

# Online Appendices

The following online appendices will not be included in the main text. But they are available on Git-Hub [https://github.com/hisahironaito/The-Effect-of-Education-on-Fertility-and-Mortality/blob/main/online\\_appendices\\_education\\_fertility\\_onGithub.pdf](https://github.com/hisahironaito/The-Effect-of-Education-on-Fertility-and-Mortality/blob/main/online_appendices_education_fertility_onGithub.pdf).

## Appendices A

We drop female individuals whose ages are the multiples of five and re-estimate the model.

## Appendices B

We conduct the donut regression discontinuity design: dropping female individuals whose age are 48 or 49 and re-estimate the model.

## Appendices C

Including age heaping ratio in different age groups as a control variable and using the data sets used Appendices B, we re-estimate the model.

## Appendices D

Using 4th order polynomial function as control function to control the time trend, we re-estimate the model.

## Appendices E

Tables and Graphs related with the analysis using the 1988 census data.

## **Appendices A**

In Tables A1–A10, we conduct robustness checks to examine the effect of heaping in age. In each table, we drop observations whose ages are the multiples of 5, such as 35, 40, 45, and so on and re-estimate the model.

Table A1. Dropping Women Whose Age is Multiples of Five from the Sample  
 The Effect of Years of Schooling and Literacy on Number of Births (2SLS)  
 Second Stage Estimates in 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Number of Births					
Years of Schooling	-0.0810** (0.0377)	-0.0726** (0.0368)	-0.0669** (0.0329)	-0.0668** (0.0294)	-0.0261 (0.0346)	0.0274 (0.0455)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	41.28	31.18
N	159,368	159,368	159,368	159,368	91,516	133,859
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[9,9]	[13,13]
Sub-sample mean	6.096					
Panel B.	Number of Births					
Literate Dummy	-0.680** (0.318)	-0.617** (0.314)	-0.581** (0.288)	-0.587** (0.261)	-0.247 (0.258)	0.876 (0.697)
Kleibergen-Paap Rank	54.73	91.09	137	171.1	30.49	22.51
N	159,368	159,368	159,368	159,368	109,530	147,069
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[10,10]	[14,14]
Sub-sample mean	6.096					
Specifications						
Order of Polynomials	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped the observations whose age are the multiples of five. Notes of Table 3 apply.

Table A2. Dropping Women Whose Age is Multiples of Five from the Sample  
 The Effect of Years of Schooling on Probability of Having  
 at Least One Birth and a Few Births: Second Stage Estimates of 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Dummy(having at least 1 birth)					
Years of Schooling	0.0158*** (0.00223)	0.0176*** (0.00171)	0.0199*** (0.00150)	0.0215*** (0.00124)	0.0208*** (0.000907)	0.0196*** (0.00115)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	134.6	127.8
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[4,4]	[5,5]
Sub-sample mean	0.945					
Panel B.	Dummy (having at least 2 births)					
Years of schooling	0.0184*** (0.00431)	0.0209*** (0.00360)	0.0233*** (0.00252)	0.0253*** (0.00215)	0.0235*** (0.00281)	0.0230*** (0.00292)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	136.7	127.8
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[5,5]
Sub-sample mean	0.898					
Panel C.	Dummy (having at least 3 births)					
Years of schooling	0.0147** (0.00594)	0.0181*** (0.00508)	0.0216*** (0.00364)	0.0235*** (0.00326)	0.0221*** (0.00420)	0.0206*** (0.00407)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	136.7	34.68
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[12,12]
Sub-sample mean	0.833					
Panel D.	Dummy (having at least 4 births)					
Years of schooling	-0.0102** (0.00485)	-0.00307 (0.00354)	0.0122 (0.00904)	0.0113 (0.00759)	0.0109 (0.00877)	0.00950 (0.00749)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	8.942
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[7,7]
Sub-sample mean	0.756					
Specifications						
Order of Polynomials	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped the observations whose ages are the multiples of five. Notes of Table 3 apply.

Table A3. Dropping Women Whose Age is Multiples of Five from the Sample  
 The Effect of Years of Schooling on Probability of  
 Having a Large Number of Births : Second Stage Estimates of 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Dummy (having at least 8 births)					
Years of schooling	-0.0222*** (0.00525)	-0.0234*** (0.00562)	-0.0250*** (0.00632)	-0.0248*** (0.00562)	-0.0230*** (0.00529)	-0.0141** (0.00619)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	136.7	33.60
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[9,9]
Sub-sample mean				0.346		
Panel B.	Dummy (having at least 9 births)					
Years of schooling	-0.0217*** (0.00345)	-0.0244*** (0.00299)	-0.0278*** (0.00389)	-0.0283*** (0.00369)	-0.0249*** (0.00306)	-0.0205*** (0.00443)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	136.7	34.83
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[8,8]
Sub-sample mean				0.25		
Panel C.	Dummy (having at least 10 births)					
Years of schooling	-0.0182*** (0.00257)	-0.0207*** (0.00183)	-0.0237*** (0.00227)	-0.0247*** (0.00216)	-0.0220*** (0.00178)	-0.0173*** (0.00324)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	136.7	34.83
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[8,8]
Sub-sample mean				0.173		
Specifications						
Order of Polynomials	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped the observations whose ages are the multiples of five. Notes of Table 3 apply.

Table A4. Dropping Women Whose Age is Multiples of Five from the Sample  
 The Effect of Years of Schooling on Number of Child Deaths and Child Mortality

Second Stage Estimates of 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Number of Deaths of Children					
Years of Schooling	-0.183*** (0.0207)	-0.194*** (0.0159)	-0.203*** (0.00964)	-0.208*** (0.00766)	-0.166*** (0.0235)	-0.137*** (0.0234)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	41.28	34.68
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[9,9]	[12,12]
Sub-sample mean			1.254			
Panel B	Dummy (having at least one child death)					
Years of Schooling	-0.0370*** (0.00602)	-0.0395*** (0.00514)	-0.0418*** (0.00356)	-0.0429*** (0.00280)	-0.0288*** (0.00770)	-0.0230*** (0.00719)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	29.85	34.68
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[10,10]	[12,12]
Sub-sample mean			0.55			
Panel C	Dummy (having at least 4 child death)					
Years of Schooling	-0.0327*** (0.00346)	-0.0348*** (0.00256)	-0.0365*** (0.00162)	-0.0365*** (0.00122)	-0.0312*** (0.00331)	-0.0266*** (0.00358)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	41.28	31.22
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[9,9]	[11,11]
Sub-sample mean			0.107			
Panel D	Child Mortality Rate					
Years of Schooling	-0.0276*** (0.00441)	-0.0300*** (0.00387)	-0.0326*** (0.00264)	-0.0338*** (0.00220)	-0.0250*** (0.00455)	-0.0174*** (0.00510)
Kleibergen-Paap Rank	49.75	77.19	125.6	165.3	38.56	22.62
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[9,9]	[14,14]
Sub-sample mean			0.179			
Specification						
Order of Polynomial	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped the observations whose ages are the multiples of five. Notes of Table 3 apply.

Table A5. Dropping Women Whose Age is Multiples of Five from the Sample  
 The Effect of Years of Schooling on Number of Surviving Children  
 Second Stage Estimates of 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Number of Surviving Children					
Years of Schooling	0.127** (0.0567)	0.149*** (0.0525)	0.169*** (0.0408)	0.174*** (0.0351)	0.163*** (0.0391)	0.165*** (0.0405)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	41.28	31.22
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[9,9]	[11,11]
Sub-sample mean	4.858					
Panel B.	Dummy (having at least one surviving child )					
Years of Schooling	0.0192*** (0.00330)	0.0217*** (0.00271)	0.0248*** (0.00209)	0.0269*** (0.00175)	0.0254*** (0.00196)	0.0237*** (0.00207)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	134.6	127.8
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[4,4]	[5,5]
Sub-sample mean	0.93					
Panel C.	Dummy (having at least 2 surviving children )					
Years of Schooling	0.0261*** (0.00586)	0.0299*** (0.00500)	0.0342*** (0.00344)	0.0367*** (0.00293)	0.0330*** (0.00398)	0.0320*** (0.00407)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	136.7	127.8
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[5,5]
Sub-sample mean	0.864					
Panel D.	Dummy (having at least 8 surviving children)					
Years of Schooling	0.00269 (0.00559)	0.00163 (0.00582)	-0.000823 (0.00600)	-0.000178 (0.00537)	0.000738 (0.00562)	0.00434 (0.00601)
Kleibergen-Paap Rank	54.46	87.79	143.9	184.2	136.7	34.83
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[8,8]
Sub-sample mean	0.182					
Specification						
Order of Polynomial	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped the observations whose ages are the multiples of five. Notes of Table 3 apply.

## **Appendices B**

In Table B1-B10, we conduct the donut regression discontinuity design. We drop the observations whose age is very close to the threshold, cohorts whose age is 48 or 49. Then, we re-estimate the model. In Table B1-B5, we drop observation whose age is 48. In Table B6-B10, we drop the observations whose age is 49.

Table B1. Donut RDD: Dropping Women from the Sample Whose Age is 48  
 The Effect of Years of Schooling and Literacy on Number of Births (2SLS)  
 Second Stage Estimates in 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Number of Births					
Years of Schooling	-0.160*** (0.0291) [0.0232]	-0.128*** (0.0262) [0.0241]	-0.113** (0.0494) [0.0327]	-0.0828** (0.0416) [0.0379]	-0.147*** (0.0288) [0.0334]	-0.110*** (0.0294) [0.0199]
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	17.97
N	224,804	224,804	224,804	224,804	73,106	119,459
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[8,8]
Sub-sample mean	6.096					
Panel B.	Number of Births					
Literate Dummy	-1.339*** (0.246) [0.195]	-1.212*** (0.242) [0.202]	-0.943** (0.420) [0.274]	-1.207*** (0.377) [0.335]	-0.742** (0.371) [0.234]	-0.657*** (0.245) [0.164]
Kleibergen-Paap Rank	21.10	23.20	13.40	16.84	14.17	17.61
N	224,804	224,804	224,804	224,804	86,889	119,459
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[6,6]	[8,8]
Sub-sample mean	6.096					
Specifications						
Order of Polynomials	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped women whose age was 48 from the sample and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table B2. Donut RDD: Dropping Women from the Sample Whose Age is 48  
 The Effect of Years of Schooling on Probability of Having  
 at Least One Birth and a Few Births: Second Stage Estimates of 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Dummy(having at least 1 birth)					
Years of Schooling	0.0107*** (0.00362)	0.0127*** (0.00368)	0.0167*** (0.00512)	0.0202*** (0.00503)	0.0186*** (0.00597)	0.00919*** (0.00353)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	17.97
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[8,8]
Sub-sample mean	0.945					
Panel B.	Dummy (having at least 2 births)					
Years of schooling	0.00910** (0.00401)	0.0121*** (0.00418)	0.0186** (0.00747)	0.0204*** (0.00674)	0.0192** (0.00799)	0.0104** (0.00418)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	17.97
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[8,8]
Sub-sample mean	0.898					
Panel C.	Dummy (having at least 3 births)					
Years of schooling	0.00233 (0.00492)	0.00698 (0.00515)	0.0169 (0.0104)	0.0172* (0.00986)	0.0178 (0.0120)	0.00871 (0.00550)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	17.97
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[8,8]
Sub-sample mean	0.833					
Panel D.	Dummy (having at least 4 births)					
Years of schooling	-0.0102** (0.00485)	-0.00307 (0.00354)	0.0122 (0.00904)	0.0113 (0.00759)	0.0109 (0.00877)	0.00950 (0.00749)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	8.942
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[7,7]
Sub-sample mean	0.756					
Specifications						
Order of Polynomials	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped women whose age was 48 from the sample and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table B3. Donut RDD: Dropping Women from the Sample Whose Age is 48  
 The Effect of Years of Schooling on Probability of  
 Having a Large Number of Births : Second Stage Estimates of 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Dummy (having at least 8 births)					
Years of schooling	-0.0295*** (0.00527)	-0.0317*** (0.00495)	-0.0365*** (0.00637)	-0.0405*** (0.00573)	-0.0297*** (0.00712)	-0.0248*** (0.00707)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	8.942
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[7,7]
Sub-sample mean				0.346		
Panel B.	Dummy (having at least 9 births)					
Years of schooling	-0.0216*** (0.00554)	-0.0254*** (0.00514)	-0.0334*** (0.00641)	-0.0380*** (0.00620)	-0.0257*** (0.00707)	-0.0226*** (0.00558)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	12.21
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[6,6]
Sub-sample mean				0.25		
Panel C.	Dummy (having at least 10 births)					
Years of schooling	-0.0172*** (0.00401)	-0.0204*** (0.00373)	-0.0272*** (0.00460)	-0.0303*** (0.00425)	-0.0219*** (0.00473)	-0.0186*** (0.00484)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	8.942
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[7,7]
Sub-sample mean				0.173		
Specifications						
Order of Polynomials	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped women whose age was 48 from the sample and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table B4. Donut RDD : Dropping Women from the Sample Whose Age is 48  
The Effect of Years of Schooling on Number of Child Deaths and Child Mortality  
Second Stage Estimates of 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Number of Deaths of Children					
Years of Schooling	-0.137*** (0.0276)	-0.144*** (0.0277)	-0.159*** (0.0334)	-0.184*** (0.0340)	-0.153*** (0.0371)	-0.138*** (0.0390)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	8.942
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[7,7]
Sub-sample mean	1.254					
Panel B	Dummy (having at least one child death)					
Years of Schooling	-0.0260*** (0.00638)	-0.0259*** (0.00631)	-0.0259*** (0.00730)	-0.0328*** (0.00721)	-0.0246*** (0.00833)	-0.0208** (0.00836)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	8.942
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[7,7]
Sub-sample mean	0.55					
Panel C	Dummy (having at least 4 child death)					
Years of Schooling	-0.0241*** (0.00498)	-0.0260*** (0.00503)	-0.0301*** (0.00657)	-0.0333*** (0.00650)	-0.0292*** (0.00721)	-0.0264*** (0.00741)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	8.942
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[7,7]
Sub-sample mean	0.107					
Panel D	Child Mortality Rate					
Years of Schooling	-0.0181*** (0.00519)	-0.0195*** (0.00521)	-0.0225*** (0.00619)	-0.0263*** (0.00650)	-0.0218*** (0.00723)	-0.0140*** (0.00485)
Kleibergen-Paap Rank	20.98	22.75	13.84	18.33	10.16	17.28
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[8,8]
Sub-sample mean	0.179					
Specification						
Order of Polynomial	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped women whose age was 48 from the sample and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table B5. Donut RDD: Dropping Women from the Sample Whose Age is 48  
 The Effect of Years of Schooling on Number of Surviving Children  
 Second Stage Estimates of 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Number of Surviving Children					
Years of Schooling	-0.00693 (0.0395)	0.0178 (0.0408)	0.0704 (0.0663)	0.0746 (0.0622)	0.0853 (0.0769)	0.0425 (0.0445)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.99	17.97
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[7,7]	[8,8]
Sub-sample mean	4.858					
Panel B.	Dummy (having at least one surviving child )					
Years of Schooling	0.0125** (0.00497)	0.0148*** (0.00503)	0.0196*** (0.00675)	0.0235*** (0.00678)	0.0211*** (0.00814)	0.0101** (0.00492)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	17.97
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[8,8]
Sub-sample mean	0.93					
Panel C.	Dummy (having at least 2 surviving children )					
Years of Schooling	0.0136** (0.00594)	0.0177*** (0.00613)	0.0265*** (0.00981)	0.0289*** (0.00892)	0.0259** (0.0108)	0.0140** (0.00612)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	17.97
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[8,8]
Sub-sample mean	0.864					
Panel D.	Dummy (having at least 8 surviving children)					
Years of Schooling	-0.00853** (0.00381)	-0.0110*** (0.00331)	-0.0163*** (0.00365)	-0.0164*** (0.00301)	-0.00984* (0.00508)	-0.00433 (0.00672)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	8.942
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[7,7]
Sub-sample mean	0.182					
Specification						
Order of Polynomial	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped women whose age was 48 from the sample and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table B6. Donut RDD: Dropping Women Whose Age is 49 from the Sample  
 The Effect of Years of Schooling and Literacy on Number of Births (2SLS)  
 Second Stage Estimates in 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Number of Births					
Years of Schooling	-0.128*** (0.0363)	-0.108*** (0.0291)	-0.0859*** (0.0252)	-0.105*** (0.0187)	-0.0906*** (0.0233)	-0.0373 (0.0337)
Kleibergen-Paap Rank	13.17	22.67	28.51	56.79	13.45	13.14
N	217,078	217,078	217,078	217,078	111,733	140,541
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[8,8]	[11,11]
Sub-sample mean	6.096					
Panel B.	Number of Births					
Literate Dummy	-1.050*** (0.250)	-0.870*** (0.225)	-0.677*** (0.248)	-0.864*** (0.268)	-0.733*** (0.214)	0.0238 (0.207)
Kleibergen-Paap Rank	762.1	921.9	778.4	652.2	1020	1097
N	217,078	217,078	217,078	217,078	111,733	152,299
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[8,8]	[11,11]
Sub-sample mean	6.096					
Specifications						
Order of Polynomials	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped women whose age was 48 from the sample and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table B7. Donut RDD: Dropping Women Whose Age is 49 from the Sample  
 The Effect of Years of Schooling on Probability of Having  
 at Least One Birth and a Few Births: Second Stage Estimates of 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Dummy(having at least 1 birth)					
Years of Schooling	0.00465*** (0.00137)	0.00482*** (0.00125)	0.00448** (0.00178)	0.00561*** (0.00155)	0.00785*** (0.000876)	0.00326* (0.00177)
Kleibergen-Paap Rank	13.17	22.67	28.51	56.79	103.1	11.19
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[8,8]
Sub-sample mean	0.945					
Panel B.	Dummy (having at least 2 births)					
Years of schooling	0.00579** (0.00291)	0.00607*** (0.00185)	0.00476** (0.00207)	0.00598*** (0.00141)	0.00630*** (0.00191)	0.00920*** (0.00220)
Kleibergen-Paap Rank	13.17	22.67	28.51	56.79	8.502	14.40
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[7,7]	[8,8]
Sub-sample mean	0.898					
Panel C.	Dummy (having at least 3 births)					
Years of schooling	9.84e-05 (0.00426)	0.00172 (0.00295)	0.00176 (0.00262)	0.00200 (0.00232)	0.00498** (0.00251)	0.00524 (0.00343)
Kleibergen-Paap Rank	13.17	22.67	28.51	56.79	103.1	12.01
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[9,9]
Sub-sample mean	0.833					
Panel D.	Dummy (having at least 4 births)					
Years of schooling	-0.00688 (0.00518)	-0.00185 (0.00317)	0.00263 (0.00201)	0.00117 (0.00180)	0.00296 (0.00237)	-0.00209 (0.00216)
Kleibergen-Paap Rank	13.17	22.67	28.51	56.79	103.1	11.19
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[8,8]
Sub-sample mean	0.756					
Specifications						
Order of Polynomials	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped women whose age was 48 from the sample and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table B8. Donut RDD: Dropping Women Whose Age is 49 from the Sample  
 The Effect of Years of Schooling on Probability of  
 Having a Large Number of Births : Second Stage Estimates of 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Dummy (having at least 8 births)					
Years of schooling	-0.0204*** (0.00536)	-0.0187*** (0.00474)	-0.0160*** (0.00451)	-0.0180*** (0.00349)	-0.0196*** (0.00374)	-0.0125** (0.00490)
Kleibergen-Paap Rank	13.17	22.67	28.51	56.79	45.41	12.01
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[6,6]	[9,9]
Sub-sample mean				0.346		
Panel B.	Dummy (having at least 9 births)					
Years of schooling	-0.0138*** (0.00374)	-0.0140*** (0.00308)	-0.0134*** (0.00354)	-0.0143*** (0.00324)	-0.0154*** (0.00280)	-0.0102** (0.00416)
Kleibergen-Paap Rank	13.17	22.67	28.51	56.79	45.41	12.01
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[6,6]	[9,9]
Sub-sample mean				0.25		
Panel C.	Dummy (having at least 10 births)					
Years of schooling	-0.0140*** (0.00268)	-0.0149*** (0.00234)	-0.0151*** (0.00290)	-0.0157*** (0.00213)	-0.0129*** (0.00255)	-0.0107*** (0.00283)
Kleibergen-Paap Rank	13.17	22.67	28.51	56.79	13.45	12.01
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[8,8]	[9,9]
Sub-sample mean				0.173		
Specifications						
Order of Polynomials	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped women whose age was 48 from the sample and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table B9. Donut RDD: Dropping Women Whose Age is 49 from the Sample  
The Effect of Years of Schooling on Number of Child Deaths and Child Mortality  
Second Stage Estimates of 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Number of Deaths of Children					
Years of Schooling	-0.107*** (0.0194)	-0.0983*** (0.0109)	-0.0119*** (0.00307)	-0.0133*** (0.00224)	-0.0145*** (0.00557)	-0.0141** (0.00566)
Kleibergen-Paap Rank	13.17	22.67	28.51	56.79	14.97	12.01
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[10,10]	[9,9]
Sub-sample mean				1.254		
Panel B	Dummy (having at least one child death)					
Years of Schooling	-0.0212*** (0.00593)	-0.0181*** (0.00363)	-0.0119*** (0.00307)	-0.0133*** (0.00224)	-0.0145*** (0.00557)	-0.0141** (0.00566)
Kleibergen-Paap Rank	13.17	22.67	28.51	56.79	14.97	12.01
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[10,10]	[9,9]
Sub-sample mean				0.55		
Panel C	Dummy (having at least 4 child death)					
Years of Schooling	-0.0184*** (0.00338)	-0.0174*** (0.00210)	-0.0147*** (0.00185)	-0.0134*** (0.00212)	-0.0165*** (0.00244)	-0.0161*** (0.00256)
Kleibergen-Paap Rank	13.17	22.67	28.51	56.79	13.45	12.01
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[8,8]	[9,9]
Sub-sample mean				0.107		
Panel D	Child Mortality Rate					
Years of Schooling	-0.0119*** (0.00277)	-0.0112*** (0.00190)	-0.00918*** (0.00172)	-0.00923*** (0.00173)	-0.00962*** (0.00226)	-0.00880*** (0.00222)
Kleibergen-Paap Rank	13.15	22.55	28.91	58.27	14.18	13.04
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[9,9]	[10,10]
Sub-sample mean				0.179		
Specification						
Order of Polynomial	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped women whose age was 48 from the sample and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table B10. Donut RDD: Dropping Women Whose Age is 49 from the Sample  
 The Effect of Years of Schooling on Number of Surviving Children  
 Second Stage Estimates of 2SLS

	Dependent Variable					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A.	Number of Surviving Children					
Years of Schooling	-0.0141 (0.0429)	-0.00145 (0.0348)	0.00145 (0.0276)	-0.0174 (0.0225)	0.00239 (0.0255)	0.0352 (0.0372)
Kleibergen-Paap Rank	13.17	22.67	28.51	56.79	13.45	12.01
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[8,8]	[9,9]
Sub-sample mean	4.858					
Panel B.	Dummy (having at least one surviving child )					
Years of Schooling	0.00429** (0.00185)	0.00457*** (0.00158)	0.00429** (0.00206)	0.00554*** (0.00180)	0.00774*** (0.00123)	0.00388* (0.00213)
Kleibergen-Paap Rank	13.17	22.67	28.51	56.79	103.1	12.01
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[9,9]
Sub-sample mean	0.93					
Panel C.	Dummy (having at least 2 surviving children )					
Years of Schooling	0.0136** (0.00594)	0.0177*** (0.00613)	0.0265*** (0.00981)	0.0289*** (0.00892)	0.0259** (0.0108)	0.0140** (0.00612)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	17.97
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[8,8]
Sub-sample mean	0.864					
Panel D.	Dummy (having at least 8 surviving children)					
Years of Schooling	-0.00853** (0.00381)	-0.0110*** (0.00331)	-0.0163*** (0.00365)	-0.0164*** (0.00301)	-0.00984* (0.00508)	-0.00433 (0.00672)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02	11.04	8.942
Window size	[15,15]	[15,15]	[15,15]	[15,15]	[5,5]	[7,7]
Sub-sample mean	0.182					
Specification						
Order of Polynomial	2	2	3	3	1	1
Triangular Weight	No	Yes	No	Yes	No	Yes

Notes: The sample is female individuals in 2012 PHCT. We dropped women whose age was 48 from the sample and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

## **Appendices C**

In Table C1-C10, we conducted the robustness checks to examine the effect of heaping in age. First, using the data set used in Appendices B, we calculate the ratio of age heaping by creating the following groups: [33, 37], [38, 42], [43, 47], [49, 53], [54, 58], and [59, 63]. In another case, we create the following age groups: [34, 38], [39, 43], [44, 48], [50, 54], [55, 59], and [60, 64]. Then, by adding this variable as an additional control variable and using the same data sets used in Appendices B, we re-estimate the model.

Table C1. Dropping Women aged 48 and Including Ratio of Age Heaping :  
 The Effect of Years of Schooling and Literacy on Number of Births (2SLS)  
 Second Stage Estimates in 2SLS

	Dependent Variable			
	(1)	(2)	(3)	(4)
Panel A.	Number of Births			
Years of Schooling	-0.163*** (0.0299)	-0.148*** (0.0295)	-0.121** (0.0495)	-0.138*** (0.0436)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
N	224,804	224,804	224,804	224,804
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	6.096			
Panel B.	Number of Births			
Literate Dummy	-1.359*** (0.250)	-1.234*** (0.243)	-1.016** (0.415)	-1.186*** (0.369)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
N	224,804	224,804	224,804	224,804
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	6.096			
Specifications				
Order of Polynomials	2	2	3	3
Triangular Weight	No	Yes	No	Yes
Ratio of Age Heaping	Yes	Yes	Yes	Yes

Notes: The sample is female individuals in 2012 PHCT. We included the ratio of age heaping as a control variable and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table C2. Dropping Women aged 48 and Including Ratio of Age Heaping :  
 The Effect of Years of Schooling on Probability of Having  
 at Least One Birth and a Few Births: Second Stage Estimates of 2SLS

	Dependent Variable			
	(1)	(2)	(3)	(4)
Panel A.	Dummy(having at least 1 birth)			
Years of Schooling	0.0110*** (0.00354)	0.0136*** (0.00348)	0.0186*** (0.00536)	0.0198*** (0.00474)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.945			
Panel B.	Dummy (having at least 2 births)			
Years of schooling	0.00929** (0.00399)	0.0130*** (0.00409)	0.0203** (0.00804)	0.0201*** (0.00653)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.898			
Panel C.	Dummy (having at least 3 births)			
Years of schooling	0.00244 (0.00494)	0.00792 (0.00515)	0.0189* (0.0114)	0.0167* (0.00963)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.833			
Panel D.	Dummy (having at least 4 births)			
Years of schooling	-0.0102** (0.00485)	-0.00307 (0.00354)	0.0122 (0.00904)	0.0113 (0.00759)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.756			
Specifications				
Order of Polynomials	2	2	3	3
Triangular Weight	No	Yes	No	Yes
Ratio of Age Heaping	Yes	Yes	Yes	Yes

Notes: The sample is female individuals in 2012 PHCT. We included the ratio of age heaping as a control variable and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table C3. Dropping Women aged 48 and Including Ratio of Age Heaping :  
 The Effect of Years of Schooling on Probability of  
 Having a Large Number of Births : Second Stage Estimates of 2SLS

	Dependent Variable			
	(1)	(2)	(3)	(4)
Panel A.	Dummy (having at least 8 births)			
Years of schooling	-0.0300*** (0.00532)	-0.0327*** (0.00488)	-0.0390*** (0.00612)	-0.0404*** (0.00562)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.346			
Panel B.	Dummy (having at least 9 births)			
Years of schooling	-0.0220*** (0.00550)	-0.0265*** (0.00493)	-0.0362*** (0.00624)	-0.0377*** (0.00591)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.25			
Panel C.	Dummy (having at least 10 births)			
Years of schooling	-0.0174*** (0.00402)	-0.0211*** (0.00364)	-0.0290*** (0.00450)	-0.0301*** (0.00410)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.173			
Specifications				
Order of Polynomials	2	2	3	3
Triangular Weight	No	Yes	No	Yes
Ratio of Age Heaping	Yes	Yes	Yes	Yes

Notes: The sample is female individuals in 2012 PHCT. We included the ratio of age heaping as a control variable and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table C4. Dropping Women aged 48 and Including Ratio of Age Heaping :  
The Effect of Years of Schooling on Number of Child Deaths and Child Mortality  
Second Stage Estimates of 2SLS

	Dependent Variable			
	(1)	(2)	(3)	(4)
Panel A.	Number of Deaths of Children			
Years of Schooling	-0.139*** (0.0274)	-0.148*** (0.0271)	-0.168*** (0.0344)	-0.184*** (0.0328)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	1.254			
Panel B	Dummy (having at least one child death)			
Years of Schooling	-0.0265*** (0.00623)	-0.0271*** (0.00607)	-0.0283*** (0.00702)	-0.0324*** (0.00684)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.55			
Panel C	Dummy (having at least 4 child death)			
Years of Schooling	-0.0244*** (0.00500)	-0.0267*** (0.00497)	-0.0313*** (0.00688)	-0.0333*** (0.00632)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.107			
Panel D	Child Mortality Rate			
Years of Schooling	-0.0183*** (0.00515)	-0.0203*** (0.00510)	-0.0241*** (0.00651)	-0.0261*** (0.00622)
Kleibergen-Paap Rank	21.39	24.01	14.37	19.14
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.179			
Specification				
Order of Polynomials	2	2	3	3
Triangular Weight	No	Yes	No	Yes
Ratio of Age Heaping	Yes	Yes	Yes	Yes

Notes: The sample is female individuals in 2012 PHCT. We included the ratio of age heaping as a control variable and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table C5. Dropping Women aged 48 and Including Ratio of Age Heaping :  
 The Effect of Years of Schooling on Number of Surviving Children  
 Second Stage Estimates of 2SLS

	Dependent Variable			
	(1)	(2)	(3)	(4)
Panel A.	Number of Surviving Children			
Years of Schooling	-0.00760 (0.0406)	0.0210 (0.0409)	0.0744 (0.0703)	0.0737 (0.0611)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	4.858			
Panel B.	Dummy (having at least one surviving child )			
Years of Schooling	0.0128*** (0.00491)	0.0159*** (0.00488)	0.0217*** (0.00720)	0.0230*** (0.00647)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.93			
Panel C.	Dummy (having at least 2 surviving children )			
Years of Schooling	0.0139** (0.00591)	0.0190*** (0.00600)	0.0290*** (0.0105)	0.0285*** (0.00859)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.864			
Panel D.	Dummy (having at least 8 surviving children)			
Years of Schooling	-0.00870** (0.00390)	-0.0114*** (0.00338)	-0.0177*** (0.00370)	-0.0163*** (0.00303)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.182			
Specification				
Order of Polynomials	2	2	3	3
Triangular Weight	No	Yes	No	Yes
Ratio of Age Heaping	Yes	Yes	Yes	Yes

Notes: The sample is female individuals in 2012 PHCT. We included the ratio of age heaping as a control variable and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table C6. Dropping Women aged 49 and Including Ratio of Age Heaping :  
 The Effect of Years of Schooling and Literacy on Number of Births (2SLS)  
 Second Stage Estimates in 2SLS

	Dependent Variable			
	(1)	(2)	(3)	(4)
Panel A.	Number of Births			
Years of Schooling	-0.175*** (0.0540)	-0.125*** (0.0475)	-0.106*** (0.0355)	-0.120*** (0.0242)
Kleibergen-Paap Rank	7.974	11.44	17.17	34.68
N	217,078	217,078	217,078	217,078
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	6.096			
Panel B.	Number of Births			
Literate Dummy	-0.680** (0.318)	-0.617** (0.314)	-0.581** (0.288)	-0.587** (0.261)
Kleibergen-Paap Rank	54.73	91.09	137	171.1
N	159,368	159,368	159,368	159,368
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	6.096			
Specifications				
Order of Polynomials	2	2	3	3
Triangular Weight	No	Yes	No	Yes
Ratio of Age Heaping	Yes	Yes	Yes	Yes

Notes: The sample is female individuals in 2012 PHCT. We included the ratio of age heaping as a control variable and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table C7. Dropping Women aged 49 and Including Ratio of Age Heaping :  
 The Effect of Years of Schooling on Probability of Having  
 at Least One Birth and a Few Births: Second Stage Estimates of 2SLS

	Dependent Variable			
	(1)	(2)	(3)	(4)
Panel A.	Dummy(having at least 1 birth)			
Years of Schooling	0.00539** (0.00244)	0.00737*** (0.00192)	0.00643*** (0.00197)	0.00693*** (0.00156)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.945			
Panel B.	Dummy (having at least 2 births)			
Years of schooling	0.00153 (0.00464)	0.00563** (0.00286)	0.00447* (0.00240)	0.00582*** (0.00157)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.898			
Panel C.	Dummy (having at least 3 births)			
Years of schooling	0.00244 (0.00494)	0.00792 (0.00515)	0.0189* (0.0114)	0.0167* (0.00963)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.833			
Panel D.	Dummy (having at least 4 births)			
Years of schooling	-0.0102** (0.00485)	-0.00307 (0.00354)	0.0122 (0.00904)	0.0113 (0.00759)
Kleibergen-Paap Rank	22.38	24.42	14.63	20.02
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.756			
Specifications				
Order of Polynomials	2	2	3	3
Triangular Weight	No	Yes	No	Yes
Ratio of Age Heaping	Yes	Yes	Yes	Yes

Notes: The sample is female individuals in 2012 PHCT. We included the ratio of age heaping as a control variable and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table C8. Dropping Women aged 49 and Including Ratio of Age Heaping :  
 The Effect of Years of Schooling on Probability of  
 Having a Large Number of Births : Second Stage Estimates of 2SLS

	Dependent Variable			
	(1)	(2)	(3)	(4)
Panel A.	Dummy (having at least 8 births)			
Years of schooling	-0.0202** (0.00787)	-0.0179*** (0.00633)	-0.0153** (0.00655)	-0.0178*** (0.00430)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.346			
Panel B.	Dummy (having at least 9 births)			
Years of schooling	-0.0101* (0.00609)	-0.0122*** (0.00446)	-0.0121** (0.00524)	-0.0133*** (0.00389)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.25			
Panel C.	Dummy (having at least 10 births)			
Years of schooling	-0.0104*** (0.00374)	-0.0138*** (0.00263)	-0.0145*** (0.00301)	-0.0150*** (0.00218)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.173			
Specifications				
Order of Polynomials	2	2	3	3
Triangular Weight	No	Yes	No	Yes
Ratio of Age Heaping	Yes	Yes	Yes	Yes

Notes: The sample is female individuals in 2012 PHCT. We included the ratio of age heaping as a control variable and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table C9. Dropping Women aged 49 and Including Ratio of Age Heaping :  
The Effect of Years of Schooling on Number of Child Deaths and Child Mortality  
Second Stage Estimates of 2SLS

	Dependent Variable			
	(1)	(2)	(3)	(4)
Panel A.	Number of Deaths of Children			
Years of Schooling	-0.109*** (0.0238)	-0.109*** (0.0190)	-0.0862*** (0.0106)	-0.0850*** (0.00972)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	1.254			
Panel B	Dummy (having at least one child death)			
Years of Schooling	-0.0245*** (0.00881)	-0.0203*** (0.00497)	-0.0159*** (0.00300)	-0.0156*** (0.00213)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.55			
Panel C	Dummy (having at least 4 child death)			
Years of Schooling	-0.0147*** (0.00296)	-0.0153*** (0.00274)	-0.0133*** (0.00258)	-0.0131*** (0.00240)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.107			
Panel D	Child Mortality Rate			
Years of Schooling	-0.0109*** (0.00294)	-0.0111*** (0.00268)	-0.00982*** (0.00210)	-0.00965*** (0.00196)
Kleibergen-Paap Rank	21.39	24.01	14.37	19.14
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.179			
Specification				
Order of Polynomials	2	2	3	3
Triangular Weight	No	Yes	No	Yes
Ratio of Age Heaping	Yes	Yes	Yes	Yes

Notes: The sample is female individuals in 2012 PHCT. We included the ratio of age heaping as a control variable and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

Table C10. Dropping Women aged 49 and Including Ratio of Age Heaping :  
 The Effect of Years of Schooling on Number of Surviving Children  
 Second Stage Estimates of 2SLS

	Dependent Variable			
	(1)	(2)	(3)	(4)
Panel A.	Number of Surviving Children			
Years of Schooling	-0.00760 (0.0406)	0.0210 (0.0409)	0.0744 (0.0703)	0.0737 (0.0611)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	4.858			
Panel B.	Dummy (having at least one surviving child )			
Years of Schooling	0.00414 (0.00296)	0.00639*** (0.00242)	0.00566** (0.00249)	0.00641*** (0.00213)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.93			
Panel C.	Dummy (having at least 2 surviving children )			
Years of Schooling	0.00172 (0.00565)	0.00762** (0.00371)	0.00742** (0.00289)	0.00856*** (0.00213)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.864			
Panel D.	Dummy (having at least 8 surviving children)			
Years of Schooling	-0.00283 (0.00674)	-0.00516 (0.00579)	-0.00642 (0.00591)	-0.00835** (0.00374)
Kleibergen-Paap Rank	22.70	25.73	15.16	20.71
Window size	[15,15]	[15,15]	[15,15]	[15,15]
Sub-sample mean	0.182			
Specification				
Order of Polynomials	2	2	3	3
Triangular Weight	No	Yes	No	Yes
Ratio of Age Heaping	Yes	Yes	Yes	Yes

Notes: The sample is female individuals in 2012 PHCT. We included the ratio of age heaping as a control variable and re-estimated the model to check the sensitivity of the estimation results. Notes of Table 3 apply.

## **Appendices D**

In Appendices D, we use quartic functions to control time trend.

Table D1. Estimation Results Using Quartic Functions  
 The Effect of Years of Schooling and Literacy on Number of Births (2SLS)  
 Second Stage Estimates in 2SLS

	Dependent Variable	
	(1)	(2)
Panel A.		Number of Births
Years of Schooling	-0.0753*	-0.0365
	(0.0457)	(0.0471)
Kleibergen-Paap Rank	12.16	8.122
N	232,877	232,877
Window size	[15,15]	[15,15]
Sub-sample mean		
Panel B.		Number of Births
Literate Dummy	-0.738	-0.347
	(0.460)	(0.444)
Kleibergen-Paap Rank	8.026	5.625
N	232,877	232,877
Window size	[15,15]	[15,15]
Sub-sample mean		
Specifications		
Order of Polynomials	4	4
Triangular Weight	No	Yes

Notes: The sample is female individuals in 2012 PHCT. Notes of Table 3 apply.

Table D2. Estimation Results Using Quartic Functions  
 The Effect of Years of Schooling on Probability of Having  
 at Least One Birth and a Few Births: Second Stage Estimates of 2SLS

	Dependent Variable	
	(1)	(2)
Panel A.		Dummy(having at least 1 birth)
Years of Schooling	0.0317*** (0.00853)	0.0366*** (0.0117)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	0.945	
Panel B.		Dummy (having at least 2 births)
Years of schooling	0.0375*** (0.0110)	0.0429*** (0.0147)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	0.898	
Panel C.		Dummy (having at least 3 births)
Years of schooling	0.0353*** (0.0127)	0.0419** (0.0165)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	0.833	
Panel D.		Dummy (having at least 4 births)
Years of schooling	-0.0102** (0.00485)	-0.00307 (0.00354)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	0.756	
Specifications		
Order of Polynomials	4	4
Triangular Weight	No	Yes

Notes: The sample is female individuals in 2012 PHCT. Notes of Table 3 apply.

Table D3. Estimation Results Using Quartic Functions  
 The Effect of Years of Schooling on Probability of  
 Having a Large Number of Births : Second Stage Estimates of 2SLS

	Dependent Variable	
	(1)	(2)
Panel A.	Dummy (having at least 8 births)	
Years of schooling	-0.0310*** (0.00713)	-0.0285*** (0.00683)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	0.346	
Panel B.	Dummy (having at least 9 births)	
Years of schooling	-0.0369*** (0.00983)	-0.0366*** (0.0115)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	0.25	
Panel C.	Dummy (having at least 10 births)	
Years of schooling	-0.0305*** (0.00705)	-0.0297*** (0.00864)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	0.173	
Specifications		
Order of Polynomials	4	4
Triangular Weight	No	Yes

Notes: The sample is female individuals in 2012 PHCT. Notes of Table 3 apply.

Table D4. Estimation Results Using Quartic Functions  
 The Effect of Years of Schooling on Number of Child Deaths and Child Mortality  
 Second Stage Estimates of 2SLS

	Dependent Variable	
	(1)	(2)
Panel A.		Number of Deaths of Children
Years of Schooling	-0.275*** (0.0747)	-0.311*** (0.101)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	1.254	
Panel B		Dummy (having at least one child death)
Years of Schooling	-0.0604*** (0.0179)	-0.0682*** (0.0239)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	0.55	
Panel C		Dummy (having at least 4 child death)
Years of Schooling	-0.0462*** (0.0133)	-0.0532*** (0.0180)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	0.107	
Panel D		Child Mortality Rate
Years of Schooling	-0.00909*** (0.00308)	-0.00939*** (0.00272)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	0.179	
<b>Specification</b>		
Order of Polynomials	4	4
Triangular Weight	No	Yes

Notes: The sample is female individuals in 2012 PHCT. Notes of Table 3 apply.

Table D5. Estimation Results Using Quartic Functions  
 The Effect of Years of Schooling on Number of Surviving Children  
 Second Stage Estimates of 2SLS

	Dependent Variable	
	(1)	(2)
<b>Panel A.</b>		Number of Surviving Children
Years of Schooling	0.245** (0.116)	0.325** (0.154)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	4.858	
<b>Panel B.</b>		Dummy (having at least one surviving child )
Years of Schooling	0.0405*** (0.0119)	0.0468*** (0.0162)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	0.93	
<b>Panel C.</b>		Dummy (having at least 2 surviving children )
Years of Schooling	0.0531*** (0.0160)	0.0607*** (0.0215)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	0.864	
<b>Panel D.</b>		Dummy (having at least 8 surviving children)
Years of Schooling	0.00327 (0.00790)	0.0101 (0.00922)
Kleibergen-Paap Rank	12.16	8.122
Window size	[15,15]	[15,15]
Sub-sample mean	0.182	
<b>Specification</b>		
Order of Polynomials	4	4
Triangular Weight	No	Yes

Notes: The sample is female individuals in 2012 PHCT. Notes of Table 3 apply.

## **Appendices E**

Appendices E include the estimation results and graphs related with the analysis using the 1988 census data.

Table E1 shows that summary statistics of the 1988 census data. Table E2 shows the regression result using the 1988 census data when we drop the observations whose ages are the multiples of five. Table E2 shows that the estimated coefficients of Table E2 are quite similar to the estimated coefficients in Table 12 and Table 13.

Figure E1 shows the histogram of the 1988 census data and 2012 census data. Two figures show that there is an issue of heaping in age.

Figure E2-E5 correspond the regression results in Table 12 and Table 13. Figure E2 and E5 show that there are discontinuous jump at the threshold in different specifications and the results are robust.

Table E1. Summary Statistics of 1988 Census Dataset

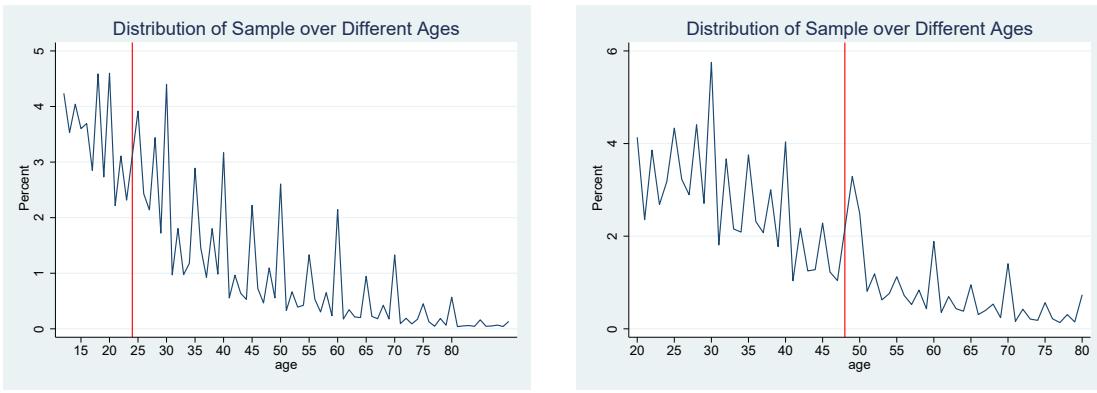
VARIABLES	Treatment Group		Control Group		All	
	mean	sd	mean	sd	mean	sd
<u>Years of schooling and Fertility</u>						
Age	19.24	2.199	28.60	2.660	23.62	5.264
Years of schooling	5.585	2.841	3.485	3.467	4.602	3.320
Literate	0.809	0.393	0.559	0.496	0.692	0.462
Number of births	0.893	1.278	3.804	2.498	2.256	2.429
Number of births $\geq 1$	0.487	0.500	0.914	0.281	0.687	0.464
Number of surviving children	0.759	1.095	3.163	2.103	1.884	2.037
Number of surviving children $\geq 1$	0.459	0.498	0.896	0.305	0.663	0.473
<u>Child Mortality</u>						
Number of deaths of children	0.0984	0.424	0.612	1.087	0.339	0.846
Number of death of children $\geq 1$	0.0726	0.260	0.351	0.477	0.203	0.402
Mortality rate of children	0.0643	0.163	0.128	0.189	0.104	0.182
N for mortality rate of children	41,787		68,990		110,777	
N for other variables	85,773		75,509		161,282	

Notes: The sample is female individuals in 1988 PHCT. Notes of Table 3 apply.

Table E2. Robustness Checks in Using the 1988 Census Data :  
Dropping Individuals Whose Ages are Multiples of Five (2SLS)

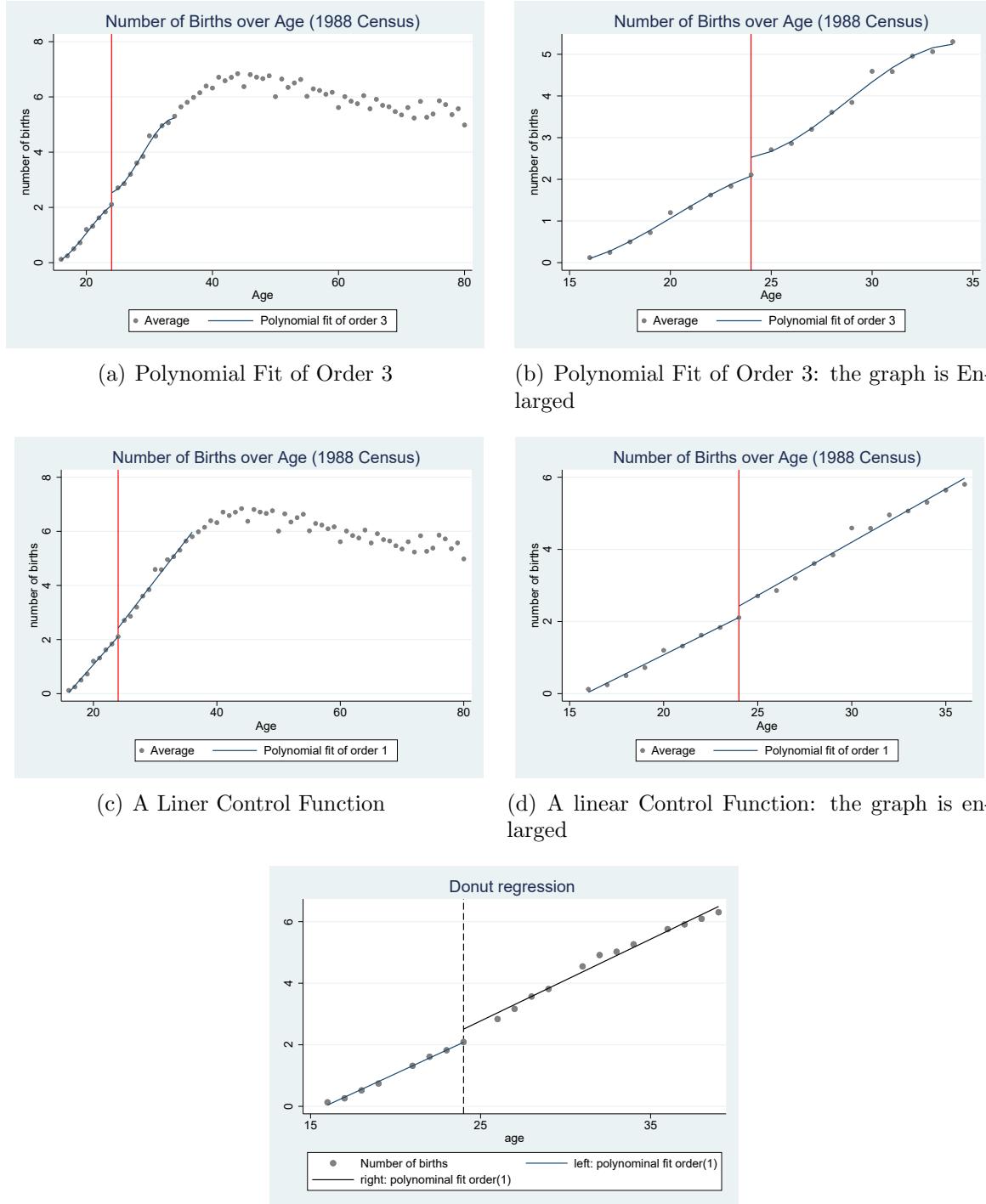
	Dependent Variable	
	(1)	(2)
Panel A.	Number of Births	
Years of Schooling	-0.164*** (0.0429)	-0.257*** (0.0281)
Kleibergen-Paap Rank	11.92	15.28
Window size	[6,11]	[11,11]
N	106,133	152,513
Sub-sample mean	3.151	
Panel B	Number of Deaths of Children	
Years of Schooling	-0.0216* (0.0115)	-0.0461*** (0.00779)
Kleibergen-Paap Rank	11.92	15.28
Window size	[6,11]	[11,11]
N	106,133	152,513
Sub-sample mean	0.527	
Panel C	Mortality Rate of Children	
Years of Schooling	-0.00980*** (0.00338)	-0.0109*** (0.00284)
Kleibergen-Paap Rank	10.10	16.99
Window size	[6,11]	[8,13]
N	80,664	90,932
Sub-sample mean	0.117	
Panel D	Number of Surviving Children	
Years of Schooling	-0.158*** (0.0345)	-0.225*** (0.0220)
Kleibergen-Paap Rank	11.92	15.28
Window size	[6,11]	[11,11]
N	106,133	152,513
Sub-sample mean	2.646	
Specification		
Order of Polynomial	1	1
Triangular Weight	No	Yes

Notes: The sample is female individuals in 1988 PHCT. Female individuals whose ages are the multiples of five are dropped from the sample. Notes of Table 3 apply.

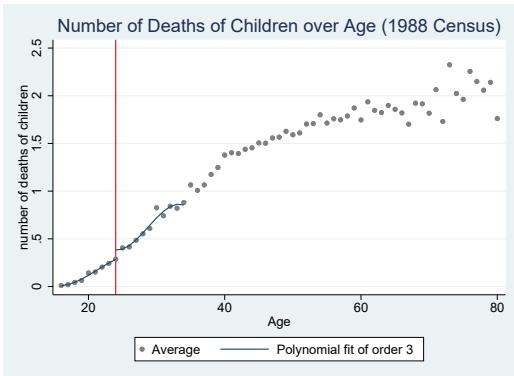


Notes: The horizontal axis is age. The vertical axis measures the relative sample size of each age (percent). Two red lines are the threshold cohort in 1988 and 2012 censuses, respectively. The sample is restricted to female individuals in each census dataset.

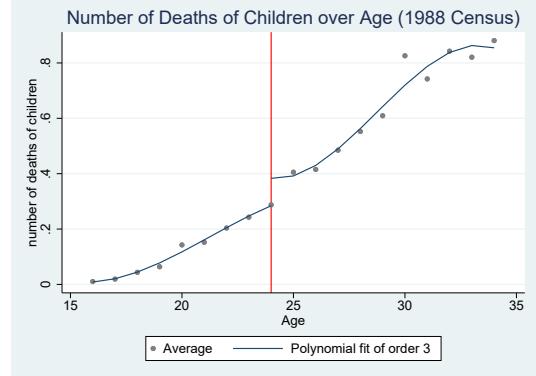
Figure E2. The Number of Births over Age in the 1988 Census: Different Specifications



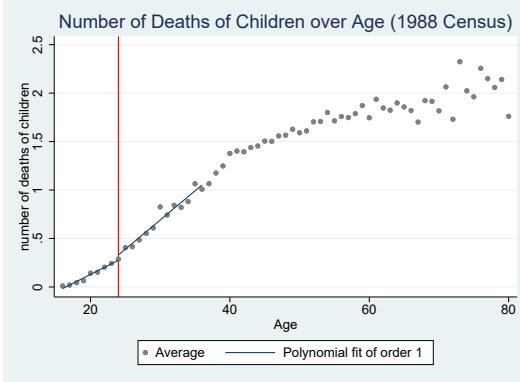
Notes: The horizontal axis is age. In (a) and (b), the window size is [8, 10]. In (c) and (d), the optimal window size is chosen to minimize the MSE assuming a linear polynomial function. The chosen window size is [8, 12]. In (e), the observations whose ages are the multiples of five are dropped.



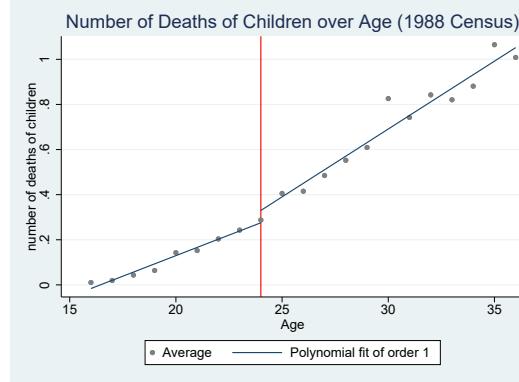
(a) Polynomial Fit of Order 3



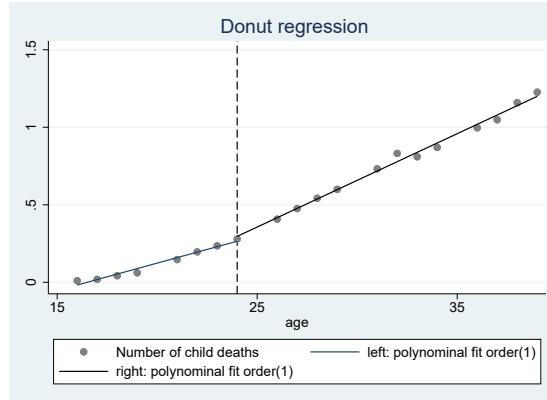
(b) Polynomial Fit of Order 3: the graph is Enlarged



(c) A Liner Control Function



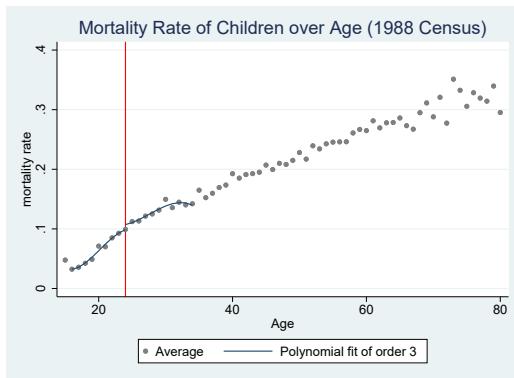
(d) A linear Control Function: the graph is enlarged



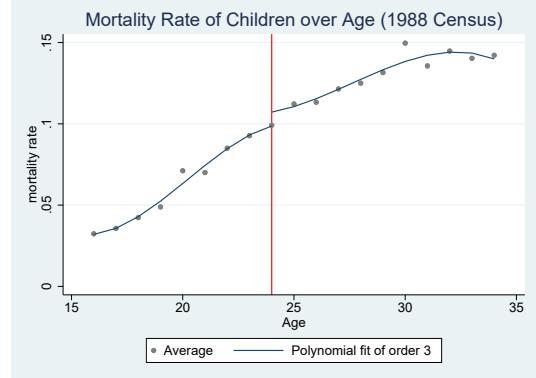
(e) Donut regression discontinuity design

Notes: The horizontal axis is age. In (a) and (b), the window size is [8, 10]. In (c) and (d), the optimal window size is chosen to minimize the MSE assuming a linear polynomial function. The chosen window size is [8, 12]. In (e), the observations whose ages are the multiples of five are dropped.

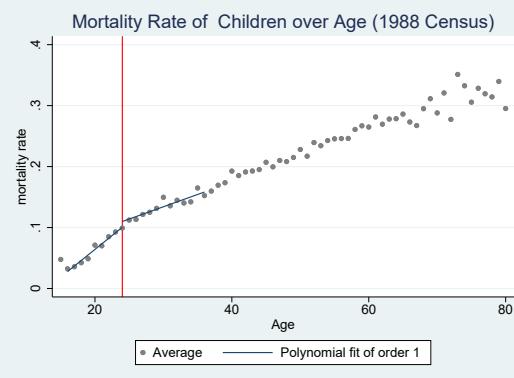
Figure E4. The Mortality Rate of Children over Age in the 1988 census : Different Specifications



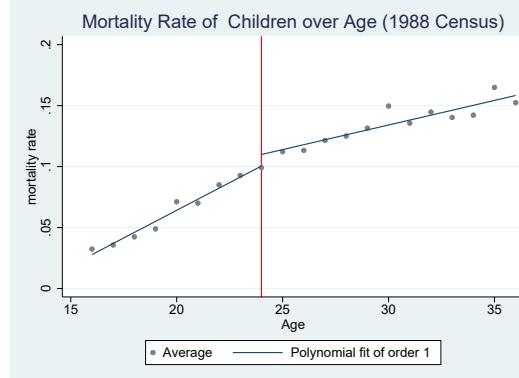
(a) Polynomial Fit of Order 3



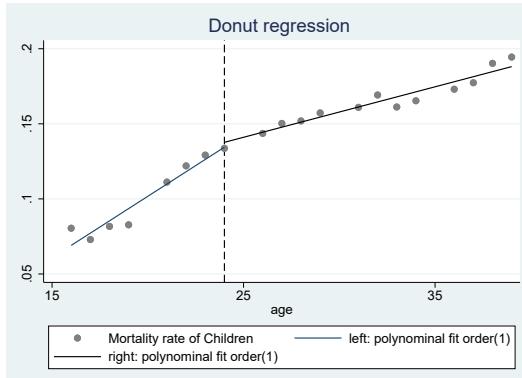
(b) Polynomial Fit of Order 3: the graph is Enlarged



(c) A Liner Control Function



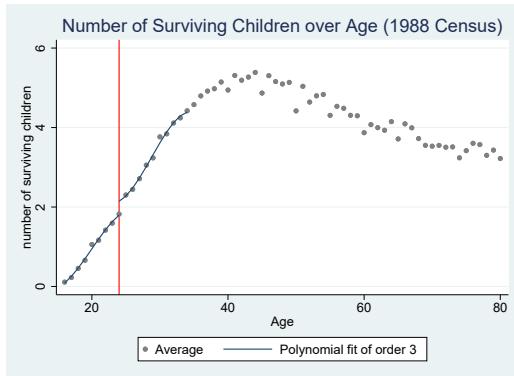
(d) A linear Control Function: the graph is enlarged



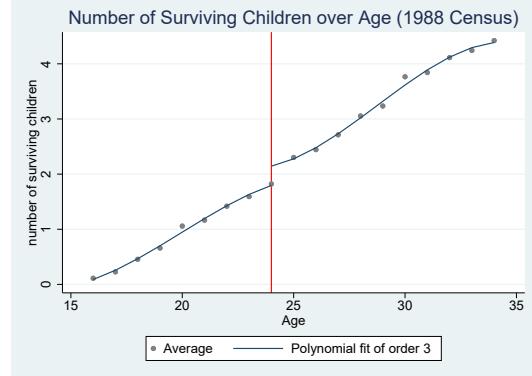
(e) Donut Regression Discontinuity Design

Notes: The horizontal axis is age. In (a) and (b), the window size is [8, 10]. In (c) and (d), the optimal window size is chosen to minimize the MSE assuming a linear polynomial function. The chosen window size is [8, 12]. We dropped the observations whose ages are the multiples of five.

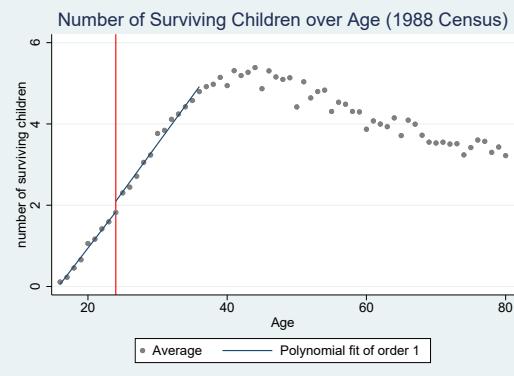
Figure E5. The Number of Surviving Children over Age in the 1988 Census: Different Specifications



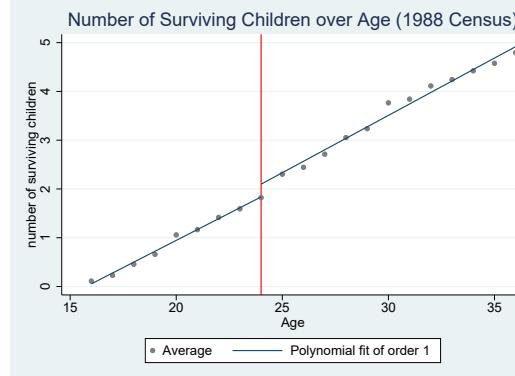
(a) Polynomial Fit of Order 3



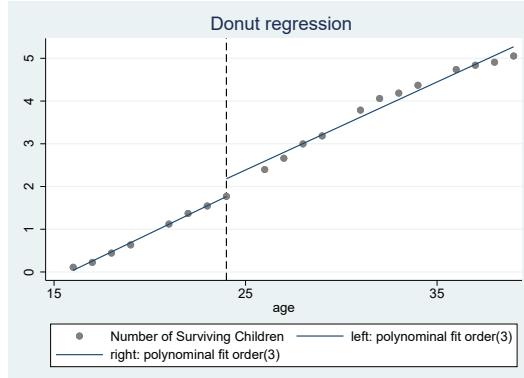
(b) Polynomial Fit of Order 3: the graph is Enlarged



(c) A Linear Control Function



(d) A linear Control Function: the graph is enlarged



(e) Donut Regression Discontinuity Design

Notes: The horizontal axis is age. In (a) and (b), the window size is [8, 10]. In (c) and (d), the optimal window size is chosen to minimize the MSE assuming a linear polynomial function. The chosen window size is [8, 12]. We dropped the observations whose ages are the multiples of five.