Were Baby Girls More Likely To Be Killed For Birth Control In Pre-Modern East Asia?

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Abstract

Since the 1990s a group of demographers has claimed that infanticide was widely committed in pre-modern China as a preventive check. These revisionists suggest that strong boy preference and economic considerations made parents intensively kill female babies in infanticide. We explored validity of this sex-biased hypothesis of infanticide by studying demography of Colonial Korea (1910-

1945) that satisfies most conditions implied by the revisionists. Our result refutes the hypothesis; the sex ratio of both surviving and murdered babies were not significantly different from the natural sex ratio. We infer that data problems inherent in genealogies or registration records led the revisionists to a wrong conclusion. If they use better data, they will, we expect, confirm our result.

1. Introduction

Murder of a newborn baby by his or her parents appears frequently in myths, fairy tales, or old stories all around the world. Historical demographers have regarded these cruel episodes as reflecting prevalence of infanticide and inferred that it was a desperate reaction to extreme poverty or great famine. About two decades ago, however, a group of scholars studying pre-modern Chinese demography proposed that infanticide was committed in China not as a positive check but as a preventive check; people in late Qing Dynasty deliberately killed newborn babies in order to avoid potential catastrophe from high population pressure.[1]

Noteworthy is that these revisionists corroborated their argument by showing the "unnatural" high sex ratio. By comparing the sex ratio from their data with that from the model life table by Coale and Demeny (1983), they inferred that female babies were discriminated in infanticide and ultimately claimed the new interpretation of Chinese population history. Since then, the sex-biased infanticide has been popularly referred as a stylized fact characterizing the pre-modern Chinese or Asian demography. For example, Massimo Livi-Bacci mentioned that "infanticide was mainly committed to female babies". Gregory Clark, in explaining the birth rate of China, argued that female infanticide "was consciously and deliberately practiced".[2]

The sex-biased hypothesis of infanticide, although elaborately proposed and widely adopted, has serious weaknesses. Theoretically, their argument relies on some implausible inference on the interaction between parents' decision-making and socio-economic conditions. More problematic is the fact itself. The high sex ratio of pre-modern China provided as evidence of their argument seems to reflect the drawbacks of their data rather than the actuality. In order to better understand the demography of pre-modern Asia, a more robust empirical foundation is needed.

For this, we estimated the sex ratio of murdered and surviving babies in Korea during the colonial period (1910-1945). Pre-modern Korea had conditions that the sex-biased infanticide might occur as much as China. And we can use data suitable for measuring the sex ratio of both surviving and murdered infants. Studying these data can shed a new light on historical demography of pre-modern Asia as well as Korea.

In the following, we will first review the historiography of pre-modern Asian demography and evaluate claims and evidence the revisionists proposed (Chapter 2). After describing the test strategy (Chapter 3), we will explore using aggregate data (Chapter 4) and individual level data (Chapter 5).

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[1] Representative are Lee, Wang, and Campbell (1994), Lee and Campbell (1997), Lee and Wang (1999).

[2] Livi-Bacci (2006), p.103 (in Korean translation), Clark (2007), p.77.

Our finding leads us to a new interpretation on the selective abortion after the introduction of the ultrasound test and its implication in the long-run pattern of Asian demography (Chapter 6). In the end, we will sum up the whole discussion and conclude (Chapter 7).

2. The Sex-Biased Hypothesis of Infanticide: A Critical Review

(1) Infanticide as a Preventive Check

In *An Essay on the Principle of Population*, Thomas Malthus proposed important concepts and arguments that have guided and framed the subsequent studies of population. One of Malthus' conjectures especially influential to historical demographers is about what determined the pre-modern population. After distinguishing the preventive check and the positive check as factors of population control, he suggested that the preventive check rarely work in pre-modern societies. This argument came from his belief that "the passion between the sexes" makes people bear children constantly at a high level. The size of population, instead, is decided by the positive check; as the growth of food production cannot be as fast as population growth, the death of people due to hunger and poverty adjust the size of population.[3]

Malthus' conjecture on the dominance of the positive check in the pre-modern societies has been examined by many scholars. It is, however, E.A. Wrigley and R.S. Schofield who performed a monumental test and made a watershed in this historiography. From analyzing massive parish register records of England from the mid-16th century to the mid-19th century, they characterized the pre-modern England as "a fertility-dominated low-pressure system". This result refutes Malthus' conjecture; the preventive check rather than the positive check turns out to be the key determinant of the English population.[4]

David Weir succeeded to Wrigley and Schofield's critique on the Malthus' conjecture. His prime concern was to evaluate Wrigley and Schofield's contrast between England and France. However, by showing that Old Regime France was also a low pressure society where the preventive check functioned effectively, he ultimately contributed to rejecting Malthus' postulation of pre-modern demography.[5]

The work of James Lee, Cameron Campbell, and Wang Feng marked a culmination at this revisionist movement. China has been generally regarded as the last place where the preventive check

[3] Malthus (1985). The quotation comes from p.70.

[4] Wrigley and Schofield (1981), and the quotation comes from p.451. Schofield (1986) manifested explicitly that the key research agenda of Wrigley and Schofield (1981) is the test of Malthus' argument.

[5] Weir (1984).

effectively reduced the population pressure. Malthus also asserted a similar idea in *An Essay*.[6] In their study on the fertility and mortality of Qing nobility and a rural village in 19th-century Liaoning, however, these revisionists claimed that even in China birth side control was deliberately performed.[7]

Noteworthy is that the revisionists proposed an additional mechanism that Wrigley and Schofield or Weir did not explore systematically. Whereas the previous studies focused on nuptiality and birth interval, they proposed that in China infanticide was an additional mean to lower population pressure. Rather than as a desperate response to famine, people murdered newborn babies as a precautionary deliberate control in order to avoid potential catastrophe. Since infanticide is a control through death, they analyzed it under the title of the positive check or mortality.[8] However, they implied in their discussion that the deliberate infanticide was a *de facto* preventive check.

Independent of this movement, scholars studying population history of Japan have long paid attention to *Mabiki* (the Japanese word of infanticide). By referring these studies, Hiroshi Kito inferred that infanticide was widely implemented to lower the family size in Japan before the industrialization.[9] The studies of Japanese demography, together with China, contributed to redefining the infanticide as a precautionary device.

(2) Sex-Biased Infanticide in Pre-Modern Asia

An important proposition coupled with this novel interpretation of infanticide as a preventive check is that female babies were discriminated in the infanticide. This argument, which can be named as the sex-biased hypothesis of infanticide, consists of two parts. First is that out of murdered babies girls outweighed boys. If we define the sex ratio (R) as

N^i: the number of people. i=m if male, i=f if female

[6] Malthus (1826), Ch.XII. Requoted from Zhao (1997), pp.729-730.

[7] Lee, Wang, and Campbell (1994), Lee and Campbell (1997), Ch.4 and 5, Lee and Wang (1999), Ch.4.

[8] The title of the chapter discussing the infanticide is "Two types of positive check: infanticide and neglect" in Lee and Campbell (1997), Ch.4, and "Mortality" in Lee and Wang (1999), Ch.4.

[9] Kito (2006), pp.216-222. However, Saito (1992) warned that the infanticide might not be so prevalent as the scholars suggested. [More literature?]

The sex-bias in infanticide can be formulated as

$$\bar{R} \gg R_{inf} \quad (2)$$

$\bar{R}$: the natural sex ratio of newborn babies

R_{inf} : the sex ratio of murdered babies

Second is the prevalence of infanticide. Unless ample number of babies was killed, the sex-bias in infanticide alone does not support their core argument that infanticide was a major tool for reducing population pressure. One way to represent the prevalence of infanticide consistent with their argument would be that the sex ratio of the surviving babies exceeded the natural sex ratio. In other words,

R_{sur} : the sex ratio of surviving babies

Provided that the major cause of infant mortality is infanticide and that Equation (2) holds, Equation (3) is equivalent to Equation (2).

Important is that the revisionists didn't propose the selective infanticide simply as a corollary from the prevalence of infanticide. On the contrary, they utilized the low sex ratio of murdered babies as the evidence for corroborating the prevalence of the precautionary infanticide. For example, in the registration record of the banner villages in Liaoning that Lee and Campbell (1997) analyzed, the number of people whose record started from his or her birth is only quite small.[10] As it is impossible to count the number of murdered babies and estimate how prevalent it was, they estimated the number of "missing girls", inferred the sex bias in murdered babies, and then the prevalence of infanticide.[11]

The revisionists contended that the sex bias in infanticide originated from the rational decision making of the parents. Whereas sons were "only potential productive assets", girls imposed large burden to a family such as dowry. Given that the marginal cost of rearing a girl was much higher than a boy, it is natural for parents to remove a girl rather than a boy, if needed, for the welfare of the whole family. This consideration brought about the high sex ratio of children in each family and the

[10] Out of 6,084 observations, the number of people recorded from age (*sui*) 0 is 52, and from age (*sui*) 1 is 76. Lee and Campbell (1997), p.232 Table A.1.

[11] [Lee, Wang, and Campbell (1994) also adopted a similar strategy. – to be completed]

high sex ratio of the pre-modern China as a whole.[12]

The sex-biased infanticide is regarded as having significant first-hand and second-hand impacts on the pre-modern Chinese demography. The direct consequence is definitely reduction of the population and its pressure. Indirectly, the shortage of marriageable women due to the high sex ratio caused age imbalance between married couples. At the same time, compared to sex-neutral infanticide, the sex-biased infanticide contributed to lowering the long run population growth by reducing nuptial women. Ultimately, the sex-biased infanticide played the key role in the revisionists' understanding of "the Chinese Demographic System".[13]

(3) Problems of the Hypothesis

Although elaborately proposed and widely adopted, the sex-biased hypothesis of infanticide has some serious weaknesses. First, they suggested that the role of sons supporting their old parents or burden of dowry forced parents to kill their female babies. However, these factors are not unique to pre-modern China. For instance, dowries were quite burdensome in early modern European societies, but sex-bias in infanticide or high sex ratio is not reported.[14] It is not sufficient, therefore, to rationalize the sex-bias in infanticide only by referring the existence of these factors. In order to corroborate their argument, the revisionists should present how costly it is to rear a girl relative to a boy in China compared to other societies.

Second, the causal relation between the boy preference originating from the aforementioned economic and social factors and the high sex ratio doesn't go into one way in the long run. If the boy preference raised the sex ratio quite high, the relative value of girls should go up, and this should weaken the boy preference. Although the revisionists regarded the duration of the high sex ratio and the strong boy preference as a long run demographic equilibrium derived from rational decision making, this inference is not persuasive.

Third, more critical is their estimates. For instance, Lee and Campbell (1997) basically compared the sex ratio of surviving babies in rural Liaoning with the natural sex ratio, and suggested that the about 25% of newborn female babies died of infanticide.[15] In obtaining this result, they

[12] Lee and Wang (1999), pp.57-62. The quotation comes from p.61.

[13] Lee and Wang (1999), p.7, p.62, 105-109. Scholars studying Japanese demography also mentioned that the infanticide in pre-modern Japan was, like China, a sex-biased one. However, Cornell (1996) and Saito (2006) raise suspicions to this view.

[14] Cooper (1976).

[15] Lee and Campbell (1997), p.67, Table 4.4. In this experiment, they put 105 as the natural sex ratio.

applied their mortality estimates.[16] However, according to the description of their data, the records of infants were highly incomplete and the data condition of female infants seems to be worse than that of male ones.[17] This implies that the higher mortality of female infant might not be reliable enough to derive such a core argument.[18]

It can be a strategy to make more effort to discover a logic justifying a long-term demographic equilibrium with high sex ratio, or to adopt more sophisticated technique to measure mortality rates from the given data. However, a more productive alternative would be to find a better measure of the sex ratio related to infanticide. A reliable estimate of sex ratio of murdered babies can enhance our understanding of pre-modern Asian demography.

3. Test Strategies of the Hypothesis

We explored the sex-biased hypothesis of infanticide using data from colonial Korea (1910-1945). Colonial Korea had the conditions that the revisionists referred as the causes of the sex-biased infanticide in pre-modern China; the dominant share of population made their living in agriculture, and the population pressure was not lower than other Asian countries. And since the New Confucian ideology became the social norm from the beginning of the 18th century, Korea has maintained the exceptionally strong boy preference for last three hundred years.[19] In addition, Korea is geographically close to Liaoning or Manchuria. A large share of population at least at the northern part of Korea was ethnically close to those that the revisionists examined. All these cultural, social, and ethnical similarity supports the relevance of this test.

Using data from Colonial Korea, we will examine two statements for the test. First is that the sex ratio of surviving babies should be much higher than the normal level. This is basically examining Equation (3). In case of China, the revisionists proposed 125 for the sex ratio of surviving babies positing 105 as the natural sex ratio.[20] We used these values for evaluating the sex ratio from Colonial Korea.

Second is that the sex ratio of murdered babies should be much lower than the natural level. This is basically examining Equation (2). The revisionists did not measure and propose the sex ratio of murdered babies. However, we can derive the sex ratio of the murdered babies that is consistent with the arguments of the revisionists. The revisionists suggested that the sex ratio of surviving babies were

[16] Lee and Campbell (1997), p.62, Table 4.1.

[17] See footnote 10.

[18] [The same critique also applies to Lee, Wang, and Campbell (1994). – to be completed]

[19] Deuchler (1992), Peterson (1996), and Moon (2004).

[20] Lee and Campbell (1997).

120-125, and that the normal sex ratio is about 105, and that about 25% of female babies died of infanticide. As shown in Appendix 1, the sex ratio of murdered babies and these variables have a relationship such as

$$R_{inf} = \frac{\bar{R} - (1 - \alpha^f) R_{sur}}{\alpha^f} \qquad (4)$$

The equation shows that given $\bar{R}$ and R_{sur}, infinite combinations exist between the share of murdered female babies and the sex ratio of murdered babies. However, as shown in Appendix 1, these two variables have a positive correlation. It means that we can get an upper bound of the sex ratio as a standard. If we take 30% for the share of murdered female babies as suggested by the revisionists, the consistent sex ratio of the murdered babies is 58. Table 1 lists some combinations between these variables, and we can use them for judging the estimated sex ratio of murdered babies.

4. Sex Ratio of Surviving Babies

The Government-General of Colonial Korea had made various systematic efforts for collecting demographic information throughout the ruling period. The *Residence Statistics* is an outcome of such endeavor. The Government-General required people in Korea to report their residence to the municipalities every year, and the statistics from its aggregation were published at *The Statistical Yearbook of the Government-General*. Since it includes statistics on birth and death of infants, we can use them for measuring the sex ratio of infants and for evaluating the revisionists' arguments.

According to the *Residence Statistics*, the average sex ratio of reported newborn babies from 1911 to 1938 was 113.0 (Figure 1).[21] This is 7-8%p. higher than the natural sex ratio. If the difference can be wholly ascribed to deliberate infanticide and if boys were not murdered at all, it implies that about 7% or 20,000 of newborn female infants were killed every year by their parents.[22]

7% of newborn female infants are definitely a large amount. However, compared to 25-30% that the revisionists proposed on China, it is only about a quarter. More crucial is that even the 7% cannot be totally counted as infanticide. The birth information of the *Residence Statistics* basically came from

[21] Statistical Yearbook of the Government-General.

[22] Suppose that 105 boys and 100 girls were born in a society. Then the sex ratio will be 105. If x number of girls died of infanticide and the sex ratio became 113, the number of murdered girls (x) will be 7.01. The share of murdered girls out of newborn female babies, then, was about 7% (=7.01/100).

self-report of parents.[23] Large number of birth was not reported at all, and female infants were disproportionately more omitted like genealogies in Korea or China.[24]

The sex ratio of the dead infants supports this inference. As illustrated in Figure 1, the average sex ratio of infants died in age two or less surpassed 120. This higher death rate of male infants is not likely to originate from "sex-biased infanticide". A more reasonable interpretation would be that it resulted from that birth and death of male infants were more attentively registered.

Comparison with the Census confirms this inference as well. As enumerators visited every house and counted people, the Census is more robust from the distortion innate in the *Residence Statistics*. The Government-General performed population census at every five year from 1925, and Table 2 shows the sex ratio of infants from the censuses. It was below 105 for every listed age at every census year. Considering the data collection precedures, the sex ratio from the census is closer to the true value, and this belies the sex-biased hypothesis of infanticide. Together with the information from the *Residence Statistics*, the sex ratio of infants from the Census refutes the sex-biased hypothesis of infanticide.

5. Sex Ratio of Murdered Babies

Another way to examine the sex-based hypothesis of infanticide is to explore the sex ratio of murdered babies. The sex ratio of surviving babies is affected by various factors other than the potential infanticide. As measurement of murdered babies provide direct information free from these factors, it can complements with the previous results from aggregate statistics.

Since data on murdered babies is quite rare, few attempts have been made to make a direct measurement. However, the record of the *Haengryu* Deceased in colonial Korea can be used for this approach. When an accidental death occurred, the police in colonial Korea investigated identity of the dead and the cause of death. If the police figured out the identity and found his or her families, the corpse would be handed to them. Otherwise, that person was classified as the *Haengryu* Deceased. [25]

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[23] It does not mean that the registration system was a purely voluntary one. The Government-General ordered municipalities to investigate every family and to update the record regularly. However, comparison with Census or other circumstances indicate that this did not work as perfectly as the Government-General wished.

[24] The goal of keeping genealogy books in pre-modern Korea is to identify lineage of the family, and the lineage went through sons. Omission of women, therefore, was quite common, and high class families were not so different. Park and Kim (2010).

[25] The majority of the *Haengryu* deceased were beggars, drug or alcohol addicts, or outcast like lepers, and they did not have families or acquaintances at all within reach. However, as not a

As the municipalities advertised details of the *Haengryu* Deceased including the sex, age, and causes of death at the *Official Gazette*, we can use them for measuring the sex ratio of murdered babies.[26] This data does not allow us to uncover the magnitude of murdered babies. However, we can estimate the sex ratio of murdered babies and test the revisionists' hypothesis.

Of course, not all the babies recorded as the *Haengryu* Deceased died of infanticide (Figure 2). A baby can be born dead or alive. Out of those born alive, some might be abandoned to death and some might be murdered. The infant corpse recorded as the *Haengryu* Deceased consisted of all the three categories, that is, the abandoned and unsaved, the murdered, and the born dead (stillbirth). As the data describe causes of death, we can separate out the case of stillbirth, and measure the sex ratio of the babies who were abandoned to death or murdered. We claim that the sex ratio from this data is a reasonable estimate of the population sex ratio of murdered babies.

If the post-mortem treatment of corpse is different according to sex, our proposition would not hold. We cannot exclude the possibility that under the culture of boy preference male dead infants were treated better than female, that is, were buried rather than being simply thrown away. If it is true, the corpse of murdered boys were less likely to be found on the street, and the estimate from the *Haengryu* Deceased should underestimate the true sex ratio of the murdered babies. We can reflect on this potential bias in evaluating the result.

Table 3 shows the estimation result. In the *Haengryu* Deceased data, the total number of babies whose age is recorded from the birth to one year old is 630. Out of them, about 20% were recorded as stillbirth. The remaining 437 fits for the definition of the infanticide. Although the data covers the period from 1913 to 1945, the observations of the 1910s and the 1940s were relatively small. They are relatively well dispersed across the Korean Peninsula.

The sex ratio of the murdered babies was 101.4. As it is around the natural level, the argument that parents discriminated girls in infanticide does not stand. This pattern is confirmed across time and region.

Noteworthy is the sex ratio of babies who died of intentional murder. According to the cause of death, we counted those who were choked or drowned as the case of apparent murder. The sex ratio of the murdered babies was 83.3. This is far lower than the natural sex ratio. However, considering Table 3, it is much higher than the sex ratio implied by the revisionists.

In conclusion, the evidence from the *Haengryu* Deceased contradicts the sex-biased hypothesis

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small share of them died due to unexpected misfortune like drowning or railroad accident, the *Haengryu* deceased cannot be named simply as ¡°homeless¡± or ¡°vagabond¡±. For more detailed description on the data, see Kim and Park (2009).

[26] The total number of the advertisement of the Haengryu Deceased in the Official Gazette is about 80,000.

of infanticide. Together with the inference from aggregate information, the estimate from individual level data refutes the revisionists' hypothesis on the infanticide.

6. Selective Abortion vs. Selective Infanticide

Before finalizing the whole discussion, it is worth reckoning on the implication of the hypothesis in interpreting the selective abortion of current Asia. From the early 1980s when ultrasound test of fetus became popular, parents of some Asian countries with strong boy preference have used this technology as a mean to remove female fetus. This practice has contributed to increasing sex ratio of surviving infants in China, India, and Korea, and so on.[27]

The revisionists emphasized similarity between the selective infanticide and selective abortion. They called infanticide as post-natal abortion, and regarded the selective abortion as a continuation or another form of traditional sex-biased infanticide.[28] This *Déjà-vu* seems to contribute significantly to the popularity of the revisionists' contention.

An intriguing implication of their argument is that the new technology did not matter much for the unnatural high sex ratio. The alternative perspective is that the ultrasound technology significantly increased the sex ratio. We can test these two arguments by measuring the long-term trend of the sex ratio.

The Korean data refutes the implication from the revisionists' view (Figure 3). The sex ratio of new born babies started to increase after the introduction of the ultrasound technology, and it reached up to 115. Before this technology was not available, people could have committed infanticide against the girl, and the sex ratio of the murdered babies should be much lower than natural sex ratio. Under the strong boy preference, the prohibition of ultrasound test for selective abortion can be justified.

7. Conclusion

Everyone would regard it very cruel if they might hear that parents kill their newborn baby. This inhuman commitment, people will generally think, might occur only when extreme situation like famine or war forced them to do so. About two decades ago, a group of scholars studying Chinese demography challenged this common sense. In pre-modern China, parents generically and killed their newborn babies not for escaping from desperate situation but for preventing potential future poverty. They substantiated their argument by showing the sex ratio of surviving babies, and further contended

[27] Scholars debated on how much can be explained by the selective abortion. However, all of them agree that selective abortion is pervasive. See Sen (1990).

[28]

that the sex-biased infanticide as the core characteristic of demography that distinguishes Asia from Western Europe.

We examined the validity of their argument by measuring sex ratio of surviving and murdered babies in colonial Korea. Colonial Korea satisfies the condition that they referred as conditions of infanticide. Unlike what the revisionists argued, however, we cannot find any evidence that female babies were discriminated in infanticide. The sex ratio of surviving babies and murdered babies were not significantly different from the natural sex ratio. The sex ratio of surviving babies spiked only after the introduction of ultrasound test.

Our result showed that the revisionists' argument doesn't stand. However, this answer raises much more new questions than the answer. For example, if high sex ratio is not plausible, how can we explain the marriage pattern? All these issues are basically empirical in nature. They can be answered only after dedicated scholars' long struggle with new data sources.

Appendix 1 Derivation of Equation (4)

In order to obtain the sex ratio of the murdered babies that is consistent with the sex ratio of the surviving infants provided by the revisionists, we derive a relationship between variables. As the revisionists referred natural sex ratio, the sex ratio of surviving babies, and the share of murdered female babies, we can get the relationship such as

$$= ([[R^{-} \cdot N]\uparrow f \blacksquare R\downarrow Inf[[\cdot N]\downarrow Inf\uparrow f)/((1-\alpha\uparrow f)N\uparrow f) = ([[R^{-} \cdot N]\uparrow f \blacksquare R\downarrow Inf \cdot \alpha\uparrow f N\uparrow f)/((1$$

If we rearrange, we can get

$$R_{Inf} = \frac{\bar{R} - (1-\alpha^{f})R_{sur}}{\alpha^{f}}$$

If we take a derivative with respect to ,

The inequality comes from $R_{sur} \geq \bar{R}$. This implies that the higher the share of murdered female babies, the sex ratio of murdered babies always increases. Therefore, we can get an upper limit of the sex ratio of murdered babies from a possible maximum value of α^{f}.

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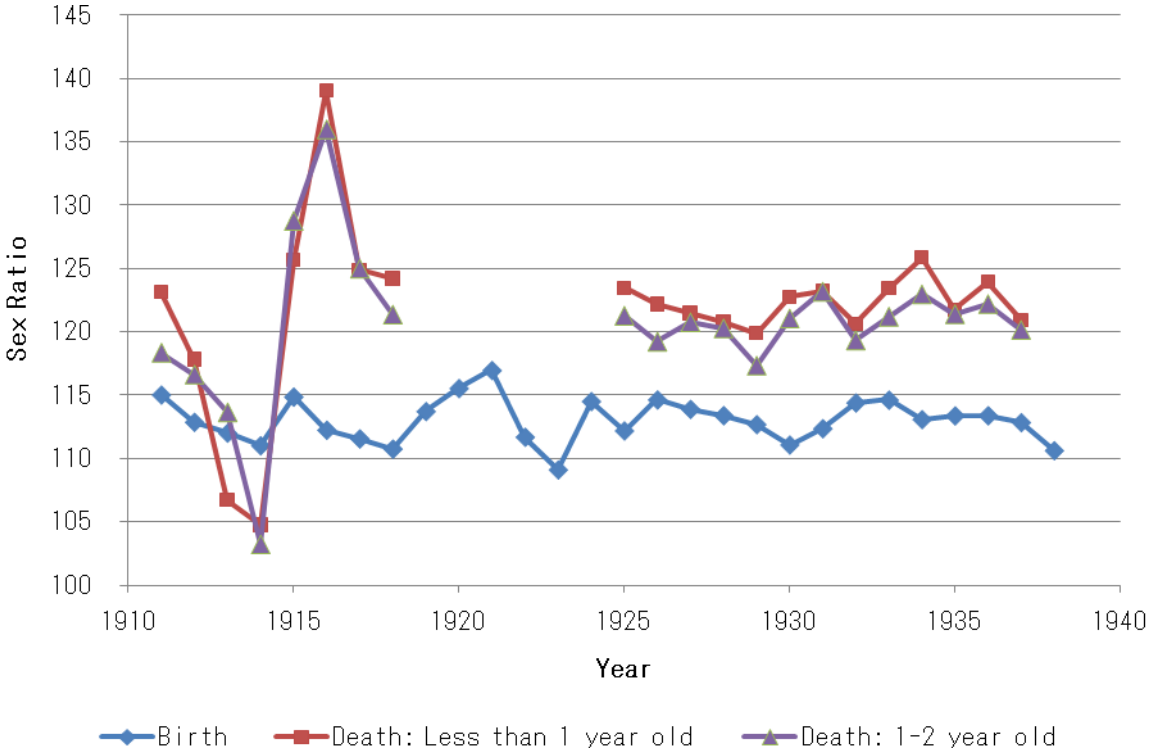
Figure 1 Sex Ratio of Newborn and Dead Babies: 1911-1938.



Note: The average sex ratios are as follows; the newborn babies (Birth) = 113.0, the dead babies (Death) under one year old = 121.7, and the dead babies (Death) with 1-2 year old = 120.6.
Source: *Statistical Yearbook of the Government-General*

Figure 2 Relationship between Infanticide and the *Haengryu* Deceased: An Illustration

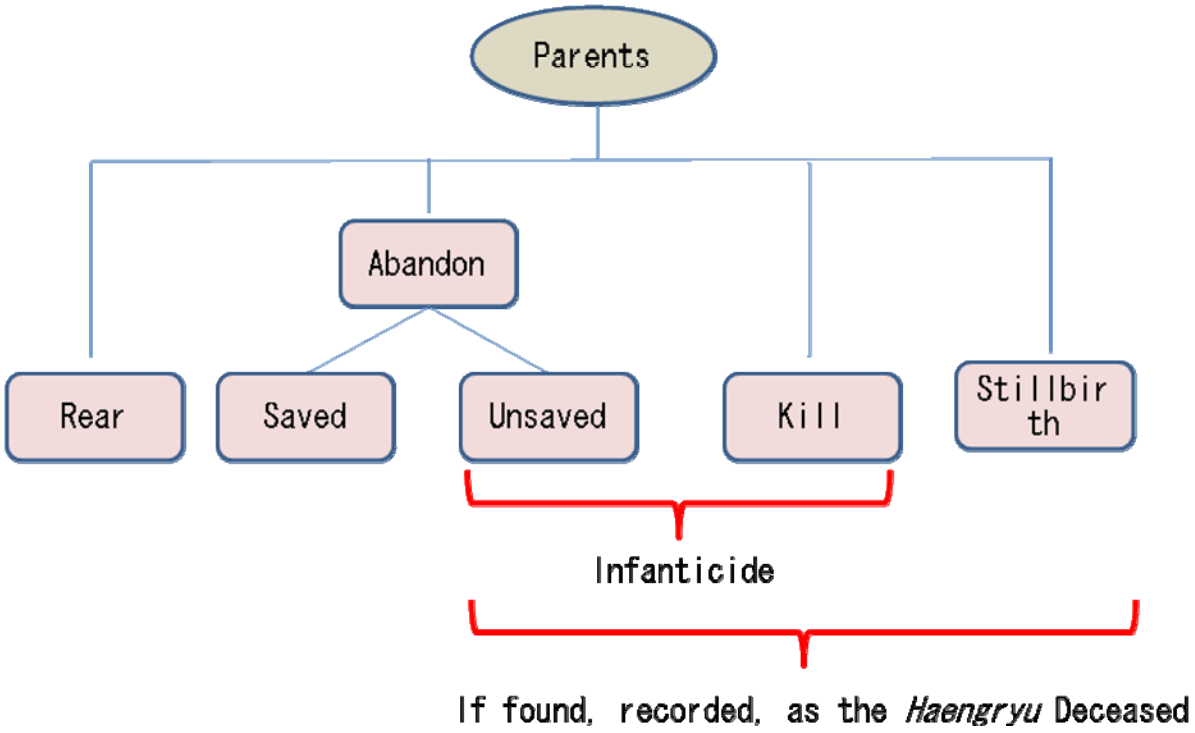
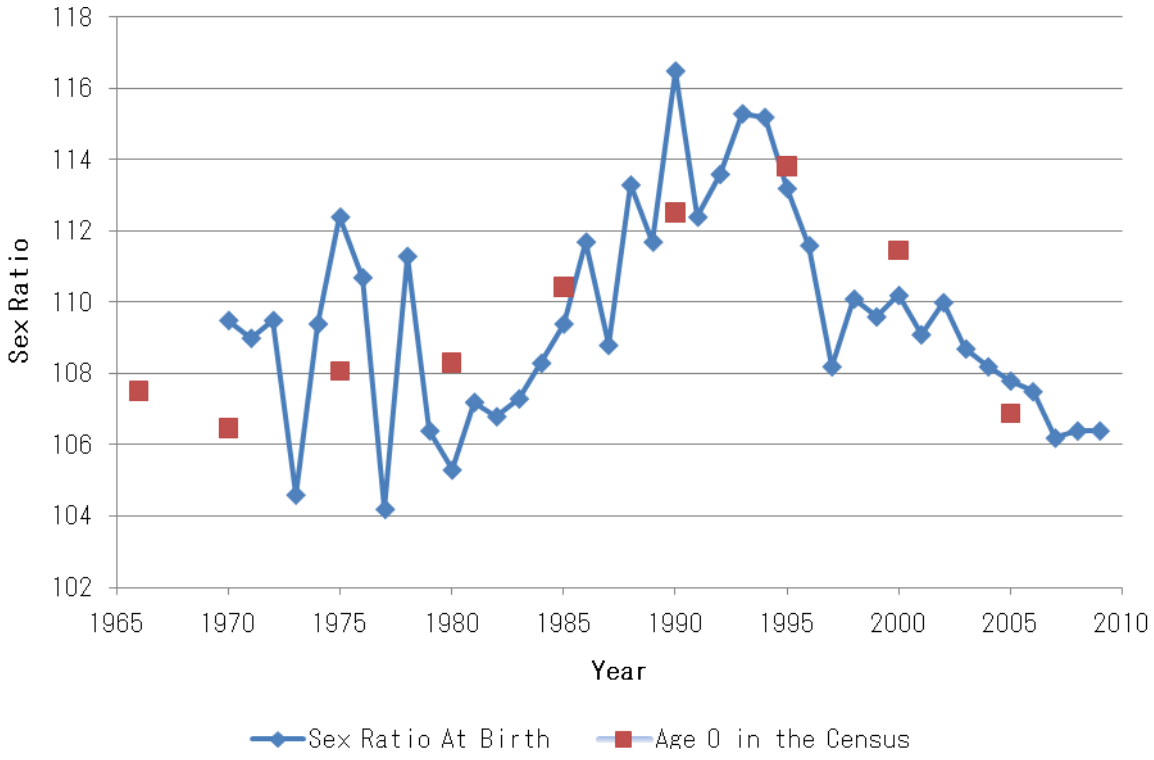


Figure 3 Sex Ratio at Birth: South Korea, 1966 - 2009



Sources: Statistics Korea (2010), p.36.

Table 1 Relation between Sex Ratios and Share of Murdered Babies

sex ratio of	shares of murdered babies (%)	sex ratio of murdered

surviving babies (Given)	Female (Given)	Male (Calculated)	Total (Calculated)	babies (Calculated)
125	30	16.7	23.2	58.3
130	30	13.3	21.5	46.7

Note: “Given” means the value suggested by the revisionists. “Calculated” means the value that comes from the Equation (4).

Table 2 The Sex Ratio of Infants from the Census, 1930-1940.

Age	Year			
	1925	1930	1935	1940
0	102.0	101.5	103.6	103.6
1	103.5	102.3	102.5	101.7
2	102.1	102.0	102.2	101.8
3	104.2	102.9	103.9	102.7
4	105.1	104.2	103.2	103.5
0-4	103.3	102.5	103.1	102.7
Total Population	105.5	104.6	103.8	101.7

Source: *Government-General of Colonial Korea*

Table 3 the Sex Ratio of Infants Recorded as the *Haengryu* Deceased (in Progess)

	Less than one month		1-6 months		7-12 months		Total	
	Sex Ratio	Observation	Sex Ratio	Observation	Sex Ratio	Observation	Sex Ratio	Observation
Total	114.5	163	105.0	123	86.4	151	101.4	437
Year								
1910s	114.3	15	200.0	6	120.0	22	126.3	43
1920s	91.4	67	123.5	38	89.7	55	97.5	160
1930s	133.3	70	90.0	76	65.7	58	94.3	204
1940s	175.0	11	200.0	3	128.6	16	150.0	30
Region								
Middle	111.8	72	90.9	42	91.3	44	100.0	158
North	173.3	41	85.7	26	84.2	35	112.5	102
South	81.5	49	129.2	55	84.2	70	95.5	174
Cause								
Murder							83.3	66
Others							103.4	364

Source: See the text