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14.74

Lecture 11: “Missing Women”: Gender Discrimination”

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# 1 Missing Women

Amartya Sen (Nobel Prize recipient): There are 100 million missing women

What is a “missing woman”?

Ratio: Number of females/Number of males in 1986

- Europe: 1.05
- Sub-Saharan Africa (SSA): 1.022
- North Africa: 0.96
- South East Asia: 1
- China: 0.94
- Bangladesh: 0.94
- India: 0.93
- Pakistan: 0.91

A missing woman is a woman who should be alive and is not.

Number of missing women = Current population \* Female/male ratio in SSA - Current number of women

Number of missing women in 1986 (millions):

- South East Asia: 2
- China: 44
- Bangladesh: 3.7
- India: 37
- Pakistan: 5.2

This phenomenon is more pronounced in South Asia and China than anywhere else. There are other dimensions of discrimination (see handout from first lecture), but the differential mortality is the most striking.

## **2 Neglect in every day life and in special circumstances**

### **2.1 Everyday life: How can we find out whether girls are given less to eat than boys?**

Observing who gets what portion of the food everyone gets is almost impossible.

However, imagine that the family has a fixed budget to spend on consumption. There are 2 goods: cigarettes and bread. Kids consume only bread, adults consume cigarettes and bread. Initially there are two adults in the family.

- What happens to the adults' total consumption when a child is born?
- What is likely to happen to cigarette consumption when a child is born?
- Imagine that girls are given less to eat than boys. How does the drop in cigarettes consumption differ when a boy is born then when a girl is born?
- How can we use this observation to construct a test of boys vs girls discrimination?

Angus Deaton tests this idea in Cote d'Ivoire.  $\pi$  ratio: (negative of ) the amount we need to give to the household so that they maintain their consumption of the adult good.

What would be the relationship between  $\pi$  ratio for boys and  $\pi$  ratio for girls in case of gender discrimination?

Look at the ration in the table: Do you see any sytematic pattern?

This test does not indicate strong discrimination. Yet the basic fact that women die more than men remains true. Perhaps the consumption of cigarettes is poorly measured. Perhaps the discrimination does not occur in the amount of food they get but in more extreme circumstances, or in more subtle ways.

## **2.2 Extreme outcomes: child survival in periods of drought**

Extreme outcome for the child: Girls are less likely to be taken to the doctor or the hospital when sick.

Extreme outcome for the parents: Are girls more likely to die than boys when parents face a crisis (e.g. a drought).

Why would it be the case?

Test: relative survival probability of girls and boys in rural India.

Dependent variable :

$$\frac{P(\text{survival}|\text{girl})}{P(\text{survival}|\text{boy})}$$

She does not have this: she does not know the gender of children who have died.

By Bayes rule:

$$P(G|S) = \frac{P(G)}{P(S)}P(S|G)$$



Note  $q$  the probability that a given child is a girl:

$$P(S|G) = \frac{q}{P(S)}P(S|G)$$

The dependent variable can be expressed:

$$\frac{P(G|S)}{1 - P(G|S)} \frac{1 - q}{q}$$

Look at table in the handout (T. statistic in parentheses)

- Does drought affect boys' or girls' survival more?
- Why does she run the regression for the "no flood years"?
- Why does she run it separately for landed and landless?

## **3 Some economic explanations**

### **3.1 The relationship between girl mortality and women's earning opportunity**

Child mortality does not come out of actual desire of the parent to suppress the girl, but is the consequence of neglect. Parents are not investing in the girl's health. Why?

Perhaps because they are not expecting that the returns to girl's human capital is that high.

Nancy Qian's paper: "what does this have to do with the price of tea in China".

- Liberalization of agriculture under the "household responsibility system" led to an increase in the production of cash crops (tea, orchards, vegetables) relative to cereals after 1979.

- Tea is a crop where women have a comparative advantage, whereas orchard is a crop where men have a comparative advantage.
- Suppose parents respond to expected returns of having boys and girls. What would you expect to see if you plotted the gender ratio over time in regions suitable to tea production and in other regions? If you plotted the difference?
- Is this necessary indicative of a reduction of discrimination when women's earnings are higher? What else could be going on?
- What would you expect to see if you plotted the gender ratio over time in regions suitable to orchard production and in other regions? If you plotted the difference?

- What would you expect to see if you plotted the gender ratio over time in regions suitable the production of other cash crops and in other regions? How will this help us determine whether previous results are really due to the fact that households respond to the returns to having girls or whether this was simply an income effect?
- What should the DD estimator be for the effect of tea?
- What should the more-flexible estimator be, for the effects of all the crops?

## **4 The role of the marriage market**

- What is a dowry?

- What is a bride price?

In India, a dowry is more frequent than a bride price.

- What is the expected relationship between the number of potential grooms and the dowry?
- What is the expected relationship between the number of potential brides and the dowry?

We can test this idea: In India, men tend to marry younger women.

- What is the effect of population growth on the ratio supply of grooms /supply of boys? (see figure)
- How is that expected to affect dowries?

- See table: regression of the dowry paid on the district sex ratio. What is the sign? Is it significant?
- Do you expect dowries to go up or down when the women is better educated or has better health?
- In practice, it might not always be true. Educated women need to marry educated men (for social reasons). By getting an education, women reduce the number of men they can potentially marry. What effect can this have on the dowry? What interaction does it create between the rigidity of the social norms and gender discrimination?