Appendix A

TABLE A1

Features of early family planning programs

Strategy	Method of implementation	Description
Increasing access to contraceptives	Ministry of Health clinics or hospital-based facilities	All countries with a state-led family planning program as well as countries where the state allowed private institutions to use state infrastructure provided family planning services in clinics and hospitals. Main examples: Mexico, Brazil, Uruguay, Kenya.
	Post-partum family planning in major hospitals	Women counselled on birth spacing and contraceptive methods soon after delivery. Limited in scope as most deliveries did not take place in hospitals in most developing countries at the time Main examples: Iran, Sri Lanka, Colombia, Tunisia, Jamaica, Hong Kong, Thailand, Malaysia, India, Ghana.
	Pairing family planning with maternal and child health services	While this was usually done in order to make use of existing medical infrastructure, particularly in rural areas, it was also carried out in countries that wished to maintain a low profile for their programs (e.g., Guatemala). Main examples: Iran, Chile, Colombia, Korea, Singapore, Thailand, Malaysia (rural areas), Philippines, Pakistan, Sri Lanka, Nepal, Brazil, Honduras, Botswana, Guatemala.
	Trained fieldworkers to reach remote, rural areas	Midwives and/or community workers were trained to deliver and in some cases prescribe or administer contraceptive methods. Main examples: Egypt, Morocco, Korea, Hong Kong, Taiwan, Singapore, Indonesia, Philippines, India, Pakistan and Bangladesh, Sri Lanka, Kenya, Costa Rica, Colombia, Mexico, Iran, Nepal.

Mobile clinics and family planning camps	Mobile clinics generally visited rural clinics, schools and government offices on a regular basis. The team usually consisted of one person to provide education and information and another to provide the medical services. Main examples: Iran, Hong Kong, Singapore, Malaysia, Nepal, Honduras, Tunisia, Turkey, South Korea, India. In India and Nepal, large scale vasectomy camps were set up temporarily in primary health centers to perform sterilisations and insert IUDs
Contraceptive provision through integrated rural development programs	Rural development projects (including education, sanitation and agricultural projects) expanded to include a family planning component, usually in the form of program officers advocating and providing contraception to target population alongside their usual activities. Main examples: Philippines, Ghana, Iran, Turkey, Egypt.
Employment based family planning programs[a]	Contraceptive distribution, educational and promotional activities undertaken by employers or labour unions usually working in collaboration with a Family Planning Association or the government. Main examples: Tata Iron and Steel Company in India, the military in South Korea and Ecuador, Philippine Appliance Corporation, Misr Spinning and Weaving Company in Egypt, Coffee Grower's Association in Colombia, as well as employers in Kenya, Thailand, China, Bangladesh, Malaysia and Sri Lanka, labour unions in Turkey (TURK-IS) and Indonesia (Textile and Garment Labour Union). Later (starting in the 1980s) Latin America and the Caribbean (where most workers and their families are offered health care through the national social security system) extended their social security systems to include family planning. Main examples in Latin America: Mexico, Peru and Brazil.

	Enabling private sector and NGO involvement	In most countries, family planning programs were originally piloted by private family planning associations which were later supported by (through provision of state sector facilities and technical support) or taken over by the state. These associations continue to play a role in service provision and public education in many countries. Main examples: Family Planning Associations in Chile (APROFA), Colombia (PROFAMILIA), Guatemala (APROFAM), Jamaica (JFPA), Costa Rica, Honduras, Mexico, Brazil and Uruguay continue to be leaders in family planning activities alongside state programs. In Egypt, Iran, Tunisia, Morocco, Turkey, South Korea, Singapore, Hong Kong, Taiwan, Indonesia, India, Pakistan, Bangladesh, Sri Lanka, Nepal, Ghana, Kenya Zimbabwe, Botswana and Mauritius family planning associations laid the foundations for large scale national programs.
	Subsidised contraceptive provision and incentives for contraceptive usage	This included state subsidisation of private sector sale of contraceptives (social marketing), provision of contraceptives at no cost, and provision of incentives for the use of contraceptives. Main examples: Social marketing programs in Bangladesh, Pakistan, India, Iran, Philippines, Honduras, Colombia, Mexico, Zimbabwe, Ghana, Mauritius, Taiwan. Certain family planning methods were provided free of charge in Jamaica, Iran, Turkey, Malaysia, Sri Lanka, Morocco and China. Patients, providers and/or fieldworkers bringing in the patient for sterilisations and IUD insertions compensated for travel and time in Bangladesh, Nepal, India, Sri Lanka, South Korea.
Educating public on population issues and contraceptive use	Interpersonal communication with fieldworkers and community based education	In addition to clinic based counselling, many programs employed fieldworkers to provide information about family planning at family planning clinics and child health centres, on a door to door basis and even at marriage and birth registries (Hong Kong). Main examples: Egypt, Chile, Korea, Hong Kong, Taiwan, Indonesia, Philippines, Pakistan, Bangladesh, Sri Lanka, Kenya, Iran, Singapore. In Singapore, lectures and seminars on family planning were organised for newlyweds, community leaders, teachers and school principals

Print media such as posters, leaflets etc.	Posters, leaflets, newspaper advertisements and magazine articles were used to disseminate information about the benefits of contraceptive use, technical information about specific contraceptive methods, nearest family planning clinics, as well as to create awareness about the benefits of having smaller families. Main examples: Turkey, Korea, Singapore, India, Kenya, Egypt, Iran, Mauritius, Hong Kong, Indonesia.
Electronic mass media including radio, film and television (particularly important for reaching non-literate population)[b]	Information on contraceptive use and population related issues was provided through spot announcements, interviews, news broadcasts, lectures, drama, advertisements and even music. Most early programs focused on radio, later branching out into TV. Main examples: use of radio for building awareness in Iran, South Korea, Taiwan, Singapore, Indonesia (radio serial drama - Grains of sand in the sea), India, Colombia (radio spots pointing out benefits of having only the number of children that could be cared for, ending with the name and address of a PROFAMILIA clinic), Pakistan, Bangladesh, Costa Rica (nation-wide 10 minute radio program Dialogo), Mauritius, Egypt, Turkey. Later, television dramas and films were used in Hong Kong, Mexico, India, Bangladesh, Brazil etc. to promote family planning and establish a small family norm. TV spots carrying family planning messages were also used in Egypt, Nigeria, Mali, Liberia, Zimbabwe and Mauritius.
Including population concepts and concerns in school curricula[c]	Population topics were incorporated into social studies, geography, home economics, science and mathematics courses at primary and secondary school levels. Some Asian (Philippines, South Korea, China) and Latin American countries also incorporated material on human reproduction and family planning. Main examples: Morocco, Turkey, Hong Kong, Taiwan, Philippines, Costa Rica, Bangladesh, Indonesia, South Korea, Malaysia, Singapore, China, Sri Lanka, Thailand, Sierra Leone, Tunisia, El Salvador, Iran, Mauritius.

Other policies to encourage having fewer children	Increasing the legal age of marriage	Legal age of marriage increased in order to delay childbearing. Main examples: Tunisia, India, China.
	Incentives for having smaller families	These include explicit policies to discourage couples from having too many children. Main examples: Limiting government family allowances to the first four children in Tunisia, number of children for which tax exemptions are claimed cut to four and restricting paid maternity leave to four children in Philippines, and restricting maternity leave to the first two children born, restricting income tax relief to the first three children, and giving priority for the allocation of public apartments for families with fewer children among other policies in Singapore. (See text for more discussion.)

Notes: The table summarises key features of early family planning programs around the world. Information on programs in Egypt (Robinson and El-Zanaty 2007), Iran (Moore 2007), Tunisia (Brown 2007a), Morocco (Brown 2007b), Turkey (Akin 2007), Chile (Sanhueza 2007), Colombia (Measham and Lopez-Escobar 2007), Guatemala (Santiso-Galvez and Bertrand 2007), Jamaica (King 2007), South Korea (Kim and Ross 2007), Hong Kong (Fan 2007), Singapore (Teng 2007), Thailand (Rosenfield and Min 2007), Indonesia (Hull 2007), Malaysia (Tey 2007), Philippines (Herrin 2007), India (Harkavy and Roy 2007), Bangladesh and Pakistan (Robinson 2007), Sri Lanka (Wright 2007), Nepal (Tuladhar 2007), Ghana (Caldwell and Sai 2007) and Kenya (Heisel 2007) is from the compilation of case studies by Robinson and Ross (2007).
Further information on the Latin American countries including Chile, Colombia and Guatemala is obtained from Shaffer (1968), Bertrand, Ward and Santiso-Galvez (2015) and the Cavenaghi (2009). Information on China (pre one-child policy) is obtained from Attane (2002) and Wang (2012). Information on Taiwan is obtained from Sun (2001). Information on Mauritius is from Hogan, Kennedy, Obetsebi-Lamptey and Sawaya (1985) and the information on Botswana and Zimbabwe is taken from the report by the National Research Council Working Group on Factors Affecting Contraceptive Use (1993).

[a.] Information on this section is obtained from Rinehart, Blackburn and Moore (1987)

[b.] Information on this section is obtained from Gilluly and Moore (1986) and Church and Geller (1989)

[c.] Information on this section is obtained from Sherris and Quillin (1982)

TABLE A2

Funds for family planning by country

Country	Total per capita funds (in US cents)		Government per capita funds (in US cents)		Non-government per capita funds (in US cents)		Total funds as a % of GDP (in %)	
	1970s	1980s	1970s	1980s	1970s	1980s	1970s	1980s
Asia								
Afghanistan		2.56		0.00		2.56		
Bangladesh	41.02	186.56	16.39	36.24	24.63	150.32	0.07	0.47
Hong Kong, China	54.65	66.00	26.74	48.42	27.91	17.57	0.01	0.00
India	68.42	99.55	64.10	89.67	4.32	9.88	0.08	0.16
Indonesia	74.75	101.37	39.52	71.38	35.23	29.99	0.09	0.11
Korea, Rep.	108.63	147.06	85.32	132.12	23.32	14.94	0.04	0.46
Malaysia	165.63	105.86	102.10	95.60	63.53	10.26	0.04	0.03
Mongolia		6.60				6.60		0.00
Nepal	28.06	35.94	15.67	27.93	12.40	8.02	0.07	0.12
Pakistan	76.01	41.58	32.21	18.07	43.79	23.51	0.13	0.07
Philippines	145.58	62.43	79.85	37.85	65.73	24.58	0.11	0.05
Singapore	134.12	97.74	132.62	97.38	1.50	0.36	0.01	0.01
Sri Lanka	16.11	16.68		11.76		4.92	0.02	0.02
Taiwan	50.88	89.44	46.52	89.35	4.36	0.10		
Thailand	44.54	42.87	11.33	26.70	33.21	16.17	0.03	0.03
Vietnam				5.81				
Latin America and Caribbean								
Bolivia	13.20		0.96		12.25		0.01	
Brazil		8.70	2.28	0.00		8.70		
Colombia	59.18	47.40		23.70		23.70	0.02	0.02
Costa Rica	184.92	203.73	52.57	132.81	132.35	70.92	0.05	0.06
Dominican Rep.	91.42		43.28		48.15		0.04	
El Salvador	300.66	324.76	237.06	235.47	63.60	89.29	0.15	0.22
Honduras		125.80		0.00		125.80		0.08
Nicaragua				204.57				
Panama		59.59		14.29		45.30		0.01
Puerto Rico	897.43		390.17		507.26		0.09	
Trinidad and Tobago				26.51				
Venezuela			123.35	1.50				
North Africa and Middle East								
Egypt	16.33		1.81	11.96	14.51		0.01	
Iran	248.01		243.34	0.07	4.67		0.05	
Iraq		3.26		2.25		1.02		0.00
Jordan		61.82		21.45		40.37		0.02
Morocco		55.53		45.49		10.05		0.03
Country	Total per capita		Government per		Non-government		Total funds as a %	

	funds (in US cents)		capita funds (in US cents)		per capita funds (in US cents)		of GDP (in %)	
	1970s	1980s	1970s	1980s	1970s	1980s	1970s	1980s
Tunisia	124.05	130.23	36.10	73.57	87.96	56.66	0.05	0.06
Turkey	23.03	23.58	21.81	20.51	1.22	3.06	0.01	0.01
Sub Saharan Africa								
Botswana		15.40		7.48		7.93		0.01
Burkina Faso		23.93		6.70		17.23		0.05
Central African Rep.		35.21		16.93		18.28		0.05
Congo, Rep.				0.37				
Ethiopia		6.66						0.02
Ghana	49.70		40.64		9.06		0.04	
Guinea		15.24		0.71		14.53		0.02
Kenya		43.36		12.25		31.11		0.07
Liberia		48.34						0.08
Madagascar		3.78		1.46		2.32		0.01
Mauritania		29.51		0.76		28.75		0.04
Mauritius	356.05	385.87	180.29	244.30	175.76	141.58	0.11	0.12
Nigeria		9.39						0.02
Rwanda		55.90		29.90		25.99		0.10
Somalia		2.00						0.01
Tanzania	7.52		0.35		7.17			
Uganda	5.63						0.01	
Zambia		23.26		3.53		19.73		0.03
Zimbabwe	51.70	142.60	45.47	100.50	6.23	42.10	0.02	0.10

Notes: The table reports the total funds for family planning per capita and per capita funds for family planning by source: government or nongovernment for the 1970s and 1980s. (We compute averages for the two decades as different countries have data for different years.) Averages for the 1970s and 1980s are computed in constant 2005 U.S.$ cents for comparability. The final two columns report the total funds for family planning as a percentage of GDP (both in nominal terms) averaged for the 1970s and 1980s. Data on funding for family planning are taken from Nortman and Hofstatter (1978), Nortman (1982), and Ross, Mauldin, and Miller (1993), while data on the price index (for conversion to real terms) and nominal GDP are from the WDI.

TABLE A3

Change in fertility rates (1980-2013) and funding for family planning programs

Change in TFR	Absolute change	% change
Ln(average funds per capita)	-0.257*	-5.487***
	[0.141]	[1.529]
Change in years of education of adults	-0.168	-0.020
	[0.130]	[0.015]
Change in urban population as % of total	-0.022	-0.015***
	[0.013]	[0.005]
Change in ln(GDP per capita)	0.331	-0.045
	[0.298]	[0.216]
Change in infant mortality rate	0.018***	0.363***
	[0.005]	[0.094]
Change in female LFPR	0.003	-0.029
	[0.008]	[0.021]
R-squared	0.402	0.574

Notes: The table reports the results of regressions of the change in TFR between 2013 and 1980 on the logged value of average per capita funds for family planning for the 1970s, 80s and 90s, controlling for the changes in years of schooling of the population aged 25+, urban population as a percentage of total population, log GDP per capita infant mortality rate and female labor force participation rate between 2013 and 1980. All regressions include a constant and use a sample of 43 countries. Total per capita funds for family planning are converted to 2005 US$ before averaging. Data on total fertility rate, urban population, per capita GDP, infant mortality rate and US Consumer Price Index (used to convert the funds to real terms) are from the World Development Indicators. Data on years of schooling is from Barro-Lee (2013). Data on female labor force participation rate is from ILOSTAT. Data on funds for family planning are from Nortman and Hofstatter (1978), Nortman (1982) and Ross, Mauldin and Miller (1993). The values in parentheses are robust standard errors.

* Significant at 10% level ** Significant at 5% level ***Significant at 1% level

TABLE A4

Change in fertility rates and funding for family planning program by source

Change in TFR	(1)	(2)	(3)
Ln(average government funds per capita)	-0.250**		-0.241**
	[0.116]		[0.117]
Ln(average private funds per capita)		-0.125	-0.060
		[0.128]	[0.095]
Change in years of education of adult population	-0.047	-0.199	-0.069
	[0.121]	[0.138]	[0.123]
Change in urban population as % of total	-0.014*	-0.007	-0.013
	[0.007]	[0.010]	[0.008]
Change in ln(GDP per capita)	-0.377*	-0.369	-0.382*
	[0.216]	[0.246]	[0.223]
Change in infant mortality rate	0.004*	0.004	0.005*
	[0.003]	[0.003]	[0.003]
R-squared	0.445	0.34	0.449

Notes: The table reports the results of regressions of the change in TFR between 2013 and 1960 on the logged value of average per capita funds for family planning from the state and private sources for the 1970s, 80s and 90s, controlling for the changes in years of schooling of the population aged 25+, urban population as a percentage of total population, log GDP per capita and infant mortality rate between 2013 and 1960. All regressions include a constant and use a sample of 31 countries. Total per capita funds for family planning are converted to 2005 US$ before averaging. Data on total fertility rate, urban population, per capita GDP, infant mortality rate and US Consumer Price Index (used to convert the funds to real terms) are from the World Development Indicators. Data on years of schooling is from Barro-Lee (2013). Data on funds for family planning are from Nortman and Hofstatter (1978), Nortman (1982) and Ross, Mauldin and Miller (1993). The values in parentheses are robust standard errors.

* Significant at 10% level ** Significant at 5% level ***Significant at 1% level

TABLE A5
Program effort score by region

Region	1972	1982	1989	1994	1999
Europe and Central Asia	20.0	27.0	46.0	42.2	53.0
East Asia and the Pacific	39.4	46.1	52.5	55.7	58.5
Latin America and the Caribbean	30.2	39.0	50.6	50.3	50.0
North Africa and the Middle East	11.4	17.9	40.5	41.8	58.3
South Asia	24.3	46.3	55.6	56.8	64.4
Sub Saharan Africa	5.0	15.5	36.7	43.9	51.1
Total	19.3	28.5	44.3	47.8	53.6
No. of countries	89	94	92	95	88

Notes: The table reports the average family planning program effort score for each region. The regional averages are calculated using data from Ross and Stover (2001).

TABLE A6

Effect of state-led family planning program implementation on fertility decline

ΔTFRt	(1)	(2)	(3)
State program	-0.066**		
	[0.023]		
L1.State program		-0.059**	
		[0.020]	
L2. State program			-0.050*
			[0.018]
ΔGDP_t	0.009	0.005	0.003
	[0.078]	[0.077]	[0.080]
ΔIMRt	0.001	0.002	0.002
	[0.005]	[0.005]	[0.005]
$\Delta Urban_t$	-0.022	-0.021	-0.021
	[0.016]	[0.016]	[0.016]
ΔEdu_t	0.006	0.006	0.005
	[0.011]	[0.011]	[0.011]
Total obs. (NT)	1574	1574	1553
R-squared	0.191	0.187	0.177

Notes: The table reports the results of fixed effects regressions of the year on year change in TFR on a dummy variable for establishment of state family planning program (0 before establishment, 1 after), controlling for the year on year change in the log of per capita GDP, infant mortality rate, urban population as a % of total population and years of schooling of the population aged 25+. Columns (2) and (3) use 1 and 2 year lags of the program dummy, respectively. All regressions are estimated using a sample of 31 countries and include country and year fixed effects. Data on total fertility rate, urban population, per capita GDP, and infant mortality rate are from the World Development Indicators. Data on years of schooling is from Barro-Lee (2013). Since years of schooling at available at 5-yearly intervals we replace missing values with data from the closest year for which data is published. Data on family planning program implementation dates are compiled using information from Robinson and Ross (2007), Cavenaghi (2009), Shaffer (1968), Bertrand et al (2015), Attane (2002), Hogan et al (1985) and National Research Council Working Group on Factors Affecting Contraceptive Use (1993). The values in parentheses are robust standard errors.

* Significant at 10% level ** Significant at 5% level ***Significant at 1% level

Appendix B

In formulas, the overall fertility rate equals the weighted average of urban and rural fertility rates:

$$F_t = \lambda_{R,t} F_{R,t} + \lambda_{U,t} F_{U,t}$$

Where $\lambda_{R,t}$ is the proportion of the country's population living in rural areas in period t, $\lambda_{U,t} = 1 - \lambda_{R,t}$, and $F_{R,t}$ and $F_{U,t}$ are the rural and urban fertility rates at time t, respectively.

With some algebra, the change in overall fertility between time 0 and time t can be exactly decomposed as:

$$\Delta F_t = F_t - F_0 = \underbrace{\left(\Delta\lambda_{R,t}\bar{F}_{R,t} + \Delta\lambda_{U,t}\bar{F}_{U,t}\right)}_{\text{Between (urbanization) effect}} + \underbrace{\left(\bar{\lambda}_{R,t}\Delta F_{R,t} + \bar{\lambda}_{U,t}\Delta F_{U,t}\right)}_{\text{Within effect}}$$

where 0 and t correspond to the start and end of the period, respectively; and the terms denoted with a bar are the time averages:

$$\bar{x}_j = \frac{x_{j,t} + x_{j,0}}{2}, \qquad j = R, U; x = \lambda, F$$

TABLE B1

Fertility rate decomposition by region

Country	Fertility decline	Between-effect	Within-effect	First year	Last year
Angola	0.5	108.82%	-8.82%	2006	2011
Bangladesh	-1.1	6.82%	93.18%	1993	2014
Benin	-1.1	8.65%	91.35%	1996	2011
Bolivia	-1.5	8.03%	91.97%	1989	2008
Brazil	-0.9	18.32%	81.68%	1986	1996
Burkina Faso	-1	17.41%	82.59%	1993	2014
Burundi	-0.8	14.63%	85.37%	1987	2012
Cambodia	-1.1	7.58%	92.42%	2000	2014
Cameroon	-0.7	21.78%	78.22%	1991	2011
Colombia	-1.1	21.19%	78.81%	1986	2010
Comoros	-0.3	21.37%	78.63%	1996	2012
Congo, Dem. Rep.	0.3	40.30%	59.70%	2007	2013
Congo, Rep.	0.3	-96.59%	196.59%	2005	2011
Cote d'Ivoire	-0.3	43.75%	56.25%	1994	2011
Dominican Republic	-1.2	-11.64%	111.64%	1986	2013
Egypt, Arab Rep.	-1	-31.42%	131.42%	1988	2014
Eritrea	-1.3	16.86%	83.14%	1995	2002
Ethiopia	-0.7	31.49%	68.51%	2000	2011
Gabon	-0.1	200.00%	-100.00%	2000	2012
Ghana	-2.2	13.64%	86.36%	1988	2014
Guatemala	-2.4	9.38%	90.62%	1987	2014
Guinea	-0.4	-1.36%	101.36%	1999	2012
Guyana	0.3	27.78%	72.22%	2005	2009
Haiti	-1.3	13.02%	86.98%	1994	2012
Honduras	-0.4	20.83%	79.17%	2005	2011
India	-0.7	4.52%	95.48%	1992	2005
Indonesia	-0.5	15.00%	85.00%	1987	2012
Jordan	-2.1	4.93%	95.07%	1990	2012
Kazakhstan	-0.5	8.71%	91.29%	1995	1999
Kenya	-3	22.70%	77.30%	1989	2015
Kyrgyz Republic	0.2	-56.87%	156.88%	1997	2012
Lesotho	-0.2	97.16%	2.84%	2004	2014
Liberia	-2	20.83%	79.17%	1986	2013
Madagascar	-1.7	-18.15%	118.15%	1992	2013
Malawi	-2.3	2.27%	97.73%	1992	2015
Mali	-0.8	-4.40%	104.40%	1987	2015
Morocco	-2.1	4.89%	95.11%	1987	2003
Mozambique	0.7	-38.10%	138.10%	1997	2011
Namibia	-1.8	25.03%	74.97%	1992	2013
Nepal	-2	4.76%	95.24%	1996	2011

Country	Fertility	Between-	Within-	First year	Last year

	decline	effect	effect		
Nicaragua	-0.4	0.00%	100.00%	1998	2001
Niger	0.6	-15.24%	115.24%	1992	2012
Nigeria	-1	11.28%	88.72%	1990	2015
Pakistan	-1.1	4.85%	95.15%	1990	2012
Peru	-1.5	9.17%	90.83%	1986	2012
Philippines	-1.1	1.71%	98.29%	1993	2013
Rwanda	-2	5.46%	94.54%	1992	2014
Senegal	-1.4	21.92%	78.08%	1986	2014
Sierra Leone	-0.2	14.32%	85.68%	2008	2013
Tanzania	-1	17.94%	82.06%	1991	2015
Togo	-1.6	10.31%	89.69%	1988	2013
Turkey	-0.3	33.33%	66.67%	1993	2003
Uganda	-1.7	17.44%	82.56%	1988	2014
Vietnam	-0.4	-3.89%	103.89%	1997	2002
Yemen, Rep.	-3.3	12.01%	87.99%	1991	2013
Zambia	-1.2	-2.32%	102.32%	1992	2013
Zimbabwe	-1.4	11.48%	88.52%	1988	2015

Notes: The table reports the overall decline in fertility, the percentage of the change due to the between-area effect (urbanization effect) and within-area-effect, and the years over which the overall change is calculated. Data on total and urban and rural fertility rates are obtained from the Demographic and Health Surveys. Proportion of urban population is calculated as $\lambda_{U,t} = \frac{F_t - F_{R,t}}{F_{U,t} - F_{R,t}}$.

Appendix C

In the paper we argue that the origins of the population control movement can be traced to the West. In what follows, we reproduce extracts from historical documents reflecting the preoccupation of intellectuals and policy makers in the West with the high fertility levels.

John D. Rockefeller, Jr., 1934, in a letter to his father

"In concluding, may I add one further statement in regard to my interest in birth control. I have come pretty definitely to the conclusion that it is the field in which I will be interested, for the present at least, to concentrate my own giving, as I feel that it is so fundamental and underlying." [Rockefeller 1934]

Report of the President's Committee to Study the U.S. Military Assistance Program, 1959

"[T]hese high fertility rates are normally a part of deeply rooted cultural patterns, and natural changes occur only slowly. In many countries, national production is failing even to keep pace with population growth, and per capita gross national product and food supplies are therefore decreasing rather than increasing.

Government leaders in many of the less developed nations recognize that the only hope for their people lies in accelerating the normal adjustment to the rapidly declining mortality rate. Few countries have set up the necessary programs, although broad acceptance has been found in those areas where programs have been established.

The United States and the other more advanced countries can and should be prepared to respond to requests for information and technical assistance in connection with population growth. Such information will help to point up the seriousness of the problem, and to encourage action in countries where population pressures exist. Such information is also useful in defining the areas in which initial efforts will be most effective. Recognizing an immediate problem created by the rapid growth, the United States should also increase its assistance to local programs relating to maternal and child welfare.

We Recommend: That, in order to meet more effectively the problems of economic development, the United States (1) assist those countries with which it is cooperating in economic aid programs, on request, in the formulation of their plans designed to deal with the problem of rapid population growth, (2) increase its assistance to local programs relating to maternal and child welfare in recognition of the immediate problem created by rapid population growth, and (3) strongly support studies and appropriate research as a part of its own Mutual Security Program, within the United Nations and elsewhere, leading to the availability of relevant information in a form most useful to individual countries in the formulation of practical programs to meet the serious challenge posed by rapidly expanding populations." [Draper 1959, p 96-97]

John D. Rockefeller Jr. at the National Conference on the Population Crisis 1960

“In May 1960 at a National Conference on the Population Crisis co-sponsored by the Dallas Council on World Affairs and *Newsweek* magazine, John D. Rockefeller 3rd made a plea that was to be repeated many times in the decade ahead:
The problems of population are so great, so important, so ramified and so immediate that only government, supported and inspired by private initiative, can attack them on the scale required. It is for the citizens to convince their political leaders of the need for imaginative and courageous action-action which may sometimes mean political and economic opposition.” [Piotrow 1973, p 49]

Enke (1960) based on discussions with senior officials and Prime Minister of the Indian government

“The willingness versus ability of adults to limit births has long been a matter of controversy. A cheap and available contraceptive pill will not be the answer in Asia unless couples wish to avoid pregnancies… In the "extended" or three generation households of Asia, which still predominate in rural areas, children are not a liability to their parents during their infancy. And they are a real asset in later life to their procreators.

It is not enough for governments in these countries to support clinics that provide contraceptive information. It is not practical to tax extra children. Instead, governments must offer some strong and positive inducement to couples to limit births. Money might be such an incentive if paid in large enough amounts. Or other costly benefits, such as the education and support of parents' existing children, might be offered.” [Enke 1960, p 343]

… In countries that are already overpopulated, and have crude population increases of 2 percent a year, there may not be time to wait for uncertain birth reductions following urbanization, emancipation of women, and a delayed recognition that falling death rates have reduced the number of infants a couple must have to obtain a given size family of grown children.

The knowledge and availability of contraceptives can be increased by government action. But the ability rather than the willingness to limit family size is affected thereby. Even a contraceptive pill is no panacea for the same reason. It may benefit "emerging" urban parents but not untutored rural peasants. And, even if the pill cost only 10 cents, the total resource cost over the fertile period of a woman's life would exceed $100. So money payments to men and women to constrain family size--in the ways described here--may be far more effective a limitation and much cheaper in resources. Schemes of this kind may do more for suffering humanity than successful medical research on contraceptives.” [p 348]

Davis (1967) on the effectiveness of family planning programs

"By sanctifying the doctrine that each woman should have the number of children she wants, and by assuming that if she has only that number this will automatically curb population growth to the necessary degree, the leaders of current policies escape the necessity of asking why women desire so many children and how this desire can be influenced … Instead they claim that satisfactory motivation is shown by the popular desire (shown by opinion surveys in all countries) to have the means of family limitation, and that therefore the problem is one of inventing and distributing the best possible contraceptive devices. Overlooked is the fact that a desire for availability of contraceptives is compatible with *high* fertility … We thus see that the inadequacy of current population policies with respect to motivation is inherent in their overwhelmingly family planning character. [Davis 1967, p 733-734]

… If excessive population growth is to be prevented, the obvious requirement is somehow to impose restraints on the family… Population-control policy can de-emphasize the family in two ways: (i) by keeping present controls over illegitimate childbirth yet making the most of factors that lead people to postpone or avoid marriage and (ii) by instituting conditions that motivate those who do marry to their families small. [p 737]

… In any deliberate effort to control the birth rate along these lines, a government has two powerful instruments – its command over economic planning and its authority (real or potential) over education. The first determines (as far as policy can) the economic conditions and circumstances affecting the lives of all citizens; the second provides the knowledge and attitudes necessary to implement the plans. The economic system largely determines who shall work, what can be bought, what rearing children will cost, how much individuals can spend. The schools define family roles and develop vocational and recreational interests; they could, if it were desired, redefine the sex roles, develop interests that transcend the home, and transmit realistic (as opposed to moralistic) knowledge concerning marriage, sexual behaviour, and population problems. When the problem is viewed in this light, it is clear that the ministries of economics and education, not the ministry of health, should be the source of population policy." [p 738]

John D. Rockefeller Jr. in a speech at the Population Tribune in Bucharest, 1974

"It turns out that women who avail themselves of family planning are chiefly those who already have had many children. Over the 40-year span I have referred to, the population of the world has increased by 86 percent, from 2.1 billion to 3.9 billion. And the absolute number of people in poverty has continued to grow. Clearly, the programs that have been undertaken have proved inadequate when compared to the magnitude of the problems facing us. [Rockefeller 1978, p 511]

… [R]apid population growth is only one among many problems facing most countries, it is a multiplier and intensifier of other problems…. [R]educing population growth is not an alternative to development, but an essential part of it for most countries." [p 512]

National Security Study Memorandum 200 (The Kissinger Report), 1974

"High birth rates appear to stem primarily from:

a. inadequate information about and availability of means of fertility control;

b. inadequate motivation for reduced numbers of children combined with motivation for many children resulting from still high infant and child mortality and need for support in old age; and

c. the slowness of change in family preferences in response to changes in environment.

… We cannot wait for overall modernization and development to produce lower fertility rates naturally since this will undoubtedly take many decades in most developing countries, during which time rapid population growth will tend to slow development and widen even more the gap between rich and poor. [National Security Council 1974, p 6-7]

…The political consequences of current population factors in the LDCs - rapid growth, internal migration, high percentages of young people, slow improvement in living standards, urban concentrations, and pressures for foreign migration — are damaging to the internal stability and international relations of countries in whose advancement the U.S. is interested, thus creating political or even national security problems for the U.S. In a broader sense, there is a major risk of severe damage to world economic, political, and ecological systems and, as these systems begin to fail, to our humanitarian values. [p 8]

…While specific goals in this area are difficult to state, our aim should be for the world to achieve a replacement level of fertility, (a two- child family on the average), by about the year 2000. [p 9]

…The World Population Plan of Action is not self-enforcing and will require vigorous efforts by interested countries, U.N. agencies and other international bodies to make it effective. U.S. leadership is essential. The strategy must include the following elements and actions:

(a) Concentration on key countries. Assistance for population moderation should give primary emphasis to the largest and fastest growing developing countries where there is special U.S. political and strategic interest. Those countries are: India, Bangladesh, Pakistan, Nigeria, Mexico, Indonesia, Brazil, the Philippines, Thailand, Egypt, Turkey, Ethiopia and Columbia. Together, they account for 47 percent of the world's current population increase. (It should be recognized that at present AID bilateral assistance to

some of these countries may not be acceptable.) Bilateral assistance, to the extent that funds are available, will be given to other countries, considering such factors as population growth, need for external assistance, long-term U.S. interests and willingness to engage in self-help. Multilateral programs must necessarily have a wider coverage and the bilateral programs of other national donors will be shaped to their particular interests. At the same time, the U.S. will look to the multilateral agencies, especially the U.N. Fund for Population Activities which already has projects in over 80 countries to increase population assistance on a broader basis with increased U.S. contributions. This is desirable in terms of U.S. interests and necessary in political terms in the United Nations. But progress nevertheless, must be made in the key 13 and our limited resources should give major emphasis to them.

(b) Integration of population factors and population programs into country development planning. As called for the world Population Plan of Action, developing countries and those aiding them should specifically take population factors into account in national planning and include population programs in such plans.

(c) Increased assistance for family planning services, information and technology. This is a vital aspect of any world population program. 1) Family planning information and materials based on present technology should be made fully available as rapidly as possible to the 85 % of the populations in key LDCs not now reached, essentially rural poor who have the highest fertility.

(d) Fundamental and developmental research should be expanded, aimed at simple, low-cost, effective, safe, long-lasting and acceptable methods of fertility control. Support by all federal agencies for biomedical research in this field should be increased by $60 million annually.

(e) Creating conditions conducive to fertility decline. For its own merits and consistent with the recommendations of the World Population Plan of Action, priority should be given in the general aid program to selective development policies in sectors offering the greatest promise of increased motivation for smaller family size. In many cases pilot programs and experimental research will be needed as guidance for later efforts on a larger scale. The preferential sectors include:…-- Developing alternatives to children as a source of old age security;

-- Education of new generations on the desirability of smaller families. [p 10-11]

…The U.S. should encourage LDC leaders to take the lead in advancing family planning and population stabilization both within multilateral organizations and through bilateral contacts with other LDCs. This will require that the President and the Secretary of State treat the subject of population growth control as a matter of paramount importance and address it specifically in their regular contacts with leaders of other governments, particularly LDCs. [p 12]

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