

Online Appendix

Fertility Policy Adjustments and Female Labor Supply: Estimation of Marginal Treatment Effect Using Chinese Census Data

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Appendix 1

Since the data of the full census is not available due to government regulations, it is common practice to use a randomly sampled sub-sample of the full data (Lee, 2002; Wang, 2014). In this paper, we use a 0.15% random sample of 2010 census, which is sufficient for the empirical study. China has a very large population of 1,397,245,852 in 2010, involving more than 401,517,333 households, the 0.15% random sample reaches 2.1 million individuals and 600,000 households, involving more than 360,000 rural households. The comparison between 0.15% sample and statistics from the National Statistical Bureau of China show that the 0.15% random sampled data is representative of the full population of China.

Table 1 Comparison between the 0.15% sample and statistics from the National Statistical Bureau

ID	Province	Random Sample			2010 Census		
		Share	Female	Male	Share	Female	Male
11	Beijing	1.44	49.73	50.27	1.47	48.37	51.63
12	Tianjin	0.95	49.80	50.20	0.97	46.62	53.38
13	Hebei	5.27	49.66	50.34	5.39	49.30	50.70
14	Shanxi	2.66	50.35	49.65	2.68	48.65	51.35
15	Inner Mongolia	1.86	50.90	49.10	1.85	48.04	51.96
21	Liaoning	3.25	50.34	49.66	3.28	49.37	50.63

22	Jilin	2.02	49.82	50.18	2.06	49.34	50.66
23	Heilongjiang	2.83	50.02	49.98	2.87	49.30	50.70
31	Shanghai	1.69	49.61	50.39	1.73	48.50	51.50
32	Jiangsu	5.91	50.85	49.15	5.90	49.62	50.38
33	Zhejiang	4.13	51.42	48.58	4.08	48.62	51.38
34	Anhui	4.49	51.10	48.90	4.47	49.17	50.83
35	Fujian	2.77	50.85	49.15	2.77	48.55	51.45
36	Jiangxi	3.38	51.31	48.69	3.35	48.39	51.61
37	Shandong	7.08	50.06	49.94	7.19	49.43	50.57
41	Henan	7.06	50.88	49.12	7.05	49.49	50.51
42	Hubei	4.30	50.86	49.14	4.29	48.65	51.35
43	Hunan	4.97	51.25	48.75	4.93	48.59	51.41
44	Guangdong	8.03	52.15	47.85	7.83	47.85	52.15
45	Guangxi	3.49	51.33	48.67	3.46	48.02	51.98
46	Hainan	0.65	50.75	49.25	0.65	47.04	52.96
50	Chongqing	2.15	50.42	49.58	2.16	49.36	50.64
51	Sichuan	6.04	50.88	49.12	6.03	49.23	50.77
52	Guizhou	2.63	51.30	48.70	2.61	48.47	51.53
53	Yunnan	3.49	51.47	48.53	3.45	48.10	51.90
54	Tibet	0.22	49.47	50.53	0.22	48.62	51.38
61	Shaanxi	2.80	50.73	49.27	2.80	48.33	51.67
62	Gansu	1.92	50.79	49.21	1.92	48.92	51.08
63	Qinghai	0.42	50.50	49.50	0.42	48.22	51.78
64	Ningxia	0.48	51.42	48.58	0.47	48.78	51.22
65	Xinjiang	1.63	50.63	49.37	1.64	48.34	51.66
	Total	100.00	50.81	49.19	100.00	48.81	51.19

Appendix 2

Table 2 The Impact of ethnic Minority Identity on Female Labor Supply: OLS Estimation

Dep. var	Working Hours Per Week	
	(1)	(2)
Minority	0.32 (0.54)	-0.79 (0.53)
kid2		-2.48*** (0.24)
Age		2.66*** (0.20)

Square of age		-0.03*** (0.00)
Schooling years		0.35*** (0.05)
Age when give first birth		-0.68*** (0.04)
Husband's schooling years		-0.37*** (0.06)
Husband's labor participation		15.79*** (0.60)
Constant	29.57*** (0.956)	-20.57*** (3.60)
Observations	69,175	69,175
R-squared	0.05	0.08

Notes: *** represents statistical significance at 1% level, ** at 5% level, * at 10% level.

Appendix 3

Table 3 Summary Statistics Based on the Instrumental Variable Z

	Mean	Std.Dev
Panel A: Characteristics of the treated group (Z is above its mean)		
Working hours per week	36.39	22.88
Two or more kids (kid2=1)	0.44	0.5
Age	33.89	5.47
Schooling years	8.26	2.3
Age when gave first birth	24.22	3.57
Husband's schooling years	8.74	2.16
Husband's labor participation	0.97	0.18
Minority share in 1990	0.25	0.24
Panel B: Characteristics of the untreated group (Z is below its mean)		
Working hours per week	34.79	22.47
Two or more kids (kid2=1)	0.45	0.5
Age	34.5	5.39
Schooling years	8.64	2.05
Age when give first birth	24.39	3.44
Husband's schooling years	9.16	1.96
Husband's labor participation	0.97	0.17
Minority share in 1990	0.01	0.01

Appendix 4

Table 4 First-Stage Estimation for Kid2

Dependent Variable: kid2	Coef.	Std. Err.	t
Minority share in 1990	0.08***	0.02	4.89
Age	0.13***	0.00	42.68
Square of age	-0.00***	0.00	-32.23
Schooling years	-0.02***	0.00	-16.44
Age when give first birth	-0.04***	0.00	-87.29
Husband's schooling years	-0.01***	0.00	-10.11
Husband's labor participation	0.09***	0.01	9.84
Constant	-1.06***	0.05	-19.47

Notes: The control variable include provincial dummies; *** represents statistical significance at 1% level, ** at 5% level, * at 10% level.

Appendix 5

Table 5 Robustness Test at Different Levels of Clustering

	(1) prefecture	(2) county	(3) household
ATE	-7.87** (3.91)	-7.87*** (2.03)	-7.87*** (0.61)
ATT	-1.02 (6.03)	-1.02 (3.41)	-1.02 (1.44)
ATUT	-13.36** (6.75)	-13.36*** (3.84)	-13.36*** (1.48)
LATE	-7.59*** (3.72)	-7.59*** (1.91)	-7.59*** (0.58)
P-value for test of heterogeneity	0.00	0.00	0.00
N	69,175	69,175	69,175

Notes: Values in brackets are standard errors clustered at different levels; *** represents statistical significance at 1% level, ** at 5% level, * at 10% level.