Supplementary Online Appendix for Restrictive Fertility Policy and Elderly Suicides: Evidence from China *

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Abstract

This appendix contains additional figures and tables.

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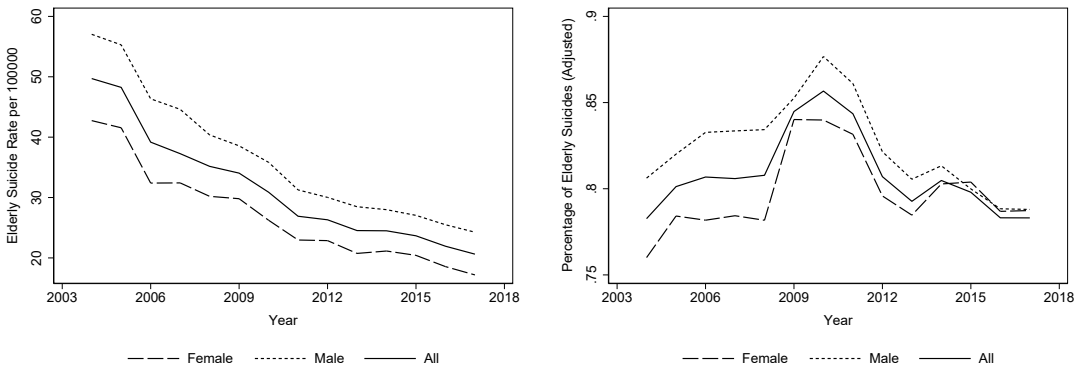
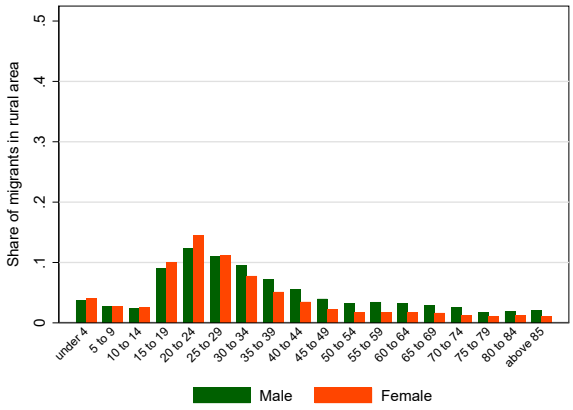


(a) Suicides among Elderly

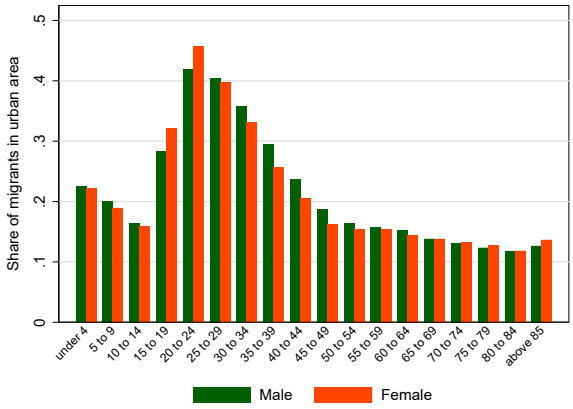
(b) Suicides among Elderly (population adjusted)

Figure A1: Suicides Among the Elderly in China

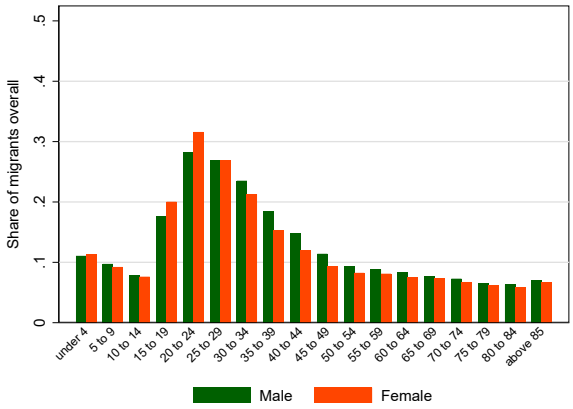
Source: Chinese Disease Surveillance Points (DSP), see Section 2 of the paper for details.



(a) Share of Migrants Rural Areas



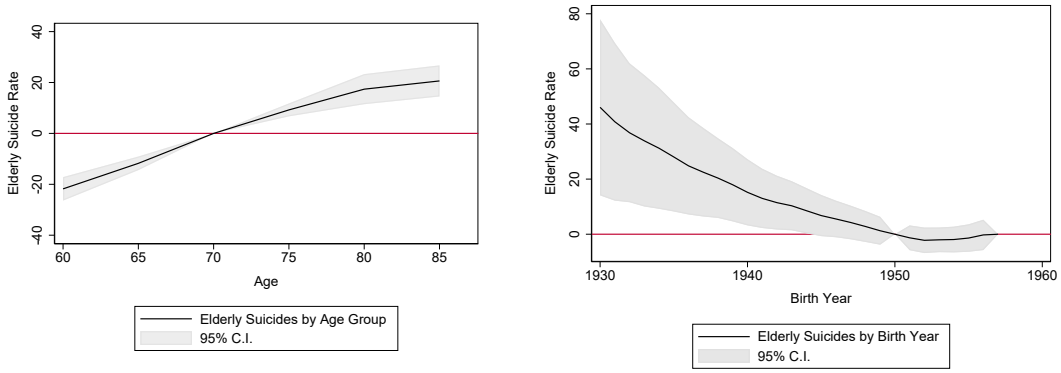
(b) Share of Migrants Urban Areas



(c) Share of Migrants Overall

Figure A2: Internal Migration in China

Source: own calculations from the 2005 One-percent Population Survey of China. Migrants are defined as respondents whose survey address is different from their *hukou*-address. This also includes cases of migration within county or within city (e.g., old parents move to children for better care within the same city), and temporary visits or travel.



(a) Age Group Effects (b) Cohort Effects

Figure A3: Elderly Suicide Rates: Age and Cohort Patterns

Note: Panel (a): coefficient estimates for age group dummies as in specification of Column (4) of Table 2 in the paper; coefficients relative to reference group aged 70–74. Panel (b): coefficient estimates for birth cohort dummies as in specification of Column (4) of Table 2 in the paper; coefficients relative to reference group born in 1950.

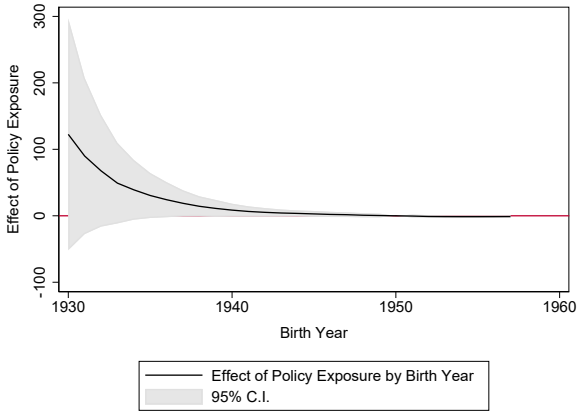
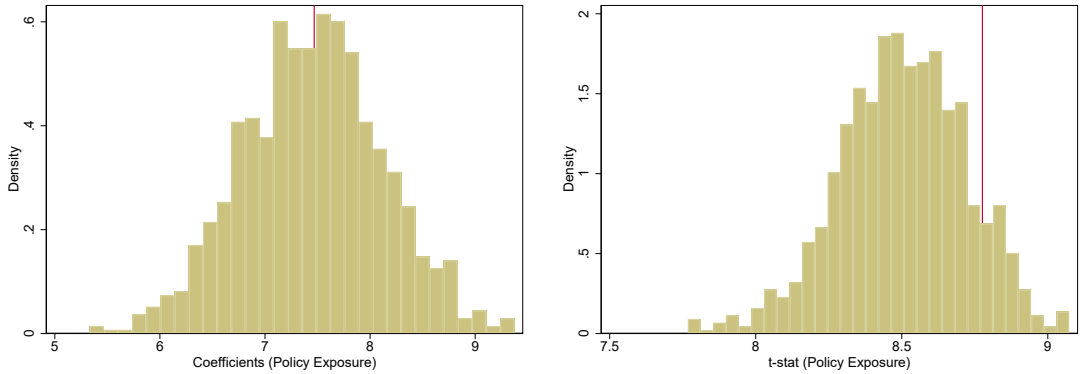


Figure A4: Heterogeneous Effects Across Cohort

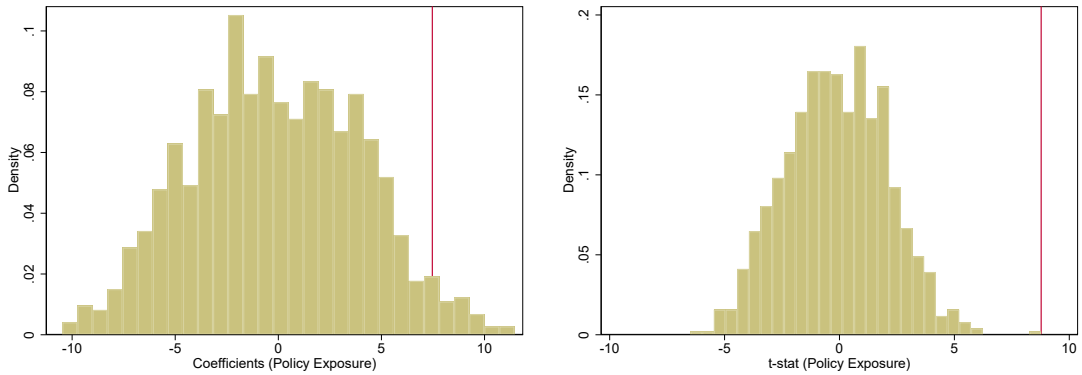
Note: The figure shows the coefficients on the interaction terms between cohort dummies and policy exposure relative to the main effect (for the cohort born in 1950). Other controls are as in the specification of Column (4) of Table 2 of the paper.



(a) Coefficient Estimates (b) Inference (t-statistics)

Figure A5: Placebo: Random Implementation of Policy (Time) (alternative specification)

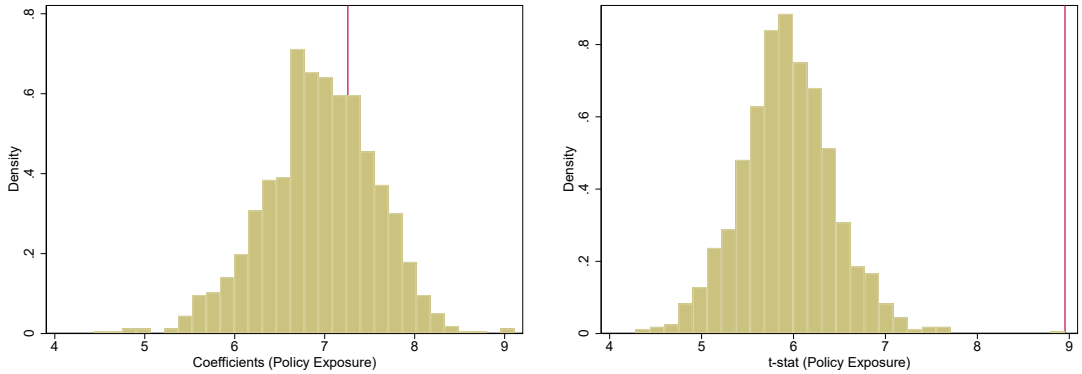
Note: Panel (a): coefficient estimates for β as in specification of Column (4) of Table 2. Panel (b): t-values for estimates of β in Panel (a). Estimates based on a placebo data set of 1,000 iterations of randomized policy assignments over time, see text for details.



(a) Coefficient Estimates (b) Inference (t-statistics)

Figure A6: Placebo: Random Implementation of Policy (Space and Cohorts) (alternative specification)

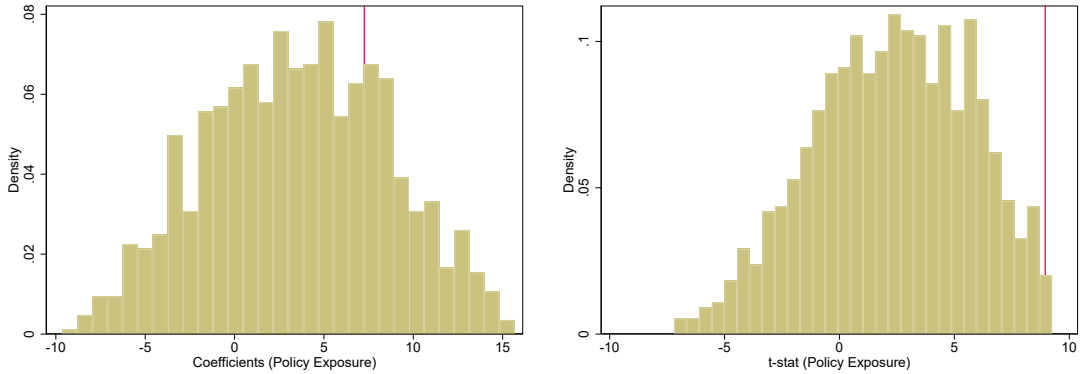
Note: Panel (a): coefficient estimates for β as in specification of Column (4) of Table 2. Panel (b): t-values for estimates of β in Panel (a). Estimates based on a placebo data set of 1,000 iterations of randomized policy assignments across both space and cohort, see text for details.



(a) Coefficient Estimates (b) Inference (t-statistics)

Figure A7: Placebo: Random Implementation of Policy (Cohorts) (baseline specification)

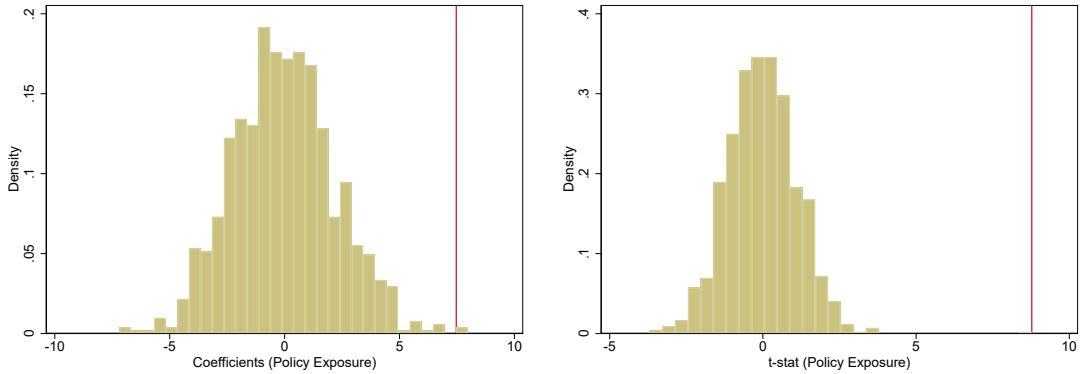
Note: Panel (a): coefficient estimates for β as in specification of Column (1) of Table 2. Panel (b): t-values for estimates of β in Panel (a). Estimates based on a placebo data set of 1,000 iterations of randomized policy assignments across cohorts, see text for details.



(a) Coefficient Estimates (b) Inference (t-statistics)

Figure A8: Placebo: Random Implementation of Policy (Space) (baseline specification)

Note: Panel (a): coefficient estimates for β as in specification of Column (1) of Table 2. Panel (b): t-values for estimates of β in Panel (a). Estimates based on a placebo data set of 1,000 iterations of randomized policy assignments across space, see text for details.



(a) Coefficient Estimates

(b) Inference (t-statistics)

Figure A9: Placebo: Random Implementation of Policy (Space, Cohort, and Time) (alternative specification)

Note: Panel (a): coefficient estimates for β as in specification of Column (4) of Table 2. Panel (b): t-values for estimates of β in Panel (a). Estimates based on a placebo data set of 1,000 iterations of randomized policy assignments across space, cohorts, and time, see text for details.

Additional Tables

Table A1: Policy Exposure and Elderly Suicides: Robustness

	Dependent variable: Suicide Rate			
	(1) Suicide Rate	(2) Suicide Rate	(3) Suicide Rate	(4) Suicide Rate
Policy Exposure	6.5803***	6.6128***	7.1607***	6.6933***
	(0.7150)	(0.7153)	(0.7801)	(0.7392)
Male=1	10.0919***	10.0919***	10.0919***	10.0919***
	(0.7297)	(0.7309)	(0.7310)	(0.7337)
Time trend	-3.0826***			
	(0.2596)			
Cohort trend			-1.0560***	
			(0.1813)	
Age Groups	Yes	Yes	Yes	Yes
Year	No	Yes	Yes	Yes
Cohort	No	No	No	Yes
Region	Yes	Yes	Yes	Yes
Observations	3612	3612	3612	3612
R^2	0.5370	0.5414	0.5453	0.5588

Note: OLS estimates. Standard errors allowing for clustering at region×cohort level in parentheses. Policy Exposure refers to exposure to LLF policy, see text for details. Age: full set of dummies for quinquennial age groups (reference group: 70–74); Year: full set of year dummies (reference year: 2004); Region: full set of region dummies (east/west, reference: center); Cohort: full set of cohort dummies (reference cohort: 1950). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A2: Policy Exposure and Elderly Suicides: Alternative Clustering (two-way)

	Dependent variable: Suicide Rate			
	(1) Suicide Rate	(2) Suicide Rate	(3) Suicide Rate	(4) Suicide Rate
Policy Exposure	7.2573**	7.2883**	7.8664**	7.4684**
	(3.0796)	(3.2747)	(3.5771)	(3.4614)
Male	10.0919***	10.0919***	10.0919***	10.0919***
	(2.1982)	(1.8862)	(1.8878)	(1.8916)
Time trend	-3.2176***			
	(1.1223)			
Cohort trend			-1.1961**	
			(0.5383)	
Age Groups	Yes	Yes	Yes	Yes
Year	No	Yes	Yes	Yes
Cohort	No	No	No	Yes
Observations	3612	3612	3612	3612
R^2	0.4197	0.4242	0.4293	0.4418

Note: OLS estimates. Standard errors allowing for 2-way clustering at region and cohort level in parentheses. Policy Exposure refers to exposure to LLF policy, see text for details. Age: full set of dummies for quinquennial age groups (reference group: 70–74); Year: full set of year dummies (reference year: 2004); Region: full set of region dummies (east/west, reference: center); Cohort: full set of cohort dummies (reference cohort: 1950). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A3: Policy Exposure and Elderly Suicides: Alternative Clustering (wild cluster bootstrap)

	Dependent variable: Suicide Rate			
	(1) Suicide Rate	(2) Suicide Rate	(3) Suicide Rate	(4) Suicide Rate
Policy Exposure	7.2573**	7.2883**	7.8664*	7.4684*
	(2.6336)	(2.7808)	(3.1760)	(3.1193)
Male	10.0919**	10.0919**	10.0919**	10.0919**
	(2.6764)	(2.6219)	(2.7283)	(2.7283)
Time trend	-3.2176**			
	(0.9818)			
Cohort trend			-1.1961*	
			(0.5491)	
Age Groups	Yes	Yes	Yes	Yes
Year	No	Yes	Yes	Yes
Cohort	No	No	No	Yes
Observations	3612	3612	3612	3612
R^2	0.4197	0.4242	0.4293	0.4418

Note: OLS estimates. Standard errors allowing for clustering at region×urban/rural level and a cluster wild cluster bootstrap for 999 replications in parentheses. Policy Exposure refers to exposure to LLF policy, see text for details. Age: full set of dummies for quinquennial age groups (reference group: 70–74); Year: full set of year dummies (reference year: 2004); Region: full set of region dummies (east/west, reference: center); Cohort: full set of cohort dummies (reference cohort: 1950). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A4: Heterogeneous Effects by Sex, Area, and Cohort

	Dependent variable: Suicide Rate					
	(1) Suicide Rate	(2) Suicide Rate	(3) Suicide Rate	(4) Suicide Rate	(5) Suicide Rate	(6) Suicide Rate
Policy Exposure	8.1342***	8.3452***	0.6187	-1.1667	3.8093***	3.9580***
	(0.8851)	(0.8930)	(0.7909)	(1.4072)	(1.0276)	(1.0824)
Male=1	13.4447***	13.4447***	10.0919***	10.0919***	10.0919***	10.0919***
	(1.1419)	(1.1482)	(0.7297)	(0.7337)	(0.7299)	(0.7339)
Male=1 × Policy Exposure	-1.7537***	-1.7537***				
	(0.3084)	(0.3101)				
Time trend	-3.2176***		-2.5135***		-3.0991***	
	(0.3433)		(0.3669)		(0.2464)	
Urban=1			-27.8492***	-28.7403***		
			(3.8354)	(4.2175)		
Urban=1 × Policy Exposure			8.3732***	7.0783***		
			(1.5476)	(1.0715)		
East					-24.2223***	-24.1303***
					(3.2660)	(2.7959)
West					-25.2020***	-25.1498***
					(3.3838)	(3.0064)
East × Policy Exposure					5.3100***	5.2969***
					(0.9702)	(0.8602)
West × Policy Exposure					3.7418***	3.7146***
					(0.9086)	(0.8287)
Age Groups	Yes	Yes	Yes	Yes	Yes	Yes
Year	No	Yes	No	Yes	No	Yes
Cohort	No	Yes	No	Yes	No	Yes
Observations	3612	3612	3612	3612	3612	3612
R^2	0.4238	0.4459	0.5528	0.5738	0.5621	0.5837

Note: OLS estimates. Standard errors allowing for clustering at region×cohort level in parentheses. Policy Exposure refers to exposure to LLF policy, see text for details. Age: full set of dummies for quinquennial age groups (reference group: 70–74); Year: full set of year dummies (reference year: 2004); Cohort: full set of cohort dummies (reference cohort: 1950). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A5: Heterogeneous Effects by Region and Urban/Rural Area: Standardized Variables

Sample:	Dependent variable: Suicide Rate (standardized)					
	Center/Rural	Center/Urban	East/Rural	East/Urban	West/Rural	West/Urban
	(1)	(2)	(3)	(4)	(5)	(6)
Policy Exposure (std.)	1.060***	0.891**	1.634***	1.888***	0.519***	0.742***
	(0.253)	(0.332)	(0.345)	(0.356)	(0.082)	(0.131)
Male	Yes	Yes	Yes	Yes	Yes	Yes
Age Groups	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Cohort	Yes	Yes	Yes	Yes	Yes	Yes
Observations	602	602	602	602	602	602
R^2	0.906	0.846	0.852	0.812	0.867	0.802

Note: OLS estimates. Suicide Rates and Policy Exposure have been standardized on the respective sample. Standard errors allowing for clustering at the cohort level in parentheses. Policy Exposure refers to exposure to LLF policy, see text for details. Age: full set of dummies for quinquennial age groups (reference group: 70–74); Year: full set of year dummies (reference year: 2004); Cohort: full set of cohort dummies (reference cohort: 1950). Sample: Region/urban-rural splits. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A6: Potential Channels: Financial and Physical Well-Being

	Dependent variable: Suicide Rate			
	(1)	(2)	(3)	(4)
Panel A: OLS Estimation				
Total Expenditure	-0.0006**			
	(0.0002)			
Underweight		1.4498		
		(11.7309)		
Number of Chronic Conditions			0.5466	
			(1.8689)	
Self-Rated Health				3.9013
				(2.5400)
Controls	Yes	Yes	Yes	Yes
Panel B: IV Estimation				
Total Expenditure	-0.0019			
	(0.0013)			
Underweight		86.4022**		
		(38.6333)		
Number of Chronic Conditions			-554.4861	
			(5948.9677)	
Self-Rated Health				67.7140
				(126.3717)
Controls	Yes	Yes	Yes	Yes
Panel C: First stage relation				
	Dependent variable: Financial and Physical Well-being			
	(1) Total Expenditure	(2) Underweight	(3) Number of Chronic Conditions	(4) Self-Rated Health
Policy Exposure	-1.38e+03	0.0310***	-0.0048	0.0322
	(879.8583)	(0.0080)	(0.0524)	(0.0610)
Controls	Yes	Yes	Yes	Yes
Observations	3042	3042	3042	2932
F	35.3476	15.4340	5.9530	7.0532

Note: Panel A shows OLS estimates. Controls include sex, age group, cohort, year, education level, marriage status, and the number of children. Panel B shows 2SLS estimates (second stage). Controls include sex, age group, cohort, year, education level, marriage status, and the number of children (on first and second stage). Panel C: OLS estimates (corresponding to the first stage). Controls include sex, cohort, education level, marriage status, and the number of children. Estimates in Panel C do not include age group and year because of collinearity the data are available for only one year. Standard errors allowing for clustering at region×cohort level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A7: Potential Channels: Mental Well-Being

	Dependent variable: Suicide Rate			
	(1)	(2)	(3)	(4)
Panel A: OLS Estimation				
Monthly Visits to Parents	-0.2108**			
	(0.0827)			
Monthly Contacts with Parents		-0.2543**		
		(0.0993)		
Depression Scale (CES-D)			1.3961***	
			(0.4562)	
Depressed (CES-D $\geq$ 10)				21.5677***
				(7.0286)
Controls	Yes	Yes	Yes	Yes
Panel B: IV Estimation				
Monthly Visits to Parents	-0.5724**			
	(0.2579)			
Monthly Contacts with Parents		-2.0707		
		(2.8062)		
Depression Scale (CES-D)			2.2172**	
			(0.9037)	
Depressed (CES-D $\geq$ 10)				56.6566*
				(30.3322)
Controls	Yes	Yes	Yes	Yes
Panel C: First stage relation				
	Dependent variable: Mental Well-being			
	(1) Monthly Visits to Parents	(2) Monthly Contacts with Parents	(3) Depression Scale (CES-D)	(4) Depressed (CES-D $\geq$ 10)
Policy Exposure	-4.6793***	-1.2935	1.2081***	0.0473**
	(1.2989)	(1.7030)	(0.2602)	(0.0218)
Controls	Yes	Yes	Yes	Yes
Observations	3042	3042	3042	3042
F	87.7382	10.6970	10.7786	12.5498

Note: Panel A shows OLS estimates. Controls include sex, age group, cohort, year, education level, marriage status, and the number of children. Panel B shows 2SLS estimates (second stage). Controls include sex, age group, cohort, year, education level, marriage status, and the number of children (on first and second stage). Panel C: OLS estimates (corresponding to the first stage). Controls include sex, cohort, education level, marriage status, and the number of children. Estimates in Panel C do not include age group and year because of collinearity as the survey data are available for only one year. Standard errors allowing for clustering at region×cohort level in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.