter country, estimates correspond to record values above 140 per cent, meaning that mortality among girls is 40 per cent greater than that of boys, when it should be instead 20 per cent lower. Excess female mortality among children is closely related to early discriminatory behaviour, a phenomenon usually summarised as the "neglect of girls". The lack of proper care extended to girls vis-à-vis boys is visible, for instance, through survey data on breastfeeding according to the sex of the child: girls are often breastfed less often, or over a shorter period of time, than boys. Similarly, parents are more likely to bring their male children to health centres, especially to private physicians, or to bring them earlier in case of serious illness. Immunisation coverage is also systematically better for boys than for their sisters. Food allocation within the household, albeit difficult to capture in surveys, is also shown to be in favour of boys in many settings. All of these factors combine to increase disproportionably mortality rates for girls.

A specific feature of infant mortality among girls relates to the prevalence of female infanticide. As it is usually conducted immediately after the birth of an unwanted daughter, it is occasionally confused with stillbirths, and thus falsely included in the sex ratio at birth when it should instead be considered part of early neonatal mortality rates. Female infanticide is a well-known feature of Asia's historical demography, especially in East Asia, but it was also reported as common among certain communities in South Asia during the colonial period. In spite of rapid economic development and strong legal penalties, it has also been reported in contemporary China and India, though female infanticide does tend to be mostly restricted to isolated and somewhat impoverished communities.

One distinct feature of gender discrimination relates to birth order, as the preference for children of a particular sex tends to worsen for higher-order children (the second, third, etcetera). In fact, data suggest that parents are often indifferent to gender at the time of their first child. But if the family intends to have only a limited number of children, whether for personal for state-instituted reasons, things change rapidly for the subsequent children. This is especially true for the child who is expected to fill a "gap" in the gender composition of the progeny, when parents are attempting to have a child of a particular sex. In almost all cases,

the statistics show that it is sonless parents who are most likely to influence the sex of their next child or its survival. In South Korea and China, the SRB is rather normal for the first child, but it increases significantly for the second birth in China (an SRB of 152) and for third birth in Korea (142). In Punjab state in India, sex imbalance at birth starts tends to rise more slowly for subsequent births.

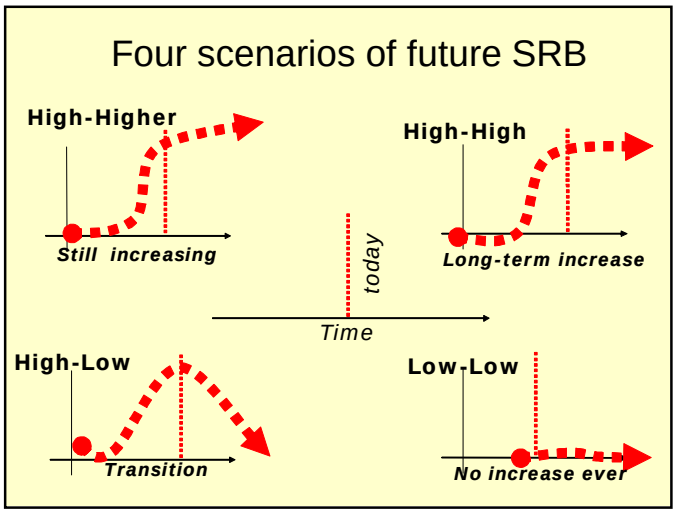
Another important aspect of Asia's masculinisation process relates to the large differentials in sex-ratio levels observed within countries. Census data have often provided detailed mappings of these variations, both within countries and across social groups. These disparities suggest how gender discrimination is related to social and economic factors, and also how it may propagate in the future towards new parts of the population. One striking feature is that there are also areas within affected countries in Asia where sex-ratio levels have remained absolutely normal, as both detailed maps for China and India show. In China, large patches of the country towards the West display SRB values below 105. Similarly, a large share of India, from Kerala to West Bengal as well as the Northeastern states reports levels of child sex ratio that appears almost unaffected by sex discrimination.

At the same time, there are many "hot spots" of high sex ratio in both India and China. These are orientated towards the Western border of India, with states such Gujarat, Punjab and Haryana displaying values close to or greater than 120. Geographical patterns are more intricate in China, but several provinces, such as Henan, Guangdong and Anhui, are characterised by extreme values that locally go well beyond 130.

Data or statistical models also help to examine the relationship between sex-ratio levels and ethnic data or socio-economic variables such level of instruction or affluence. Indeed, there are significant differences across ethnic, linguistic and religious groups in both India and China. It also appears that, in India, discrimination towards girls is more intense among urban citizens, educated parents and well-to-do families, while similar data from China indicate that sex selection appears more pronounced among peasants than among urban residents. In both India and China, education tends to be positively associated with discrimination towards the girl child.

3 The future gender disequilibrium

Present-day sex ratios among children are going to have a lasting impact on population dynamics in Asia. We will examine here some of the most obvious impacts of high SRB in the long term. To do so, we will use demographic estimates to forecast the evolution of four Asian populations till 2050, and examine the main features of their projected age and sex distributions.



The projections are run for four sets of populations. The first two are based on the

total populations of China and India. The other two sets consist only of two specific regions: the provinces of Henan, Anhui and Jiangxi in China (region referred to as "Central China"); and the states of Haryana and Punjab, along with the Chandigarh Union Territory, for India (region referred to as "Northwest India"). Hypotheses for these projections have been kept extremely simple. Mortality and fertility for China and India follow the United Nations estimates for 2005-50 at the national level.

The sex-ratio scenarios are a more delicate affair, since we have no historical experience to help anticipate the course of SRB in Asia. Using the highest observed value of 138 (recorded in Jiangxi province in 2000) and the standard biological value of 106, we have worked out four distinct scenarios, based on the possible situation after 2030. These four scenarios, also shown on the adjacent chart, are: High-Higher (increasing to 138), High-High (no change), High-Low (transitional scenario), Low-Low (constant 106 value).

As can be expected, the Low-Low and High-Higher scenarios lead to extreme sex-ratio values. In the Low-Low scenario, the overall sex ratio decreases towards standard values. In the High-Higher scenario, it keeps on increasing, under the sustained influence of extremely high SRB, until 2050 levels reach 114 in China and 117 in India. The impact of high SRB in the coming decades is proving more visible in India than in China, as a result of the former's continuous population growth; in China, on the other hand, the rate of natural increase is likely to be negative by the end of the projection period.

But in two intermediary scenarios, which probably better outline the probable demographic future of both countries, the sex ratio remains within a more reasonable range of 103-108. To a significant extent, rapid fertility decline and the concomitant demographic aging processes tend to partly offset the impact of high SRB on the overall sex ratio in both populations. Nevertheless, an important conclusion emerging from these projections is that both of these demographic giants will retain a significant male majority until 2050, irrespective of the future changes in SRB.

This set of projections also allows for a more detailed disaggregation by age groups. We will here consider only a few broad such groups, starting with the population of marriageable age – 29-49 for the male and female populations. The scenarios point to a large deficit of females, as the sex ratio in this broad age group will be around 115 in China and 108 in India. The current male surplus was about 5 per cent in both countries in 2000, and will keep growing till 2030 in China and till 2040 in India. This translates into a proportion of 10-15 per cent more males in the 20-49 age group in China, against 4-6 per cent in India, where the crisis appears far less severe due to the currently moderate level of SRB. But even in the transitional scenario, in which the sex-ratio cycle ends in 2030, the female deficit in the 20-49 age group will rise to 26 and 23 million in China and India, respectively.

The situation in the two sub-regions is even worse, as sex ratios in each of these start from a distinctly higher level in 2000. SRB will cross the 120 mark in 2025 in Central China, and in 2030 in Northwest India. In both of these regions, the sex ratio will stabilise and then decrease to 115 and 120, respectively, in 2050, according to the more optimistic High-Low scenario. But with no such decline in SRB in 2000-30 (the High-High scenario), the sex ratio among the 20-49 age group will continue growing, and reach 125 or more in both regions.

Such a deficit of women of marriageable age is, in fact, already being felt in several pockets of China and India. But when occurring at a larger scale, this will impact marriage patterns in several ways. First, having less women of marriageable age will mean that a significant proportion of men will have to delay their marriage. Second, however, the ultimate effect of delayed marriages will also affect younger generations of men: when they reach their 20s, they will not only be in surplus as a result of their own initial SRB, but they will also face a backlog of older, unmarried men, who will still be in the "marriage market". This bottleneck will not be solved exclusively by delaying marriages, due to the cumulative impact of skewed SRB on several generations. Third, a proportion of men will subsequently have to forego marriage altogether. We can, moreover, foresee that the poorest men will be disproportionately affected by this marriage squeeze, and that many among them may end up remaining single simply for lack of resources to marry. Indeed, they are likely to become the main victims of in the new marriage system, which will probably act as a strong destabilising factor, and may translate into class-based tensions.

The reduced number of women in these areas would have an interesting corollary, in that women's roles as wife, daughter-in-law or mother would become more essential to society. The enhancement of this traditional family role will, however, come at the expense of other life trajectories, such as remaining single or a career-oriented strategy. Indeed, if new incentives towards early marriage and childbearing are offered to women, this could lead to their temporary or permanent withdrawal from the workforce. The impact of delayed marriage for men, on the other hand, would probably be favourable to longer educational and training period, resulting in better human capital and skills. But the consequence on participation rates is less clear. A family life that is bound to start later is likely to require higher income levels and savings if the competition for brides is severe. We can also imagine enhanced job mobility or lower rates of participation and savings among some "surplus men", who are excluded from or who opt out of the marriage system and living a more hedonistic existence.

The entire family structure will also undergo significant changes under the impact of prolonged or permanent bachelorhood. Many unmarried men would have to be accommodated within the family structure, but with a reduced share of domestic power, because of their marital status. Some men may also choose to live on their own, a rather unusual arrangement for most Asian countries. In regions where a significant proportion of parents today have a single son, risk of sons remaining unmarried would mean the end of the traditional patrilineal family as we know it.

For women, the deficit situation may not improve their status at all, despite what a rudimentary economic model would have us believe. Scarcity of women would not enhance their position in society, due to the simultaneous increase in pressure to marry, higher risk of gender-based violence, rising demand for sex work and the development of trafficking networks.[1] Moreover, their reduced demographic share in democratic regimes would translate into a weaker political voice in public decision-making, a trend that could be reinforced by

[1] Hudson and de Boer (2004) provide the most pessimistic view of the consequences of the growing number of unmarried men.

women's lessened involvement in non-domestic activities, such as outside employment and civil life.

4 Why discriminate against girls?

Now we will apply a framework derived from the analysis of fertility decline in order to identify three main preconditions to be met for sex selection to occur. This framework is also made up of three parts: first, sex selection should be within the "calculus of conscious choice" for parents; second, they must have good reasons to practice it; and third, the methods for effective sex selection have to be available to them. As such, the three main preconditions are as follows:

1. Sex selection should be feasible: parents need to have access to efficient methods to alter the random, biological distribution of children by sex.
2. Sex selection should be conceivable by parents: the objectives and the methods to this end should be socially acceptable to them.
3. Sex selection should be advantageous to them: it should be to the parents' benefit to alter the sex composition of their children.

These preconditions can be translated into another simple framework: parents have to be *able*, *willing* and *ready* to practice sex selection.

Able? The proximate variables of sex discrimination

There is a wide range of methods available to influence the sex composition of one's children. Some traditional methods have been based on the belief that physical circumstance or divine intervention would ensure the "right" sex of the foetus. These are still often reported today, in particular the act of going on a pilgrimage or following a specific diet. But there are many other ways thought to be able to influence the sex of the child, including prayers, timing and type of intercourse, meteorological or astronomical circumstances, etc. There are also other remnants of the "old discriminatory regime" that have not yet disappeared, in spite of the emergence of abortion. One of the oldest post-natal methods used to alter the gender composition of children is also the crudest –i.e., female infanticide – which has long been reported in Asia, and has not yet entirely vanished from countries like China or India. At the same time, a far more common method is simply neglecting a girl child, a passive strategy intended to deprive girls of fair access to and share of household resources, with reduced survival probability as a consequence.

The new pre-natal diagnostic techniques involve the use of two main technologies, viz. amniocentesis and ultrasound. These techniques were first introduced in several Asian countries in the 1970s, starting with amniocentesis. By the 1980s, hundreds of clinics were already in operation. Abortion had been legal in many countries before that period, as was the case for China, where pregnancy termination had been authorised since 1957. In comparison to the traditional methods mentioned previously, the advantages in combining sex determination with abortion are numerous. Foremost of all, women are spared the entire duration of pregnancy, being able to eliminate female foetuses within the first months of

gestation. Moreover, the acts are conducted under medical control, and may be relatively safe so long as the abortion is performed by trained practitioners; the method subsequently looks more "modern" and "rational" than traditional methods. Not only is the technology part of modern health-care services, but it also reflects women's project to anticipate the birth of a girl. Finally, the effectiveness of the method is absolute.

Legislation has now become a central part of the supply framework. Further below, we will discuss the introduction of laws in Asia to check sex-selective abortion of foetuses. This is probably the most significant transformation in the supply-side part of our overview. These pieces of legislation are geared at preventing the use of ultrasound technology to detect the sex of the foetus and the performance of sex-selective abortions. Governments have also attempted to implement existing criminal laws more strictly, in an attempt to wipe out infanticide in some areas.

Willing? The need for sons

In order for parents to go forward with sex selection, the process needs, firstly, to be acceptable and conceivable both in principles and procedures. There are not many philosophical or religious principles that can bar individuals or groups in Asia from influencing the sex composition of their offspring, particularly when they have the means to do it. A significant dimension in this regard relates to the method used. Take, for instance, infanticide, which is repugnant to most people; this is probably one reason why this method has mostly disappeared, except in somewhat isolated, tightly knit communities where it has long been tolerated. While perceived as progress over the killing of baby girls in moral terms, abortion nonetheless remains also a very sensitive matter in many communities.

A common explanation of gender discrimination usually boils down to the fact that girls constitute a source of impoverishment for their family. It is therefore appealing to attempt a cost-benefit analysis, in order to examine the specific perceived "costs" related to girls, as well as the counterpart "benefits" accruing from boys. It is mostly with reference to costs arising during or after their marriage that daughters appear to be more "expensive" than sons. This is certainly the case in South Asia, where costs incurred during the wedding, as well as the ongoing institution of dowry, together makes marriage extremely asymmetrical for families of sons versus those of girls. Dowry is paid in kind or in cash by the bride's family to the groom's, and often includes post-marriage transfers, as well. High dowry will ensure a proper marriage into the best possible family – hypergamy, or women "marrying up", being a tacit norm– and ensures additional prestige and reputation to the bride's family.

In areas or communities characterised by joint-family arrangements, resources are usually pooled between parents and children. But Asian patterns are strongly patriarchal and mostly patrilocal, meaning that married women are expected to live with, or close to, their parents-in-law. As a result, later income from married sons will also benefit their parents, as is the case of rural households in which sons usually work on their family's land or take up their father's business. Multi-generational cohabitation also means that parents can enjoy constant financial, emotional and other support from their sons, whereas married daughters are not supposed to contribute to their parents' expenses after marriage. In Asian countries where pension benefits and social security are almost completely absent, except for a small portion

of the urban population, long-time support extended by sons is a major source of security for ageing parents.

The advantage of sons extends to non-financial domains, such as their being a source of protection and affection for the parents. Having several sons in rural China is desirable as a way to strengthen a family's power, either within the clan or vis-à-vis rival clans. But there are many more-symbolic advantages in having sons, as well, such as preservation of the family or the clan, the transmission of ancestral property, or even the most publicised role of sons – in rituals for the ancestors or during funerals, tasks from which women are customarily excluded in Asia.

5 A tragedy of the commons in the making

In a nutshell, we can sum up Asia's masculinisation process by saying that, in the wake of fertility decline, the populations of many countries in Asia have taken advantage of newly available technology to avoid giving birth to daughters. Quite simply, values of sex ratio at birth of around 120 mean that, per 100 girls, about 14-15 more boys are born than would normally be born– more than 13 per cent of the normal proportion (105-106). While a large majority of births simply follow random biological distribution, a minority of parents opt for active intervention, in order to avoid female births. However, it is clear that biased sex ratios are not socially sustainable over a prolonged period.

As such, we can consider a balanced sex ratio as a *public good*, available to everyone, like clean air or world peace. The behaviour of households who want to avoid female births can typically an opportunistic strategy, the benefits of which seem clear: boys are not only more prized than girls, but are also the only ones expected to take care of their parents. By tampering with biological laws, parents do not contribute their due share of girls to the common demographic pool – a contribution necessary to the stability of the entire marriage and family system. Given such a situation, environmental economists will recognise a *tragedy of the commons*: the archetypical social trap, in which free access to a public resource by individual interests leads rapidly to the complete depletion of the shared resource.

Skewed sex ratio is therefore a typical "externality" – i.e., the unintended and negative consequence of private decisions that ends up affecting everyone. The main question now concerns the intensity and the tempo of the sex-ratio transition. These are, to a large extent, the dimensions that will determine the severity of the crisis, as well as the overall number of people affected. While it may be safe to predict a likely end to the sex-ratio transition, there are two main options confronting affected societies and governments in the future. One is to let social change and its many ramifications play its natural role in bringing about the end of the masculinisation cycle. The second consists of adopting a more proactive role, in attempting to accelerate change in order to shorten the transitional period.

The transitional pattern displayed by South Korea, where, after a period of about 25-30 years, sex ratio at birth is coming back to normal level, is an encouraging illustration of the possible ways to end the crisis. But this was merely a spontaneous development, induced by self-regulatory mechanisms and economic change, though it is important to note that the action by the South Korean government was vigorous and contributed significantly to bringing down the sex ratio at birth.

Two global mechanisms in particular are currently at play with regards to sex selection: intensification within affected regions; and the diffusion of sex selection to new regions and countries, as has been seen in the recent past. These mechanisms are each pointing in the direction of higher SRB, even if China's example may indicate that there may be some stabilization or slight decline of sex ratio at birth in the most developed regions. But, as can be intuited from the example of South Korea, there are other possible factors that would have a more positive impact.

The economic case of gender discrimination may, in fact, diminish over time, for various reasons. Moreover, social and gender norms are not immutable in Asia, and conditions of women's empowerment progress in spite of their increased vulnerability in the womb. Ultimately, however, there seem to be many more regions where future intensification of sex selection is likely to take place, rather than regions where the process of decline is clearly accelerating– not to mention countries such as Nepal, Bangladesh or Pakistan, where the situation might easily deteriorate. In spite of possible local improvements, further degradation of the sex ratio at birth in Asia as a whole is a much more likely scenario in the coming decade if we rely only on the exogenous effect of social and economic development, and on the predicted mechanisms of discriminatory intensification and behavioural diffusion.

What to do?

As the chances of a prompt self-correction of the current sex-ratio distortions are slim, affected societies should amplify and diversify their responses in the coming years. The regulation of sex-selective abortions is obviously a strategy bound to yield results, if implemented vigorously. The first aspect is to monitor technology supply and its change. Indeed, failure to realise the role of the private health sector in spreading new sex-determination technology is partly responsible for the lack of government response to deteriorating sex ratios at birth. Recent advances in this domain, coupled with the likely emergence of new techniques to select the sex of a foetus, reinforce the need for such efforts. But, of course, strict regulation of sex-determination procedures and the prohibition of sex-selective abortions are necessary ingredients to change the overall landscape.

That said, experiences in this matter have met with ambivalent results so far. Many countries did introduce regulations early on. India started as early as 1983, followed by South Korea in 1987 and China in 1989. Nepal banned sex-selective abortions in 2002 when it liberalised its own law on abortions. These laws were often strengthened later on in various ways, in order to make them more effective. But the prohibition of sex identification and ensuing sex-selective abortions has proved extremely difficult to enforce, for a variety of reasons. It needs to be remembered that an ultrasound examination can be easily conducted, particularly in a private facility, by a person who requires little training. Communicating the sex of the foetus can be done discreetly, even without words, and prosecuting offenders such as mothers or providers is often extremely difficult. In India, the first related national act was introduced in 1994, and it prohibited both the use and advertising of pre-natal diagnostic techniques. But until 2003, when the act was strengthened, the law was largely ignored, and had no impact whatsoever on SRB trends. South Korea did early on introduce strict regulations, and applied great pressure on the medical community to prevent doctors from

performing sex-determination tests. But meanwhile, China has, for instance, failed to criminalise sex-selective abortions, making the official prohibition less effective in the prevention of illegal abortions.

In many settings, sex selection was tacitly tolerated as a spontaneous response by society to the government's failure to intervene in other domains, such as egalitarian land inheritance, dowry proliferation, relaxing fertility regulations or provisions for old-age security. In addition, there is a risk that stronger enforcement of the ban on sex determination and sex-selective abortions would risk endangering access to reproductive-health services, potentially driving abortion users underground. Elsewhere, where abortion is widely used to terminate unwanted births, officials fear that strengthening the regulation of abortion may result in an incontrollable upsurge in fertility.

Another approach to reducing sex-ration imbalances has been the efforts, by governments and non-governmental organisations, to work through advocacy, sensitisation and awareness-raising programmes. By targeting special groups, such as health personnel, young women and students, such campaigns aim to change people's mindsets and attitudes towards girls. One of their major messages relates to the role of girls and women in society; for instance, by showcasing women's successes and their contributions to their birth family. Patriarchy is, of course, a powerful and age-old institution, that even decades of communist rule in China or Viet Nam have failed to displace. Today, it is also under attack from the judiciary in many countries, where new laws on gender equity confirm women's equal status in terms of land rights, equal inheritance, domestic violence, etc. If effectively enforced, such laws could well allow women to gradually claim a larger role in family decisions and management.

The press in several countries has offered a crucial platform for these campaigns. For instance, the media has generally reported extensively on various survey and census results, highlighting imbalanced sex ratios, as well as on campaigns to counteract gender inequity and discrimination against girls. An additional dimension of the problem is gradually also receiving increased press coverage: the fate of unmarried young boys, as well as related developments such as women's trafficking and increased gender-based violence.

A different approach – beyond advocacy, repressive measures and the impact of social change – consists of focusing on the demand side, in order to counterbalance the effect of women's undervaluation in patriarchal systems. These systems may take very different forms in each country, and there is therefore no common strategy. However, some of their central social and economic components have already been mentioned in the context of different Asian cultural situations: dowry transfers, patrilocal residence and extended patrilineal families, old-age support, ritual duties, inheritance though sons, etc. As such, this approach consists of launching preferential policies towards girls. Supporting girls or those families that only have girls can take many forms: direct subsidies at the time of birth, various scholarship programmes, gender-based quotas or financial incentives aimed at improving their economic situation. At the same time, while such policies may seem like sound ways by which to offset the impact of economic undervaluation of girls, they are at times neither feasible nor affordable.

Governments also seem to have long suffered from statistical myopia as to the issue of rising sex ratios at birth. Censuses are indeed providing detailed data, but only after long intervals. Most countries do not have a reliable civil-registration system that would allow for monitoring annual changes in the sex ratio at birth. Information is necessary not only for the public, but also for decision-makers to adjust government actions: on one hand, the risks of wasting resources on misplaced objectives or inappropriate targets are real; on the other hand, there is the risk of unduly disturbing social life by harassing citizens or restricting their access to reproductive rights.

South Korea's success probably illustrates the fact that reduction in discrimination against girls is neither spontaneous nor the product of a single strategy. The government not only banned sex-determination test in 1987 (and reinforced the law in 1994), but it also launched important mass-media campaigns starting in 1991. During the same period, deep changes, following 20 years of exceptional economic growth, were affecting Korean society and contributing to increasing women's autonomy. Similarly, China's ambitious "Care For Girls" programme encompasses many dimensions of the sex-ratio predicament. It offers cash and other incentives to families with daughters, scholarships for girls, better housing or loans for targeted families, etc. It also includes several awareness-raising campaigns, as well as repressive measures against illegal abortions and infanticide.

With hundreds of thousands of female foetuses aborted every year in Asia, coupled with the prospects of deep social tensions in the future, countries in the region now have the duty to launch a head-on campaign against sex-selective abortions, one of the most upsetting manifestations of gender-based violence recognised by the 1995 Beijing Platform for Action. The past decades, which have seen greater attention to and some progress made towards women's empowerment, should not lead to their demographic marginalisation in Asia. While accelerating social change is often a slow and difficult venture – particularly when it involves the basic gender and family arrangements on which all social relationships rest – societies need to find their own solutions to reverse the current trend towards gender exclusion. Even if the strategies for such a battle are many, the objective remains clear, and resources for actions should follow. The time to act has come, as decisions and initiatives taken today will shape the Asian society in which young generations will live tomorrow.