Diffusion of Reproductive Health Behavior through International Migration: Effects on Origin-Country Fertility

Online Appendix

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Figure A1: Pill Scoring Mechanism

Scoring	0	1	2	3
Sale purpose	illegal	non-contraceptive	contraceptive	
Sale location	illegal	pharmacy	shop	
Prescription requirement	illegal	prescription required	no prescription required	
Subsidy	illegal	commercially available	subsidized	free
Commercial advertising	illegal	legal via reproductive health education programs, or advertising only to doctors and pharmacies	legal with some restrictions	legal without restrictions

Reproduced from Finlay, Canning, and Po, 2012, Table 1, page 24.

Table A1: Share of Households with Migrant Connections

Year	Migrants as % of population (1)	% of households with migrant member (2)	% of households receiving remittances (3)
1990	0.95	3.18	
1991			17.60
1994			19.79
1995	1.56	5.05	
1997			17.26
2000	1.74	5.24	18.06
2003			20.74
2006			23.31
2007	2.11	6.38	
2009			26.01
2010	2.10	6.28	
2012			25.61
2015	2.78	7.97	26.93

Notes: "Migrants as percent of population" is the number of individuals reported as temporary migrants (new hires plus rehires) divided by the total population in the Census aged ten and over. "Percent of households with migrant member" is the fraction of all households reporting a migrant member in the Census. "Percent of households receiving remittances" is the share of households receiving remittances from overseas (not necessarily from a household member) from FIES (nationally representative survey of households).
Sources: Authors' calculations from the Philippine Census (1990, 1995, 2000, 2007, 2010, and 2015) and the triennial Family Income and Expenditure Survey (NSO, 1991-2015) from 1991-2015 inclusive.

Table A2: Policy Variation

	N	Proportion any change	Number of changes Mean	SD	Min	Max
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Policy Changes at the Destination Country-Level						
All policy changes	85	0.424	1.365	2.419	0	12
Abortion policy changes	85	0.094	0.282	1.053	0	6
Pill policy changes	85	0.224	0.424	1.062	0	6
Condom policy changes	85	0.212	0.376	0.988	0	7
IUD policy changes	85	0.035	0.118	0.565	0	3
Sterilization policy changes	85	0.141	0.235	0.479	0	2

	N	Mean	SD	Min	Max
	(1)	(2)	(3)	(4)	(5)
Panel B. Liberalization Indices at the Destination Country-Year Level					
Abortion index	1,700	58.891	36.085	0	100
Pill index	1,500	65.767	15.009	0	100
Condom index	1,500	65.258	17.410	0	100
IUD index	1,500	76.489	26.755	0	100
Sterilization index	1,510	86.490	21.434	33.333	100
Standardized index	1,460	-0.000	1.000	-4.431	1.767

	N	Mean	SD	Min	Max
	(1)	(2)	(3)	(4)	(5)
Panel C. Policy Variation at the Province-Year and Province Level					
Any policy change (Province-Year)	1,680	0.440	0.497	0	1
Number of policy changes (Province)	84	9.333	3.510	1	16
Number of liberalizing changes (Province)	84	7.714	3.056	1	14
Number of de-liberalizing changes (Province)	84	1.619	0.805	0	4

	N	Mean	SD	Min	Max
	(1)	(2)	(3)	(4)	(5)
Panel D. Liberalization Index Variation over Sample Period					
Base Migration Rate (1992)	1,680	0.0022	0.003	0.00003	0.015
Weighted Liberalization Index (Standardized)	1,680	0.0000	1.000	-2.988	2.612
Base Migration X Weighted Liberalization Index	1,680	-0.0002	0.003	-0.020	0.007

Note: In panel B, observations vary slightly across variables due to missing policy information for a subset of specific types of reproductive health policies for selected countries in some years. The weighted liberalization index is standardized to have a mean of zero and a standard deviation of one (panel D).

Sources: POEA, 2017; PSA, 2015; Finlay, Canning, and Po, 2012; NSCB, 2012; OWWA, 2012; NSO, 2010; POEA, 2009; NSO, 2007; NSO, 2000; NSO, 1995; and NSO, 1990.

Table A3: Disaggregated Policy Variation at Destination-Country Level

			Number of Policy Changes			
	N	% Any Change	Mean	SD	Min	Max
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Pill-Specific Policy Changes						
Purpose	85	0.024	0.047	0.263	0	2
Location	85	0.012	0.012	0.108	0	1
Prescription	85	0.035	0.047	0.263	0	2
Susbidy	85	0.071	0.106	0.379	0	2
Commercial Advertising	85	0.153	0.153	0.362	0	1
Panel B. Condom-Specific Policy Changes						
Purpose	85	0.012	0.035	0.241	0	2
Subsidy	85	0.082	0.106	0.379	0	2
Commercial Advertising	85	0.153	0.153	0.362	0	1

Sources: POEA, 2017; Finlay, Canning, and Po, 2012; NSCB, 2012; OWWA, 2012; and POEA, 2009.

Table A4: Descriptive Statistics

	N	Mean	SD
	(1)	(2)	(3)
Panel A. Outcome Variables			
Province birth rate (Census)	1,680	0.107	0.021
Had a birth (DHS)	362,980	0.123	0.331
Used any contraceptive method	137,454	0.280	0.449
Used a modern contraceptive method	137,454	0.183	0.387
Used a traditional contraceptive method	137,454	0.104	0.305
Used the pill	137,454	0.077	0.267
Used an IUD	137,454	0.026	0.158
Used an injectable	137,454	0.018	0.134
Used a condom	137,454	0.011	0.104
Sterilized	137,454	0.057	0.231
Infant mortality rate	1,258	13.473	6.853
Maternal mortality rate	1,200	1.142	0.724
Panel B. Census Data (Province-Level)			
Less than completed primary schooling	336	0.110	0.100
Completed primary schooling	336	0.116	0.083
Some secondary schooling	336	0.196	0.161
Completed secondary (or more) schooling	336	0.181	0.102
More than completed secondary schooling	336	0.445	0.288
Share Catholic	168	0.753	0.215
Share urban	84	0.300	0.268
Share married	336	0.544	0.044
Average age	336	29.252	0.554

Note: Data in Panel A on contraceptive use are from the DHS, while data on mortality are from Vital Statistics in the Philippines.
Sources: NSO, 1990-2015; PSA, 2015; PSA and ICF, 2014; NSCB, 2012; NSO, 2010; NSO and ICF, 2009; NSO, 2007; NSO and ORC, 2004; NSO, 2000; NSO et al., 1999; NSO, 1995; and NSO, 1990.

Table A5: Falsification Tests: Destination Balance with Lagged Liberalization Index

	Coefficient	Clustered SE
Panel A. One-Year Lagged Liberalization Index		
Domestic Worker Share	-0.0003	(0.0012)
Female Share	-0.002	(0.003)
Migrant Share	-0.001	(0.007)
Remittance Share	0.005	(0.005)
Real GDP (in USD billions)	-65.992	(59.262)
Fertility Rate (births per woman)	0.061	(0.051)
Education Expenditure (% of GNI)	0.079	(0.124)
Total Unemployment	0.013	(0.145)
Female Unemployment	0.284	(0.323)
Natural Resource Rents (% of GDP)	0.885	(0.644)
Prop. Female Seats in Nat'l Parliament	-0.231	(0.394)
Panel B. Two-Year Lagged Liberalization Index		
Domestic Worker Share	-0.0000	(0.0010)
Female Share	0.000	(0.002)
Migrant Share	0.001	(0.006)
Remittance Share	0.003	(0.004)
Real GDP (in USD billions)	-66.276	(60.076)
Fertility Rate (births per woman)	0.053	(0.048)
Education Expenditure (% of GNI)	0.087	(0.126)
Total Unemployment	0.019	(0.141)
Female Unemployment	0.271	(0.338)
Natural Resource Rents (% of GDP)	1.050	(0.782)
Prop. Female Seats in Nat'l Parliament	-0.049	(0.469)
Number of Destination Countries	85	
Number of Years	21	

Note: In panel A, we regress destination-level controls on the year-to-year percent change in the one year lagged destination-level liberalization index and year fixed effects. In panel B, we replace the one year lagged index with the two year lagged index. The unit of variation is the destination-year. Regressions are weighted by the average destination exposure share across provinces following Borusyak, Hull and Jaravel (2022). Standard errors clustered at the destination level are in parentheses. *** p<0.01, ** p<0.05, * p<0.10. Sources: United Nations Population Division, 2024; World Bank, 2024; POEA, 2017; PSA, 2015; NST, 2014; Bangko Sentral ng Pilipinas, 1989-2013; Finlay, Canning, and Po, 2012; NSCB, 2012; OWWA, 2012; NSO, 2010; POEA, 2009; NSO, 2007; NSO, 2000; NSO, 1995; and NSO, 1990.

Table A6: Fertility Effects of Exposure to Reproductive Health Liberalization

	Total migrant variation		Female variation	Male variation	Domestic helper variation	Non-domestic helper variation
	(1)	(2)	(3)	(4)	(5)	(6)
Base Migration X Weighted Liberalization Index	-0.516***	-0.521***	-1.257**	-0.736**	-2.966***	-2.834***
	(0.187)	(0.191)	(0.575)	(0.285)	(0.836)	(1.024)
Control Mean	0.134	0.134	0.134	0.134	0.134	0.134
Observations	1680	1680	1680	1680	1680	1680
IQR (Baseline Migration Rate)	0.0025	0.0025	0.0014	0.0007	0.0007	0.0004
Coefficient X IQR	-0.0013	-0.0013	-0.0018	-0.0005	-0.0021	-0.0012
Wage Control	N	Y	Y	Y	Y	Y

Note: All specifications include province and year fixed effects, province-specific linear time trends, and exposure-weighted destination-level controls. The weighted liberalization index is standardized. Columns 1 and 2 weight the liberalization index by exposure shares based on all migrants. Columns 3 through 6 use exposure shares and baseline migration rates calculated from the specified group in the column header. Columns 2 through 6 contain a province-year level control for median migrant wages. The sample period is 1994 to 2013. Standard errors clustered by province are in parentheses. *** p<0.01, ** p<0.05, * p<0.10.

Sources: POEA, 2017; PSA, 2015; Finlay, Canning, and Po, 2012; NSCB, 2012; OWWA, 2012; NSO, 2010; POEA, 2009; NSO, 2007; NSO, 2000; NSO, 1995; and NSO, 1990.

Table A7: Reasons for Discontinuation of Contraception

		Reason for discontinuation of method was:				
	Any discontinuation	Husband disapproved	Side effects	Access	More effective method	Costly
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Conditional on Using a Traditional Method in year t						
Base Migration X Weighted Liberalization Index	4.920***	0.114	0.730**	0.686**	0.922***	-0.008
	(1.080)	(0.125)	(0.305)	(0.269)	(0.268)	(0.016)
Control Mean	0.645	0.024	0.030	0.034	0.028	0.0002
Observations	13,353	13,353	13,353	13,353	13,353	13,353
Coefficient X IQR	0.0123	0.0003	0.0018	0.0017	0.0023	-0.00002
Panel B. Conditional on Using a Modern Method in year t						
Base Migration X Weighted Liberalization Index	2.547***	0.061	1.523**	0.399	0.095	0.039
	(0.870)	(0.072)	(0.594)	(0.284)	(0.117)	(0.047)
Control Mean	0.403	0.012	0.148	0.057	0.011	0.000
Observations	24,268	24,268	24,268	24,268	24,268	24,268
Coefficient X IQR	0.0064	0.0002	0.0038	0.0010	0.0002	0.0001

Note: The weighted liberalization index is standardized. The sample period is 1994 to 2003. All columns are binary variables. For columns 2 through 6, the outcome variable is coded as one if a woman reported discontinuing contraceptives for this reason. Panel A (B) is restricted to all women who used any traditional (modern) method at any point during the year. All columns contain a province-year level control for median migrant wages, as well as all controls specified in Table 4. Standard errors clustered by province are in parentheses. *** p<0.01, ** p<0.05, * p<0.10.
Sources: POEA, 2017; PSA and ICF, 2014; Finlay, Canning, and Po, 2012; NSCB, 2012; OWWA, 2012; NSO and ICF, 2009; POEA, 2009; NSO and ORC, 2004; and NSO et al., 1999.

Table A8: Do Fertility Responses Vary by Social Network Size?

	Effects on Fertility	
	Main results	Plus network interaction
	(1)	(2)
Base Migration X Weighted Liberalization Index	-0.597	-0.503
	(0.401)	(0.405)
Base Migration X Weighted Liberalization Index X Network		-5.740***
		(1.932)
Control Mean	0.175	0.175
Observations	468,755	468,755
IQR (Baseline Migration Rate)	0.0033	0.0033

Notes: The weighted liberalization index is standardized. We construct the network by adapting a methodology used by Bertrand, Luttmer and Mullainathan (2000) where language-age-province groups identify the likely potential contacts a woman engages with. We interact this network measure with the migration rate of this particular age-language group, which proxies for likely direct exposure to policies abroad. Thus the network measure captures both the quantity and quality of the women's likely network. More details are provided in Online Appendix 2. All specifications include a province-year level control for median migrant wages, as well as all controls specified in Table 4. Standard errors clustered by province are in parentheses. *** p<0.01, ** p<0.05, * p<0.10.
Sources: POEA, 2017; PSA and ICF, 2014; Finlay, Canning, and Po, 2012; NSCB, 2012; OWWA, 2012; NSO and ICF, 2009; POEA, 2009; NSO and ORC, 2004; NSO et al., 1999; and NSO, 1990.

Table A9: Comparison of Exposure to Reproductive Health Shocks versus Exposure to Increase in Migrant Income

	Effects on Fertility		
	Main results	Plus migrant income shock	Plus interaction
	(1)	(2)	(3)
Base Migration X Weighted Liberalization Index	-0.707**	-0.638**	-0.858**
	(0.272)	(0.293)	(0.418)
Exchange Rate Shock Shift Share x Post		0.00016	0.00051
		(0.00075)	(0.00089)
Interaction of Shift Shares			0.067
			(0.080)
Control Mean	0.135	0.135	0.135
Observations	1320	1320	1320
IQR (Baseline Migration Rate)	0.0027	0.0027	0.0027
Coefficient X IQR	-0.0019	-0.0017	-0.0011

Notes: The weighted liberalization index is standardized. The exchange rate shock shift-share is from Khanna et al. (2024). We include both the main shift-share variable (shock to migrant earnings per capita times post) as well as the exchange rate shock times year fixed effects to best capture Khanna et al.'s identifying variation. All specifications include a province-year level control for median migrant wages, as well as all controls specified in Table 4. Due to differences in geographical definitions between our paper and Khanna et al. (2024), we use a subset of 66 provinces that have consistent geographic boundaries over time. This is discussed in further detail in Online Appendix 3. Standard errors clustered by province are in parentheses. *** p<0.01, ** p<0.05, * p<0.10.
Sources: Khanna et al., 2024; POEA, 2017; PSA, 2015; Finlay, Canning, and Po, 2012; NSCB, 2012; OWWA, 2012; NSO, 2010; POEA, 2009; NSO, 2007; NSO, 2000; NSO, 1995; and NSO, 1990.

Table A10: Fertility Effects of Exposure to Reproductive Health Liberalization: Robustness to Alternative Index Definitions

	All destination countries					Top 5	Top 10	Top 20
	Total migrant variation	Excludes Manila	Imputed policy information	Excluding sterilization	Excluding territories	destinations only	destinations only	destinations only
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Base Migration X Weighted Liberalization Index	-0.521***	-0.739**	-0.518***	-0.549***	-0.443***	-0.549***	-0.516***	-0.526***
	(0.191)	(0.335)	(0.189)	(0.195)	(0.155)	(0.190)	(0.183)	(0.190)
Control Mean	0.134	0.134	0.134	0.134	0.134	0.134	0.134	0.134
Observations	1,680	1,600	1,680	1,680	1,680	1,680	1,680	1,680

Note: The weighted liberalization index is standardized. All columns contain a province-year level control for median migrant wages, as well as all controls specified in Table 4. Column 2 drops the four districts of Metro Manila. Columns 4 through 8 restrict the policy changes used in creating the weighted liberalization index to the group in the column header. Standard errors clustered by province are in parentheses. *** p<0.01, ** p<0.05, * p<0.10.

Sources: POEA, 2017; PSA, 2015; Finlay, Canning, and Po, 2012; NSCB, 2012; OWWA, 2012; NSO, 2010; POEA, 2009; NSO, 2007; NSO, 2000; NSO, 1995; and NSO, 1990.

Table A11: Robustness Check: Alternative Base Share Year (1993)

	Fertility (Census)	Fertility (DHS)	Any contraceptive method	Modern methods	Traditional methods	Pill	IUD	Injectable	Condom	Sterilization
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Base Migration X Weighted Liberalization Index	-0.796***	-0.844*	1.351*	1.260**	0.015	0.590	-0.240	0.745***	0.189	0.159
	(0.178)	(0.466)	(0.786)	(0.594)	(0.412)	(0.471)	(0.203)	(0.148)	(0.174)	(0.228)
Control Mean	0.134	0.189	0.203	0.121	0.086	0.051	0.018	0.002	0.004	0.046
Observations	1,680	514,910	137,454	137,454	137,454	137,454	137,454	137,454	137,454	137,454

Note: The weighted liberalization index is standardized, and is reconstructed here using base shares from 1993 rather than our earliest year of data (1992) as in all other tables. All columns contain a province-year level control for median migrant wages, as well as all controls specified in Table 4. The sample period is 1994 to 2013. Standard errors clustered by province are in parentheses. *** p<0.01, ** p<0.05, * p<0.10.

Sources: POEA, 2017; PSA, 2015; PSA and ICF, 2014; Finlay, Canning, and Po, 2012; NSCB, 2012; OWWA, 2012; NSO, 2010; NSO and ICF, 2009; POEA, 2009; NSO, 2007; NSO and ORC, 2004; NSO, 2000; NSO et al., 1999; NSO, 1995; and NSO, 1990.

Online Appendices

Online Appendix 1. Do different types of migrants drive the fertility response?

Exposure of female migrants to more liberalized policies may matter more for declines in fertility than male migrant exposure. Women may be empowered to make different fertility choices as a result of exposure. With modern contraceptive methods, women and men can disagree about fertility, but women can make their own decisions without the knowledge of men, as in Ashraf, Field and Lee (2014). Such choices would lead to larger declines in fertility from female exposure compared to male exposure. Alternatively, both men and women may transfer new ideas about fertility, which could lead to similar declines in fertility from male versus female exposure. To examine this empirically, we consider whether there is heterogeneity in the effects on fertility depending on whether female or male migrants were exposed to more liberalized policies abroad. We also explore whether the exposure of particular types of migrants to more liberalized reproductive health policy drives the declines in fertility that we find.

To conduct this analysis, we recalculate the base migration rate and shares to each destination country using only female migrants and again using only male migrants. We then construct both female and male migrant weighted liberalization indices, as in equation 1. The results are shown in columns 3 and 4 of Appendix Table A6. Exposing female migrants to more liberalized reproductive health policies seems to lead to larger fertility declines than when male migrants are exposed, but we cannot reject that the coefficients are the same.[1] A one standard deviation increase in exposure to more liberalized policies at destinations leads to a 1.31 percent (or 0.38 percent) decline in the fertility rate for provinces at the 75th percentile of baseline female (or male) migration relative to the 25th percentile. This suggests that the declines in fertility we observe due to migrant exposure to liberalized reproductive health policies are driven by both female and male migrants.

Migrant occupational diversity is another margin by which exposure to reproductive health policies may vary. Temporary migrants engage in a wide range of occupations while abroad. Their occupation may also affect the intensity of their exposure to changing reproductive health policies. Domestic helpers are one of the largest occupations for contract migrants from the Philippines. Domestic helpers differ from other contract migrants in that they generally reside in the homes

[1] To test this, we estimate our main equation including both the female and male weighted liberalization indices and the interaction of each weighted liberalization index with the appropriate gender-specific base migration rate. We then test the equivalence of the coefficient on the gender-specific interaction terms, $MigRate_{g,p,t=0}XWeightedLibIndex_{g,p,t-2}$ where g is gender. The p-value is 0.84, and so we cannot reject the null hypothesis that these coefficients are the same. However, because male and female migrants from a given province often travel to the same destinations and thus are exposed to the same shocks, we are underpowered for this test.

of their employers, while contract migrants in other occupations often live with other migrants from their country of origin, whether in dorms or in private housing. As a result of their living arrangements, domestic helpers are exposed to local customs and local media in a different way, potentially leading to more exposure to changes in reproductive health policies in the destination country. Alternatively, migrants in dorms may be somewhat isolated from local customs, but since much of our variation comes through liberalizing advertisements, viewing these ads may lead to discussion among migrants. Domestic helpers living with local families have less time to interact with other migrants, which could lead to less discussion of newly adopted policies and thus less transfer of knowledge. We test this empirically by constructing both the baseline migration rates and the baseline destination shares for domestic helpers and for non-domestic helpers. Because domestic helpers are overwhelmingly female (99 percent), we restrict this analysis to only female migrants. The effect size is almost twice as large for domestic helpers relative to non-domestic helpers (1.55 percent versus 0.84 percent, Appendix Table A6, columns 5 and 6).[2]

[2]Testing the equivalence of the coefficients in a regression similar to footnote 1 adapted to occupational diversity, we cannot reject they are the same (p-value=0.15).

Online Appendix 2. Social Networks

In Section 7.4, we examine whether social networks amplify the diffusion process. This appendix provides additional details on how we adapt the approach used in Bertrand, Luttmer and Mullainathan (2000) to construct a proxy measure for networks in our setting. To apply their approach, we need a measure of the potential size ("quantity") of the social network from which women can learn and a measure of the "quality" of the information held by the social network. We discuss the construction of each component in turn.

Quantity of network: We proxy for social contacts by relying on some assumptions informed by other data sources and existing literature. Descriptive findings from the PDHS data indicate that friends (and neighbors) are the most common social contact for discussions related to family planning. The sociology network literature demonstrates that assortative matching within friendship networks is important (e.g. Morris (2004)). Studies in the context of reproductive health decision-making in developing countries echo these findings (e.g. Lowe and Moore (2014)) and also highlight the importance of geographically proximate peers (Godlonton and Thornton, 2012, 2013). Thus, following Bertrand, Luttmer and Mullainathan (2000), we use age, home language, and province of residence to identify potential connections, as we believe these characteristics are likely highly predictive of underlying social connections. Since the seminal work of Granovetter (1973), these types of connections, known as "weak ties," are influential in impacting behavior in a range of settings.

More specifically, we group women in 5-year age bins, as women are more likely to be connected to others of a similar age. We limit networks to the same province because geographical proximity is also a key determinant of social connectedness. Finally, we consider women of the same language group akin to the approach taken by Bertrand, Luttmer and Mullainathan (2000) in understanding relevant connections in welfare take-up in the United States and also by Burns, Godlonton and Keswell (2010) in examining job search information in South Africa: women sharing the same mother-tongue are more likely to interact.

To identify language groups, we take advantage of the rich linguistic diversity of the Philippines to the extent possible across datasets. Linguistic researchers have identified approximately 120 distinct languages, even more when accounting for dialects (Kaplan and Baldauf, 1999; McFarland, 1993). There are 96 distinctly identifiable languages in the 1990 Census (10 percent sample) and two catch-all categories for foreign languages and other non-specified languages. The mother tongue variable is not available in the 100 percent Census, thus requiring us to rely on the 10 percent

sample to construct these measures. We construct the network measures using the 10 percent sample rather than within the PDHS because the Census will be representative at the province level while the PDHS is not.

Using the information detailed above, we construct a potential contact measure as follows:

$$PotentialContact_{pg} = (C_{pg}/A_p)/(L_g/T) \tag{1}$$

where p refers to province and g refers to a specific language-age group. We define age groups in five-year bins. C_{pg} measures the number of people in a language-age group who live in the province, A_p is the total number of people within the province, L_g is the total number of people in the country in g's language-age group, and T is the total population in the country. We construct the potential contacts measure in two steps. First, we calculate the share of the population in a province of a specific language-age group, namely (C_{pg}/A_p), by dividing the number of people in province p of language-age group g by the total population in the province. To account for both the substantial variation in the size of different language groups across the country and the geographical concentration of language groups, our second step re-weights the province-specific language-group share measure by the overall share of the language group within the Philippines. This adjustment assigns higher weights to language-age groups in provinces where they constitute a larger share of the province relative to the share of the population of the Philippines. Language groups in a province that mirror the share for the overall population are assigned a weight of one by this method. We further log $PotentialContact_{pg}$ to reduce the influence of outlier groups defined by this measure. This measure of potential contacts offers meaningful variation. The mean number of contacts is 7.64 with a standard deviation of 29.6.

Quality of network connectedness: The size of the social network allows more opportunity to be influenced by new ideas. However, the quality of the information held by the network in our context depends upon the network's connection to migrants exposed to new ideas abroad. Thus to proxy for the quality of information, we interact the potential contacts measure defined above with the migration rate of the language-age group at baseline nationally. This group migration rate exhibits substantial variation, ranging from zero to almost 10 percent. We do not calculate this based on the province-specific group migration rate or the contemporaneous group-specific migration rate to mitigate potential endogeneity concerns.

Thus, ultimately we proxy for social networks using the following equation:

$$Network_{pg} = ln[PotentialContact_{pg}]XMig_g = ln[(C_{pg}/A_p)/(L_g/T)]XMig_g \tag{2}$$

We link this constructed network measure to the PDHS and run the social network analysis for

the PDHS fertility sample. We link the datasets at the age bracket-language-province level. While the 10 percent Census includes 96 languages, the PDHS collects information on 8 to 24 language groups depending on the survey round. To create uniformity to the extent possible, we construct language groups by aggregating the census languages based on their family language tree. Due to differences in how language is collected, we lose some age bracket-language-province cells. However, as shown in Appendix Table A8, column 1, we replicate our main results using this restricted sample and find similar results.

Our network regression is a modified version of our main estimating equation, whereby we additionally interact our main variable of interest with our network measure. The coefficient of this interaction term, $MigRate_{p,t=0}XWeightedLibIndex_{p,t-2}XNetwork_{pg}$, captures the additional response to fertility operating through the network. We interpret the network effect (Appendix Table A8, column 2) using a given exposure shock and network size. At the median baseline migration rate (13 migrants per ten thousand people, or 0.0013), a one standard deviation increase in exposure to more liberal policies yields a 0.06 (-0.503*0.0013*100) percentage point decline in fertility if the women have no contacts in their network. Moving from the 25th to the 75th percentile in the size of the network, we consider the effect of this one standard deviation exposure shock at the median base migration rate. The additional effect through peers is 0.05 percentage points.[3]

[3] $(((1/(1-(0.007*-5.74)))-1)*1*0.0013*100$ - $((1/(1-(-0.044*-5.74)))-1)*1*0.0013*100)$.

Online Appendix 3. Shocks to Migrant Income

In Section 7.5, we explore whether shocks to migrant income yield similar effects on fertility as exposure to changes in reproductive health policy abroad. To create migrant income shocks, we use plausibly exogenous shocks to migrant income from the 1997 Asian Financial Crisis as created by Khanna et al. (2024). Their shocks to migrant income are a shift-share style variable that use the change in the exchange rate immediately before to immediately after the Asian Financial Crisis as the shifts. They weight these shifts by the baseline share of migrant income per capita from a given destination. This provides a measure of the change in migrant income per capita as a result of the exchange rate shock. Section 3.1 of Khanna et al. (2024) provides a detailed explanation of the construction of their shift-share variable and identification strategy.

Combining the shift-share variable from Khanna et al. (2024) with our dataset results in a slightly altered sample of provinces because the two papers define geographic boundaries at two different points in time. Specifically, Khanna et al. (2024) define province boundaries as they appeared in 1990, resulting in 74 provinces. We use geographic boundaries as defined in 2010, resulting in 84 provinces. Both papers are careful to ensure that geographic boundaries are consistent over time. As an example, the province of Kalinga-Apayao split into two provinces in 1995: Kalinga and Apayao. Khanna et al. (2024) treats this as one province and aggregates the provinces of Kalinga and Apayao into one province over the entire sample period. Our paper treats this as two provinces, and uses municipality definitions to correctly assign observations to either Kalinga or Apayao province.

Our outcome variables are largely from the PDHS and Census, which have very fine levels of disaggregation geographically, enabling us to use geographic boundaries from 2010. Khanna et al. primarily make use of the Family Income and Expenditure Survey (FIES), which does not have such fine levels of disaggregation, so they use more aggregated, historical definitions of provinces. In practice, this only matters in that it is difficult to merge our two datasets, given the differences in boundaries. Thus, to accurately combine the two datasets, we kept only provinces that did not split or merge over the sample period. This leaves us with 66 provinces. As stated in the main paper, we show in Appendix Table A9 that our main results on fertility using all 84 provinces are quite similar to when we estimate effects on fertility using the sample of 66 provinces (column 1).

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Online Appendix 4. Reproductive health policy year imputations

We measure reproductive health policies in the destination countries of temporary Filipino migrants using a set of indices compiled by Finlay, Canning, and Po (2012). They construct decade-specific reproductive health policy indices based on the prevailing reproductive health laws in 186 countries. They compile separate indices for abortion, condom, pill, IUD, and sterilization laws. For each index, a set of criteria is defined against which the policies of each country are scored shown below.

Index Value:	0	1	2	3
Abortion:				
Life threatening	illegal	legal		
Physical health	illegal	legal		
Mental health	illegal	legal		
Rape	illegal	legal		
Fetal impairment	illegal	legal		
Economic	illegal	legal		
Request	illegal	legal		
Contraceptive pill:				
Sale purpose	illegal	non-contraceptive	contraceptive	
Sale location	illegal	pharmacy	shop	
Prescription Requirement	illegal	prescription required	prescription not required	
Subsidy	illegal	commercially available	subsidized	free
Commercial Advertising	illegal	legal via reproductive health education programs, or advertising only to doctors and pharmacies	legal without restrictions	
Condom:				
Sale purpose	illegal	non-contraceptive	contraceptive	
Subsidy	illegal	commercially available	subsidized	free
Commercial Advertising	illegal	legal via reproductive health education programs, or advertising only to doctors and pharmacies	legal without restrictions	
IUD:				
Legal	illegal	legal		
Doctor installs	illegal	doctor only inserts	doctor or other provider inserts	
Sterilization:				
Legal	illegal	permitted for therapeutic, eugenic, medical, or health reasons only	legal status unclear	permitted for contraceptive purposes

Source: Finlay et al. (2012), reproduction of Table 1.

Country	Decade	Policy	Policy Change	Year	Explanation	Citation
Algeria	2000-2009	Sterilization	Sterilization: 1 to 2 (1=permitted for therapeutic, eugenic, medical or health reasons only, 2=legal status unclear)	2000	Chapter 4 of Engenderhealth's "Contraceptive Sterilization: Global Issues and Trends" says that the change occurred between 1985 and 2001. Finlay et al. say that the change occurred between 2000 and 2009. If both sources are accurate, the change must have occurred between 2000 and 2001.	EngenderHealth (2002)
Bahrain	2000-2009	Sterilization	Sterilization: 2 to 1 (1=permitted for therapeutic, eugenic, medical or health reasons only, 2=legal status unclear)	2000	Chapter 4 of Engenderhealth's "Contraceptive Sterilization: Global Issues and Trends" says that the change occurred between 1985 and 2001. Finlay et al. say that the change occurred between 2000 and 2009. If both sources are accurate, the change must have occurred between 2000 and 2001.	EngenderHealth (2002)
Belgium	2000-2009	Sterilization	Sterilization: 1 to 3 (1=permitted for therapeutic, eugenic, medical or health reasons only, 3=permitted for contraceptive purposes)	2007	Book I, Title II, Chapter II of the Civil Code, Article 62a ammends the Civil Code to say that any transgender person who undergoes surgery to change their sex must also be sterilized.	Kingdom of Belgium (2007)
Botswana	1990-2000	Abortion	Abortion: 0 to 1 for the following categories: life threatening, physical health of the mother, mental health of the mother, rape or incest, fetal impairment, economic, and on request (0=illegal, 1=legal)	1991	In 1991, an amendment to the Penal Code bill changed Botswana's laws from prohibiting all abortions to allowing them within the first sixteen weeks if the abortion protected the physical or mental health of the mother, the pregnancy was a product of rape or incest, or the fetus was seriously disabled. The law was highly contested but passed. (see reference)	Mogwe (1992)
Cameroon	1990-2000	Condom and Pill	Pill advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies) Condom advertising 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies)	1990	In 1990, Act No. 90/035, Chapter V, Articles 19 and 20 amended Cameroon's pharmaceutical advertising to mandate that "the regulating authority" would consult "The Council of the Order of the Pharmacists" before establishing advertising regulations. The same Act also prescribed specific fines to punish entities that violate these regulations.	Organisation de la Profession de Pharmacien de Cameroon (1990)
China	2000-2009	Condom and Pill	Pill advertising: 1 to 2 (1=legal via reproductive health education programs, or advertising only to doctors and pharmacies, 2=legal with restrictions) Condom advertising 1 to 2 (1=legal via reproductive health education programs, or advertising only to doctors and pharmacies, 2=legal with restrictions)	1998	In 1998, a commercial condom advertisement appeared for the first time. While, advertising wasn't legalized until 2002, with the hopes of preventing the spread of HIV, the 1998 advertising was highly salient.	Riyami, Afifi and Mabry (2002)

Country	Decade	Policy	Policy Change	Year	Explanation	Citation
Cuba	2000-2009	Sterilization	Sterilization: 2 to missing (2 = legal status unclear)	2008	Cuba's Resolucion 126 de 2008.	República de Cuba, Ministerio De Salud Pública (2008)
Cyprus	2000-2009	Sterilization	Sterilization: 3 to 2 (2=legal status unclear, 3=permitted for contraceptive purposes)	2004	AIDS Strategic Plan 2004-2008.	Cyprus Ministry of Health (2004)
Ethiopia	1990-2000	Pill and Condom	Pill: Commercial advertising 0 to 1 (0= illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies) Condom: Commercial advertising 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies)	1993	National Population Policy calls for, but does not mandate, the elimination of regulations surrounding contraceptive advertisements (Source 1). The 1993 National Policy on Women dictates that information regarding family planning should be provided to all women. Health Policy calls for, but does not mandate, an intersectoral intensification of family planning and the use of mass media to promote awareness of communicable diseases and means of preventing their spread (Source 2).	Source 1: Federal Democratic Republic of Ethiopia (1994) Source 2: Ethiopia (1993)
Ethiopia	1990-2000	Sterilization	Sterilization: 3 to 2 (2=legal status unclear, 3=permitted for contraceptive purposes)	1994	New constitution in 1994 because of regime change. According to article 35 subsection 4, "The State shall enforce the right of women to eliminate the influences of harmful customs. Laws, customs and practices that oppress or cause bodily or mental harm to women are prohibited." Additionally, "To prevent harm arising from pregnancy and childbirth and in order to safeguard their health, women have the right of access to family planning education, information and capacity."	Federal Democratic Republic of Ethiopia (1994)
Ethiopia	2000-2009	Abortion	Abortion: 0 to 1 for the category: rape or incest (0=illegal, 1=legal)	2005	In 2005, Article 551 in Section II of Ethiopia's Penal Code was revised to allow the abortion of pregnancies resulting from rape or incest.	Organization (2005)

Country	Decade	Policy	Policy Change	Year	Explanation	Citation
France	1990-2000	Condom and Pill	Pill advertising: 1 to 2 (1=legal via reproductive health education programs, or advertising only to doctors and pharmacies, 2=legal with restrictions) Condom advertising 1 to 2 (1=legal via reproductive health education programs, or advertising only to doctors and pharmacies, 2=legal with restrictions)	1991	In 1991, Article 7. I. Article 5 of Act No. 67-1178 was amended to read as follows: "Article 5. All advertising ... relating to condoms and other contraceptives is subject to the provisions of the Article L. 551 of the Code of Public Health." Up to this point, Article 5 had banned all commercial advertisements related to contraceptives, with the exception of advertisements to physicians and pharmacists. The amendment loosened contraceptive advertisement regulations to align them with advertisement regulations for other medical products.	Boland and Stepan (1993)
France	2000-2009	Pill	Pill advertising: 1 to 2 (1=legal via reproductive health education programs, or advertising only to doctors and pharmacies, 2=legal with restrictions)	2000 (passed 1999)	Annex 1 c) of the 1999 Social Security Financing Law for 2000 states that "an information ... plan to guarantee the effective exercise of the right to contraception has been initiated""	French Republic (2000)
Gabon	1990-2000	Multiple	Condom: Sale purpose: 1 to 2 (1=non-contraceptive , 2=contraceptive) Pill: Sale purpose: 1 to 2 (1=non-contraceptive, 2=contraceptive) IUD: Legal: 0 to 1 (0=illegal, 1=legal) IUD: Doctor Installs: 0 to 1 (0=illegal, 1=doctor only installs)	1990	The 1990 change: "Addition to the Constitution of the principle of the equality of all citizens, regardless of their gender (1990); Repeal, the same year, of Ordinance No. 64/69 of 4 October 1969 forbidding the use of contraceptives, and recognition of the right to contraception under the 1990 National Charter of Freedoms; Adoption of Act No. 1/2000 of 18 August 2000, setting out measures to protect the health and social rights of women, mothers and children, thereby repealing the aforementioned Ordinance No. 64/69."	United Nations Committee on the Elimination of Discrimination against Women (2013)
Gabon	1990-2000	Condom and Pill	Condom: Subsidy: 1 to 3 (1= commercially available, 3= free) Pill: Subsidy: 1 to 3 (1=commercially available, 3=free)	1991	The Constitution of the Gabonese Republic Law N ° 3/91 of March 26, 1991: "The State, according to its possibilities, guarantees to everyone, especially the child, the mother, the disabled, the old workers and the elderly, health protection,..; The family is the natural building block and the foundation of society. It must be protected by the State, which must take care of its physical and moral health. The government responded to this amendment by making health care at public health facilities free for many demographics."	Finlay, Canning and Po (2012)

Country	Decade	Policy	Policy Change	Year	Explanation	Citation
Gabon	1990-2000	Condom and Pill	Condom: Commercial Advertising: 0 to 1 (0= illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies) Pill: Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies)	1995	In 1995, Gabon responded to pressures on the reproductive healthcare system, the government began a program to increase contraception education. Funds from UNESCO were used to finance it (Source 1). In 1995, General Provision 3 of Ordinance No. 1/95 mandated that the state guarantee medical care to everyone. Even if the ordinance was an amendment to a previous law, Provision 3 was probably a change to this previous law because the author describes the Provision as being of "principle" importance (Source 2).	Source 1: Khouri-Dagher and Simard (1999) Source 2: Boland (1993)
Ghana	1990-2000	Condom and Pill	Pill: Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies) Condom: Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies)	1994	The National Population Policy section 5.11.1.7, states that "there shall be mobile film units, radio, television and newspapers at community information centres which will be set up [to promote family planning]."	Republic of Ghana (1994)
Guyana	1990-2000	Abortion	Abortion: 0 to 1 for the following categories: life threatening, physical health of the mother, mental health of the mother, rape or incest, and fetal impairment (0=illegal, 1=legal)	1995	In 1995, The Medical Termination of Pregnancy Act permitted abortions if they protected the mental or physical health of the mother (subsection 6 b. i.), prevented the mother from giving birth to a disabled child (subsection 6 b. ii.), or the pregnancy was a result of rape or incest (subsection 6 c.)	Co-operative Republic of Guyana (1995)
Guyana	1990-2000	Sterilization	Sterilization: Sterilization legal 3 to 2 (2=legal status unclear, 3=permitted for contraceptive purposes)	2000	According to Finlay et. al, the change occurred between 1990 and 2000. Due to our inability to find supporting documentation of the precise year the policy was implemented we follow Finlay et al.	Finlay, Canning and Po (2012)
Guyana	2000-2009	Abortion	Abortion: 0 to 1 for the following categories: economic, and on request (0=illegal, 1=legal)	2008	The report explained that, "Abortion is legal in Guyana under the Medical Termination of Pregnancy Act No. 7. of June 14, 1995." But "in 2008, the Government theoretically cleared the way for public hospitals to perform abortion, but public hospitals only provided abortions to women with on-going complications like incomplete abortions." The Poverty Reduction Strategy Programme II makes it legal for public hospitals to perform abortions.	Kaieteur News (2018) Co-operative Republic of Guyana (2017)

Country	Decade	Policy	Policy Change	Year	Explanation	Citation
India	1990-1999	Pill and Condom	Pill: Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies) Condom: Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies)	1992	Volume II, Chapter 12, Strategy XVII of the Eighth Five Year Plan (1992-1997) began the social marketing of contraceptive pills. Strategy XVIII expands Information, Education, and Communication (IEC) programs surrounding family planning. India National AIDS Control Programme (NACP) began in 1992 with an emphasis on awareness/education as a form of prevention, as well as condom promotion.	Boland and Stepan (1993)
India	1990-1999	Pill and Condom	Pill: Subsidy: 2 to 3 (2=subsidized, 3=free) Condom: Subsidy: 2 to 3 (2=subsidized, 3=free)	1995	"December 1995, a non-steroidal weekly Oral Contraceptive Pill, Centchroman (Popularly known as Saheli and Novex), to prevent pregnancy is also being subsidized under the Social Marketing Programme. The weekly Oral pill is the result of indigenous research of CDRL, Lucknow. The pill is now available in the market at Rs.2.00 per tablet. The Government of India provides a subsidy of Rs.2.59 per tablet towards product and promotional subsidy." The government then expanded this program in 2002-2003 to include more pill contraception and condoms. Starting 2003-2004 IUDs were introduced into the program.	Government of India, Ministry of Health and Welfare (2015)
Indonesia	1990-1999	Abortion	Abortion: 0 to 1 for the life threatening category (0=illegal, 1=legal)	1992	Article 15 and 80 of Law NO. 23/1992 make it legal to perform abortions to save the life of the mother.	Republic of Indonesia (1992*a*)
Indonesia	1990-1999	Condom and Pill	Pill: Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies) Condom: Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies)	1992	In 1992, Article 12, sub-section 2 of Indonesia's Law on Population Development and Prosperous Family restricted the ability to display birth control equipment to health workers and other authorized personnel.	Republic of Indonesia (1992*b*)
Indonesia	2000-2009	Sterilization	Sterilization: legal 2 to 3 (2= legal status unclear, 3= permitted for contraceptive purposes)	2000	Sterilization became legal for contraceptive purposes in 2000 according to page 89.	EngenderHealth (2002)

Country	Decade	Policy	Policy Change	Year	Explanation	Citation
Iran	1990-1999	Condom and Pill	Pill: Subsidy: 2 to 3 (2=subsidized, 3=free) Condom: Subsidy: 2 to 3 (2=subsidized, 3=free)	1990	In 1990 Iran established the Birth Limitation Council that gave free contraception: "The objectives of the programme designed by the Birth Limitation Council were to decrease the birth rate, decrease the population growth rate, increase the CPR among married women and to decrease the TFR. To achieve these objectives 4 main activities were planned: organized educational programmes through schools, colleges and the mass media regarding population issues and family planning; increasing access to free contraceptives for married couples"	Simbar (2012) and Aghajanian and Merhyar (1999)
Iran	1990-1999	Sterilization	Sterilization: 1 to 2 (1=permitted for therapeutic, eugenic, medical, or health reasons only , 2=legal status unclear)	1991	In 1991, Book One, Section Three, Article 59 sub-section 2 legalized all lawful and consensual surgical and medical activities that abide by "technical and scientific guidelines." However, Book Four, Section Two, Article 475 of the same law states that sterilization is illegal.. This corroborates Finlay et al.'s findings that Iran's sterilization policy became unclear between 1990 and 2000.	Boland and Stepan (1996)
Iran	1990-1999	Pill and Condom	Pill: Commercial Advertising: 2 to 3 (2=legal with restrictions, 3=legal without restrictions) Condom: Commercial Advertising: 2 to 3 (2=legal with restrictions, 3=legal without restrictions)	1993	In 1993, Article 2 subsection C of Law of 23 May 1993 pertaining to population and family planning directed the Ministry of Islamic Culture and Guidance to enable "journalists, film makers and other other artists related in a way to the Ministry" to promote family planning programs.	Islamic Republic of Iran (1993)
Iran	2000-2009	Abortion	Abortion 0 to 1 for the rape or incest category (0=illegal, 1=legal)	2005	Abortion change in 2005 with the Theraputic Abortion Act: "Singular Article- Therapeutic abortion may be carried out upon the conclusive diagnosis by three specialized medical doctors and the verification by the Forensic Examiner of fetal illness that will cause hardship for the mother due to retardation or deformity, or a life threatening illness of the mother, prior to ensoulment (four months) and with the mother's consent. No punishment or liability shall be attributed to the doctor conducting the abortion"	Movassagh (2009), Islamic Parliament Research Center (2005)
Italy	2000-2009	Pill	Pill Commercial Advertising: 1 to 2 (1=legal via reproductive health education programs, or advertising only to doctors and pharmacies, 2=legal with restrictions)	2009	Source 1 states that, in 2009, the European Commission's member states unanimously approved the "marketing" of a new contraceptive pill, allowing its manufacturer to begin marketing throughout the EU. Additionally, Source 2 states that in 2009 Italy allowed RU-486 (mifepristone) abortion pill.	thepharmaletter (2009) and BBC News (2009)

Country	Decade	Policy	Policy Change	Year	Explanation	Citation
Japan	1990-1999	Pill	Pill Sale Purpose: 1 to 2 (1=non-contraceptive, 2=contraceptive)	1999	The pill was formally recommended as a birth control method by the Central Pharmaceutical Affairs Council in 1999.	Efron (1999)
Jordan	1990-1999	Sterilization, Condom and Pill	Sterilization: 1 to 2 (1=permitted for therapeutic, eugenic, medical, or health reasons only , 2=legal status unclear) Pill: Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies) Condom: Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies)	1996	National Population Policy 1996, "The first National Population Strategy (NPS) was formulated by the National Population Commission and it was approved by the government and launched in 1996. The strategy included four main components: population and sustainable development, gender equality, empowerment of women and population, and advocacy and media." Section I B calls for media campaigns promoting family planning.	Kingdom of Jordan (2013) and Boland (1993)
Malaysia	1990-1999	Sterilization	Sterilization: legal 3 to 2 (2=legal status unclear, 3=permitted for contraceptive purposes)	1996	The 7th Malaysia Health plan was developed by the The National Population and Family Development Board in 1996, after which sterilization was only allowed "The eligibility criteria for female and male sterilization in government clinics include the following:having two or more children of each sex; having achieved a desired family size; and having a medical contraindication to other types of contraception"	Center for Reproductive Rights (2005)
Mali	1990-1999	Sterilization	Sterilization: 1 to 2 (1=permitted for therapeutic, eugenic, medical, or health reasons only , 2=legal status unclear)	1999	Decree No. 99 - 157 / PM-RM of June 16, 1999 Establishing the National Action Committee for the Eradication of Practices Harmful to the Health of Women and Children	Republic of Mali (2001)
Mali	2000-2009	Abortion	Abortion: 0 to 1 for the rape or incest category (0=illegal, 1=legal)	2002	Penal Code, Law No. 01-019 of August 20, 2001, Title III, First Chapter, Section III, Articles 211-213. Reproductive Health, Law No. 02-044 of June 24, 2002, Section 3, Article 13.	Republic of Mali (2002*a*), Republic of Mali (2002*b*)

Country	Decade	Policy	Policy Change	Year	Explanation	Citation
Malta	2000-2009	Sterilization	Sterilization: 1 to 2 (1=permitted for therapeutic, eugenic, medical or health reasons only, 2=legal status unclear)	2003	See articles 241-243A (this is the modern criminal code but has not ben amended since the change in 2003): "Whosoever, by any food, drink, medicine, or by violence, or by any other means whatsoever, shall cause the miscarriage of any woman with child, whether the woman be consenting or not, shall, on conviction, be liable to imprisonment for a term from eighteen months to three years. ... Any physician, surgeon, obstetrician, or apothecary, who shall have knowingly prescribed or administered the means whereby the miscarriage is procured, shall, on conviction, be liable to imprisonment for a term from eighteen months to four years, and to perpetual interdiction from the exercise of his profession."	Republic of Malta (n.d.)
Morocco	2000-2009	Sterilization and IUD	IUD: Doctor Installs 2 to 1 (2=doctor or other inserts, 1=doctor only inserts) Sterilization: 2 to 3 (2=legal status unclear, 3= permitted for contraceptive purposes)	2007	According to the document: For IUD: "Voluntary surgical contraception is a permanent method of contraception that is performed by surgery and under anesthesia." For Sterilization: "Tubal ligation can be performed in a woman: 1) wanting permanent contraception and who have no contraindications to voluntary surgical contraception; 2) married, aged 30 to 45; 3) having at least three living children including a boy; and 4) the age of the last child must be over two years old."	Royaume du Maroc, Ministère de la Santé (2007)
Nepal	2000-2009	Abortion	Abortion: 0 to 1 for the following categories: life threatening, physical health of the mother, mental health of the mother, rape or incest, fetal impairment, economic, and on request (0=illegal, 1=legal)	2002	2002 Abortion Legalized: "Abortion is allowed within the first 12 weeks of pregnancy, if the delivery endangers the mother's life, or if a woman becomes pregnant as a consequence of rape or incestuous sexual relations; then the abortion can take place within 18 weeks of pregnancy."	Wu et al. (2017), Puri et al. (2018)
Norway	2000-2009	Pill	Pill Prescription Requirement: 1 to 2 (1=prescription required, 2=prescription not required)	2002	A 2002 reform of the health care system made all pills free including birth control.	Kingdom of Norway (2003)

Country	Decade	Policy	Policy Change	Year	Explanation	Citation
Oman	1990-2000	Pill, Condom, and IUD	Pill: Sale Purpose: missing to 2 (2=contraceptive) Pill: Sale location: missing to 2 (2=shop) Pill: Prescription Requirement: missing to 2 (2=prescription not required) Pill: Subsidy: missing to 2 (2=subsidized) Pill: Commercial Advertisement: missing to 0 (0=illegal) Condom: Sale Purpose: missing to 2 (2=contraceptive) Condom: Subsidy: missing to 1 (1= commercially available) Condom: Commercial Advertisement: missing to 0 (0=illegal) IUD: Legal: 0 to 1 (0=illegal, 1=legal) IUD: Doctor Installs: 0 to 1 (0=illegal, 1=doctor only installs)	1994	1994 Birth spacing program: "Because of the high fertility rate, the Ministry of Health initiated a birth spacing programme in 1994. Prior to 1994, women could obtain modern methods of contraception in only a few private clinics in the capital. Since the programme's inception more than eight years ago, efforts have been made to provide contraceptives free to all married couples in primary health care centres which are readily accessible to a majority of the population."	Riyami, Afifi and Mabry (1999) Sultanate of Oman, Ministry of Information (1994)
Papua New Guinea	1990-2000	Pill	Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs or advertising only to doctors and pharmacies)	1993	According to the 1993 Population Policy: "..the project aims to legitimize the practice of family planning through public education to enhance understanding of the benefits of safe motherhood..."	The World Bank (1993)
Papua New Guinea	2000-2009	Abortion	Abortion: 0 to 1 for the following categories: life threatening, physical and mental health of the mother (0=illegal, 1=legal)	2009	As of 2009, Abortion was criminalized, even for those whose health might be adversely affected without it.	Japan International Cooperation Agency (2010)
Russia	1990-2000	Condom, Pill, and Sterilization	Pill: Subsidy: 1 to 3 (1=commercially available, 3=free) Condom: Subsidy: 1 to 3 (1=commercially available, 3=free) Sterilization: 2 to 3 (2=legal status unclear, 3= permitted for contraceptive purposes)	1993	In 1993, Russia's Constitution was amended. Article 41 stipulates that the government shall provide medical services to all citizens at no cost. Additionally, in 1993, Law No. 5487-1, Section VII, Article 37 legalized sterilization for citizens who are at least 35 years old, who have two or more kids, or "when medically indicated."	Boland (1993)

Country	Decade	Policy	Policy Change	Year	Explanation	Citation
Russia	1990-2000	Condom and Pill	Pill: Subsidy: 1 to 3 (1=commercially available, 3=free) Pill: Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs or advertising only to doctors and pharmacies) Condom: Subsidy: 1 to 3 (1=commercially available, 3=free) Condom: Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs or advertising only to doctors and pharmacies)	1996	In 1996, Decree No. 540 initiated a public health campaign to promote condom use.	Boland (1997)
Saudi Arabia	2000-2009	Pill, Condom, IUD	Missing for all pill, IUD, and condom to: Pill: Sale purpose: 2 (2=contraceptive) Pill: Sale location: 1 (1=pharmacy) Pill: Prescription Requirement: 2 (2=prescription not required) Pill: Subsidy: 1 (1=commercially available) Pill: Commercial Advertising: 0 (0=illegal) Condom: Sale purpose: 2 (2=contraceptive) Condom: Subsidy: 1 (1=commercially available) Condom: Commercial Advertising: 0 (0=illegal) IUD: Legal: 1 (1=legal) IUD: Doctor Installs: 2 (2=doctor or other inserts)	2001	According to the source: "Saudi Arabia, which had limited access to contraceptive methods from 1976 to 1996, was providing indirect support by 2001." "Government of Saudi Arabia moved from a rather restrictive approach to indirect support for activities conducted by non-governmental organizations"	Kingdom of Saudi Arabia (2003)
South Africa	1990-2000	Abortion, IUD, Pill, Condom	Abortion: 0 to 1 for the following categories: economic, and on request (0=illegal, 1=legal) Pill: Subsidy 1 to 3 (1=commercially available, 3=free) Condom: Subsidy 1 to 3 (1=commercially available, 3=free) IUD: Legal: 0 to 1 (0=illegal, 1=legal) IUD: Doctor Installs: 2 (0=illegal, 2=doctor or other inserts)	1996	In 1996, Constitution Act No. 108 established reproductive health services as a right. In the same year, Act No. 92 (Choice of Termination of Pregnancy Act) further stipulates that "the State has a responsibility to provide reproductive health to all persons."	Boland (1997)
South Korea	1990-200	Pill, Condom	Pill: Subsidy 3 to 2 (2=subsidized, 3=free) Condom: Subsidy 2 to 3 (2=subsidized, 3=free)	1996	According to the source, "demographic changes and other new concerns led the government to abolish the population control policy, and to adopt a new population policy in 1996 which emphasizes population quality and welfare."	Cho (2006)

Country	Decade	Policy	Policy Change	Year	Explanation	Citation
Sudan	1990-2000	Abortion	Abortion: 0 to 1 for the rape of the mother (0=illegal, 1=legal)	1991	1991 criminal code prohibited abortion except to save the mother's life or if the pregnancy was a result of rape and the abortion occurred fewer than 91 days after conception. In particular, the relevant section is Article 135 of the Penal Code.	Brill (1994) Boland and Stepan (1993)
Switzerland	1990-2000	Condom and Pill	Pill: Prescription Requirement 0 to 1 (0=illegal, 1=prescription required) Condom: Commercial Advertising 3 to 4 (3=legal with restrictions, 4=legal without restrictions)	1991	In 1991, the Swiss government repealed Article 211 of the Penal Code, which had made it illegal to promote or display "public objects [intended to] prevent pregnancy."	Boland and Stepan (1993)
Switzerland	2000-2009	Abortion	Abortion: 0 to 1 for the following categories: on request, economic, fetal impairment, and rape or incest (0=illegal, 1=legal)	2001	Abortion law passed in March 2001 and implemented from 2002: Changed from abortion legal with restrictions to abortion legal with no restriction until the 12th week of pregnancy.	Weigand (2012) L'Assemblée Fédérale de la Confédération Suisse (2001)
Syrian Arab Republic	1990-2000	Sterilization	Sterilization: 1 to 2 (1=permitted for therapeutic, eugenic, medical, or health reasons only, 2=legal status unclear)	2001	According to the source, there was a "National Population Strategy and the Ministry of Health's strategy for the period 2001-2020". Additionally, looking back at Engender health in the sterilization chapter it says that a sterilization change happened in Syria (among other countries) in the time frame of 1985-2001.	Bellafronto (2005), EngenderHealth (2002)
Tanzania	1990-2000	Sterilization	Sterilization: 3 to 2 (3=permitted for contraceptive purposes, 2=legal status unclear)	1994	According to Engender Health, Tanzania allowed sterilization as contraception starting in 1994 with the 1994 Population Policy.	EngenderHealth (2002)
Tunisia	2000-2009	Condom and Pill	Pill: Subsidy 1 to 2 (1=commercially available, 2=subsidized) Condom: Subsidy 1 to 2 (1=commercially available, 2=subsidized)	2001	"In 2001, Tunisia became the first country in the Arab world to register a dedicated emergency contraceptive pill (ECP)" (Source 1). "Since 2001, as part of the National Program to Combat Sexually Transmitted Diseases (STDs) and HIV/AIDS, free access to anti-retroviral drugs has been guaranteed, along with free, voluntary, and confidential HIV tests. The prevention and treatment of sexually transmitted infections has also been included in primary health care services" (Source 2).	Foster, El-Haddad and Mhrisi (2014)

Country	Decade	Policy	Policy Change	Year	Explanation	Citation
Uganda	1990-2000	Condom, Pill, and IUD	Pill: Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies) Pill: Subsidy: 2 to 3 (2=subsidized, 3=free) Condom: Commercial Advertising: 0 to 1 (0=illegal, 1=legal via reproductive health education programs, or advertising only to doctors and pharmacies) Condom: Subsidy: 2 to 3 (2=subsidized, 3=free) IUD: Legal: 0 to 1 (0=illegal, 1=legal) IUD: Doctor inserts: 0 to 2 (0=illegal, 2=legal status unclear)	1993	Section 8 of Part I states that in Uganda, family planning includes contraceptive pills, condoms, and IUDs. Section 6 (2) of Part I establishes family planning advertising campaigns. Section 5 (1) of Part I states that all sexually active men and women are eligible to receive family planning services, implying, among other things, that IUDs are legal. Section 1 (1) of Part I states that family planning services shall be provided to all eligible persons, thereby implying that family planning services are free. Section 11 requires that anybody administering family planning services, and thus inserting IUDs, must be trained.	Boland (1994), Engender-Health (2002)
Vietnam	2000-2009	Sterilization	Sterilization: 3 to missing (3=permitted for contraceptive purposes)	2003	In 2003, Article 23 (2) of the Population Ordinance mandated that the State invest in "reproduction-supporting" technologies and services that assist sterilized individuals.	Socialist Republic of Vietnam Legal Ordinance Documents (2003)
Yemen	1990-2000	Sterilization	Sterilization 1 to 2 (1=permitted for therapeutic, eugenic, medical or health reasons only, 2=legal status unclear)	1998	The first and second five-year development plans (1996-2000 and 2001- 2006) identify the increase in the social acceptance and utilization of family planning programs and women's access to reproductive health services as strategic goals. Finlay's data set suggests that sterilization was illegal in 1990 and a world bank report from August of 1997 says that, as of its publishing, vasectomies were legal to protect the health of the client.	Republic of Yemen (1997), Republic of Yemen (1996)

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