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Abstract

In 1988, facing a total fertility rate of over four births per woman, the Vietnamese government introduced a new policy that required parents to have no more than 2 children. Using data from the Vietnam Population and Housing Censuses from 1989, 1999, and 2009, I apply a differences-in-differences framework to assess the effects of this policy on family size, son preference, and maternal labor supply. There are three main findings. First, the policy decreased the probability that a woman has more than two children by 15 percentage points (50%) for women aged less than 30 in 1989 and by 7 percentage points (11.5%) for women aged 30-39 in 1989. The policy reduced the average number of living children by 0.2 births per woman (10%). Low-educated women and women in rural areas were more affected by the policy. The policy had no effects on mothers' age at first birth. Second, the policy decreased the proportion of sons in each family by 1.2 percentage points (2.4%). Third, the policy increased women's labor force participation by 1.3 percentage points (1.5%).

Vietnam's Two-Child Policy

- Vietnam's two-child policy was made law in late 1988.
- The policy does not apply to families of ethnic minorities.
- The government denied a third child a birth certificate.
- Families were fined \$80, which was equivalent to 10 months of income in 1995, and had to pay extra fees for housing, education, and health care of the third child.
- State employees and government officials would be relegated to lower status jobs in smaller cities or lose their jobs if they violated the policy.

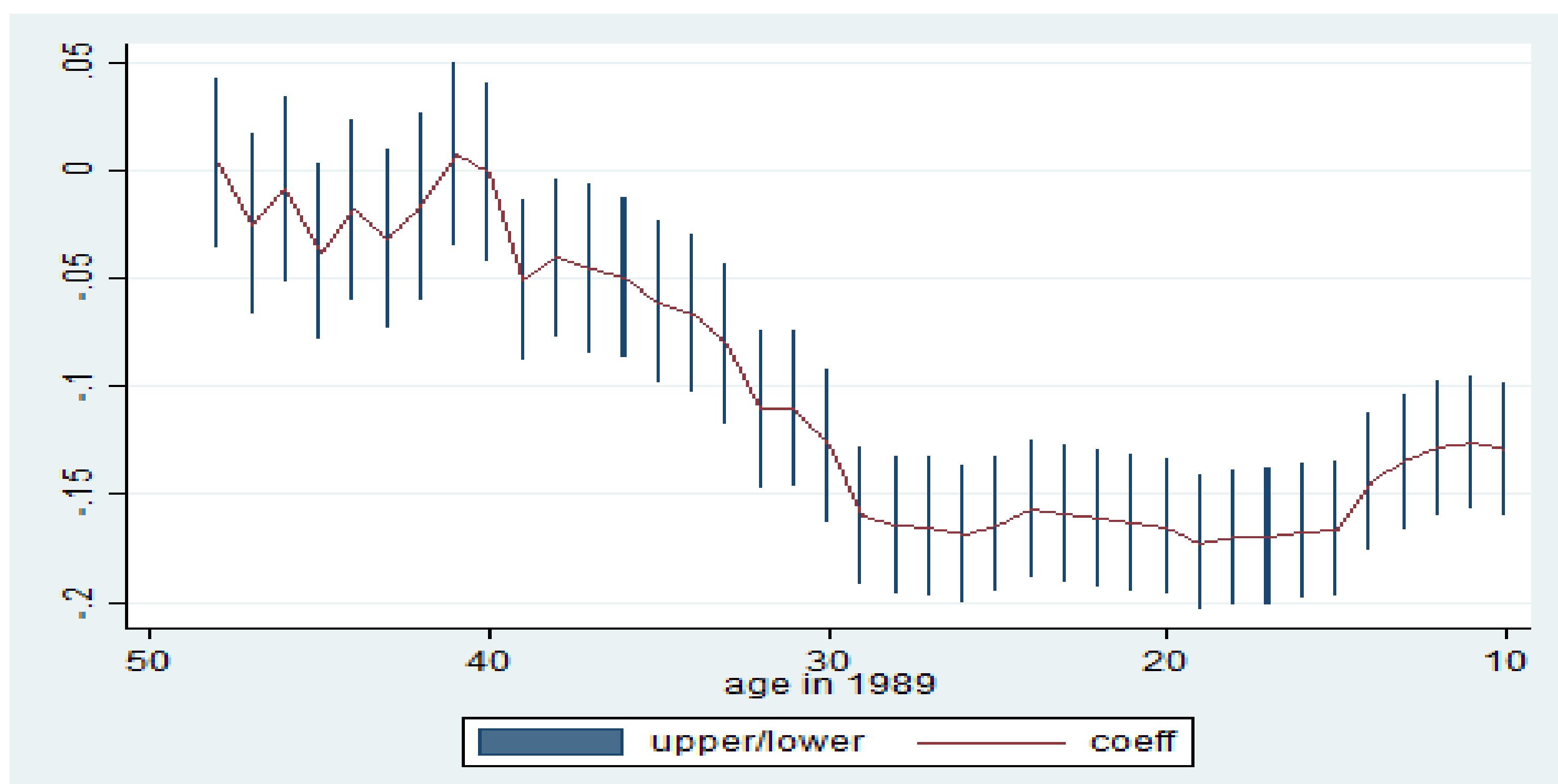
Regression Framework

$$Y_{(ijt)} = b_0 + b_1 \text{age}(it) + b_2 \text{age}^2(it) + b_3 \text{age}(it) \times \text{majority}(i) + b_4 \text{age}^2(it) \times \text{majority}(i) + \sum_{j=10}^{48} b_5j \text{age in } 1989_{(ij)} + b_6 \text{majority}(i) + \sum_{j=10}^{48} b_7j \text{age in } 1989_{(ij)} \times \text{majority}(i) + \text{province}(ijt) + v_{(ijt)}$$

in which $i = 1, \dots, N$ (index of person)
 $j = 10, \dots, 49$ (index of age in 1989)
 $t =$ survey years 1989, 1999, 2009

$Y_{(ijt)}$ is the probability of having more than two children, the number of living children, and the proportion of sons in each family.

Figure 1. Coefficients of the interactions between dummy variables of women's age in 1989 and the ethnic majority in the probability of having more than two children equation – Results from Sample 1



Data & Measures

- Vietnam Population and Housing Censuses from 1989, 1999, and 2009
- Entire sample 1: Women aged 10-49 in 1989
- Entire sample 1 is used to examine the effect of the policy on fertility and maternal employment.
- Subsample 2: Women aged 10-49 in 1989, who are household heads or wives of household heads and have all children living with them.
- Subsample 2 studies the effect of the policy on son preference.
- Fertility is measured as the probability of having more than 2 children and the number of living children.
- Son preference is measured as the proportion of sons in each family.
- Maternal employment is measured based on the activities of the last 12 months.

Introduction

- High fertility rates and low economic growth are prevalent problems in developing countries.
- Family planning policies are considered solutions to these problems.
- Little is known about the effect of the two-child policy.
- This study provides estimates of the causal effects of Vietnam's two-child policy on fertility, son preference, and female labor supply.

Research Design

- Use a differences-in-differences framework to examine the effects of the policy on family size, son preference, and female labor supply
- Ethnic minorities are the control group and ethnic majorities are the treatment group.
- Women's age in 1989 identifies the length of the exposure to the policy.
- Younger women in 1989 should be affected more by the policy than older women in 1989.

Table 1. Effects of Vietnam's two-child policy on the probability of having more than two children and the number of living children

Dependent Variables	Probability of having more than 2 children		Number of living children	
Mean for women aged <30 (SD)	0.30 (0.46)	0.30 (0.46)	2.01 (1.41)	2.01 (1.41)
Mean for women aged 30-39 (SD)	0.61 (0.49)	0.61 (0.49)	3.14 (1.90)	3.14 (1.90)
age in 1989 <30 × ethnic majority	-0.149*** (0.005)	-0.152*** (0.005)	-0.183*** (0.031)	-0.192*** (0.031)
age in 1989 (30-39) × ethnic majority	-0.067*** (0.006)	-0.067*** (0.006)	-0.195*** (0.035)	-0.196*** (0.035)
year 1999	N	Y	N	Y
year 2009	N	Y	N	Y
N of Obs.	3,197,622	3,197,622	3,197,622	3,197,622

Note: SD: Standard deviations. The numbers in parentheses are standard errors. Other covariates included in the regressions are the dummy variables of women aged less than 30 in 1989, women aged 30-39 in 1989, ethnic majority, age, age squared, age × majority, age squared × majority, and province fixed effects. *p < 0.05, **p < 0.01, *** p < 0.001.

Table 2: Effects of Vietnam's two-child policy on the proportion of sons in each family and maternal employment

Dependent Variables	Proportion of sons in each family		Probability of being employed	
Mean -for women aged < 30 (SD)	0.499 (0.386)	0.499 (0.386)	0.86 (0.34)	0.86 (0.34)
Mean - for women aged 30-39 in 1989 (SD)	0.506 (0.322)	0.506 (0.322)	0.80 (0.40)	0.80 (0.40)
age in 1989 <30 × ethnic majority	-0.012* (0.005)	-0.012* (0.005)	0.012** (0.004)	0.013** (0.004)
age in 1989 (30-39) × ethnic majority	-0.005 (0.006)	-0.005 (0.006)	-0.002 (0.005)	-0.001 (0.005)
year 1999	N	Y	N	Y
year 2009	N	N	N	Y
N of Obs.	1,852,725	1,852,725	3,126,106	3,126,106

Note: SD: Standard Deviations. The number in parentheses are standard errors. Other covariates included in the models are the indicators of women aged less than 30 in 1989, women aged 30-39 in 1989, and ethnic majority, age, age squared, age × majority, age squared × majority, and province fixed effects, *p<0.05, **p<0.01,***p<0.001.

Policy Implications

- The policy was effective at reducing fertility.
- Policymakers may target low-educated women and women in rural areas to improve the effectiveness of family planning policies.
- The policy had a relatively small effect on maternal employment.
- Family planning policies may not promote economic growth through the labor supply channel.

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