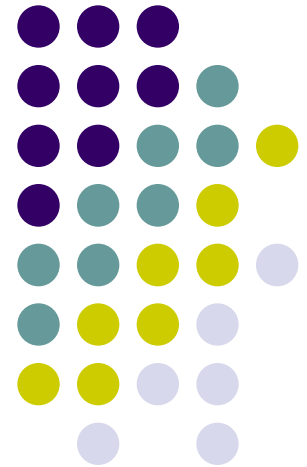


Fertility & Women's Labor Force Participation in Developing Countries

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University of Oxford
and
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Pop/Pov Research Network Conference
Cape Town, South Africa
January 2010

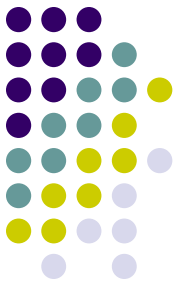


We are grateful for research assistance provided by Vy Nguyen, and funding support from the Hewlett Foundation's Research Grant to the World Bank.

Children vs. Work

- Children require a mother's time and resources
- But they may also provide labor for current consumption and a means of support in old age.
- The need to care for a child restricts the time that a mother can devote to paid labor, inside or outside the home.
- The need to provide care diminishes as the child grows, permitting the mother to return to work.
- As demand for skilled labor increases with development, wages rise - so does the opportunity cost of time, including the time required to raise children.

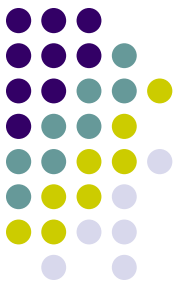




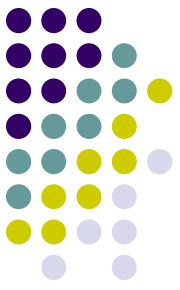
Previous Studies

- Rosenzweig and Wolpin (1980)
 - Twins at first birth (U.S.)
- Angrist and Evans (1998)
 - Sex of the first two children (U.S.)
- Chun and Oh (2002)
 - Sex of first child (Korea)
- Hotz and others (2004)
 - Spontaneous abortion (or miscarriage)

Preview of Findings

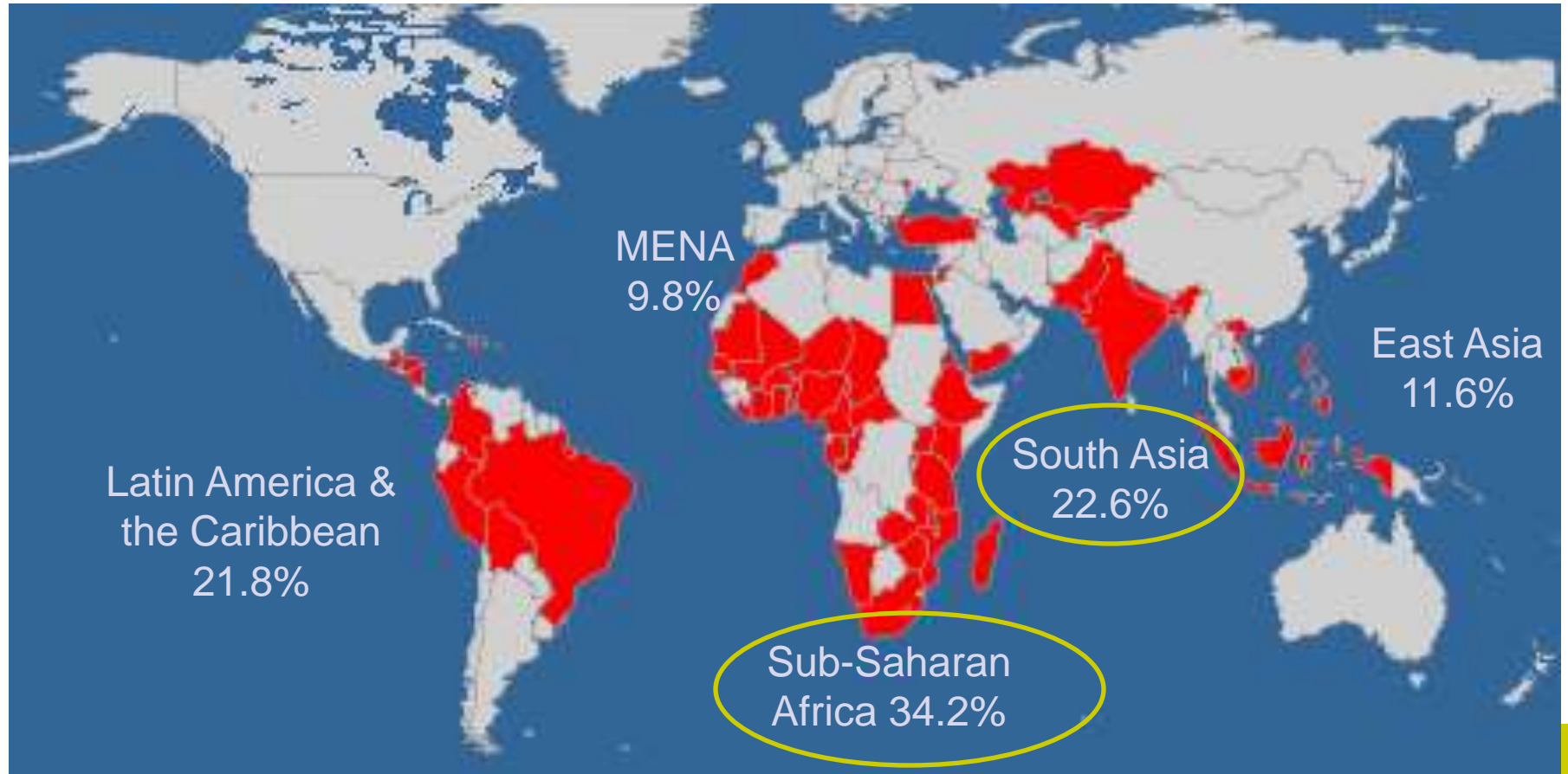


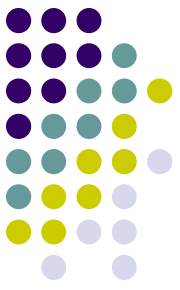
- Decisions regarding fertility and labor depend on a woman's age and geographic location
- Women have more children if they had twins in the first birth or if the first two births were the same sex
- South Asian women have fewer children if either or both of their first two children born were sons
- Many women in developing countries (like U.S. women) are less likely to work when they have more children
- But some are more likely to work, possibly because of:
 - Tight budget constraints
 - High infant and child mortality rates
 - Ability to work from home
 - Improved bargaining power
 - Sons provide old-age insurance
 - Women breastfeed sons longer than daughters
 - Daughters substitute for mothers' time in household production



Data

- 96 Demographic and Health Surveys
- 59 Developing Countries





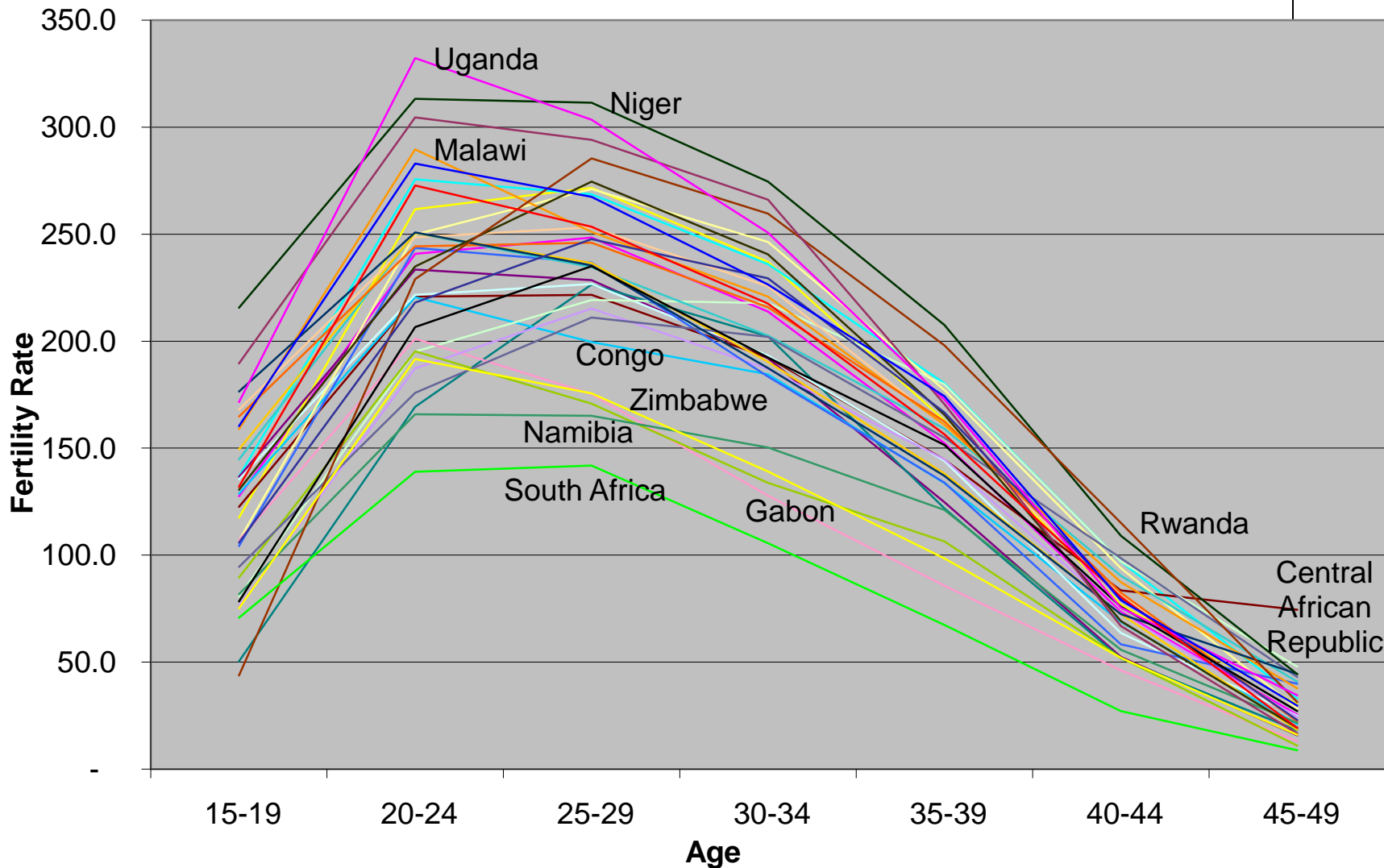
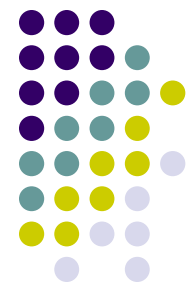
Occupation by Age & Age at 1st Birth

	Age Group					
	15-44	15-24	25-34	25-34*	35-44	35-44*
Agric-self employed	34.42%	42.77%	33.58%	35.33%	31.22%	33.54%
Sales	23.22%	21.98%	23.73%	24.06%	23.51%	24.26%
Agric-employee	11.38%	11.86%	11.27%	11.88%	11.35%	12.23%
Prof., tech., managers	9.16%	2.60%	9.04%	6.86%	11.69%	8.26%
Services	8.92%	8.20%	9.59%	9.61%	8.84%	9.07%
Skilled manual	5.57%	5.72%	5.48%	5.59%	5.60%	5.88%
Clerical	3.76%	2.01%	3.90%	3.12%	4.50%	3.31%
Household & domestic	2.93%	3.75%	2.80%	2.87%	2.77%	2.86%
Unskilled manual	0.64%	1.11%	0.62%	0.66%	0.52%	0.58%
Number of Observations	824,651	171,094	338,377	302,910	256,259	212,499
Number of Women Not Working	389,337	95,936	159,271	141,654	105,989	88,565
% Women Working	53%	44%	53%	53%	59%	58%

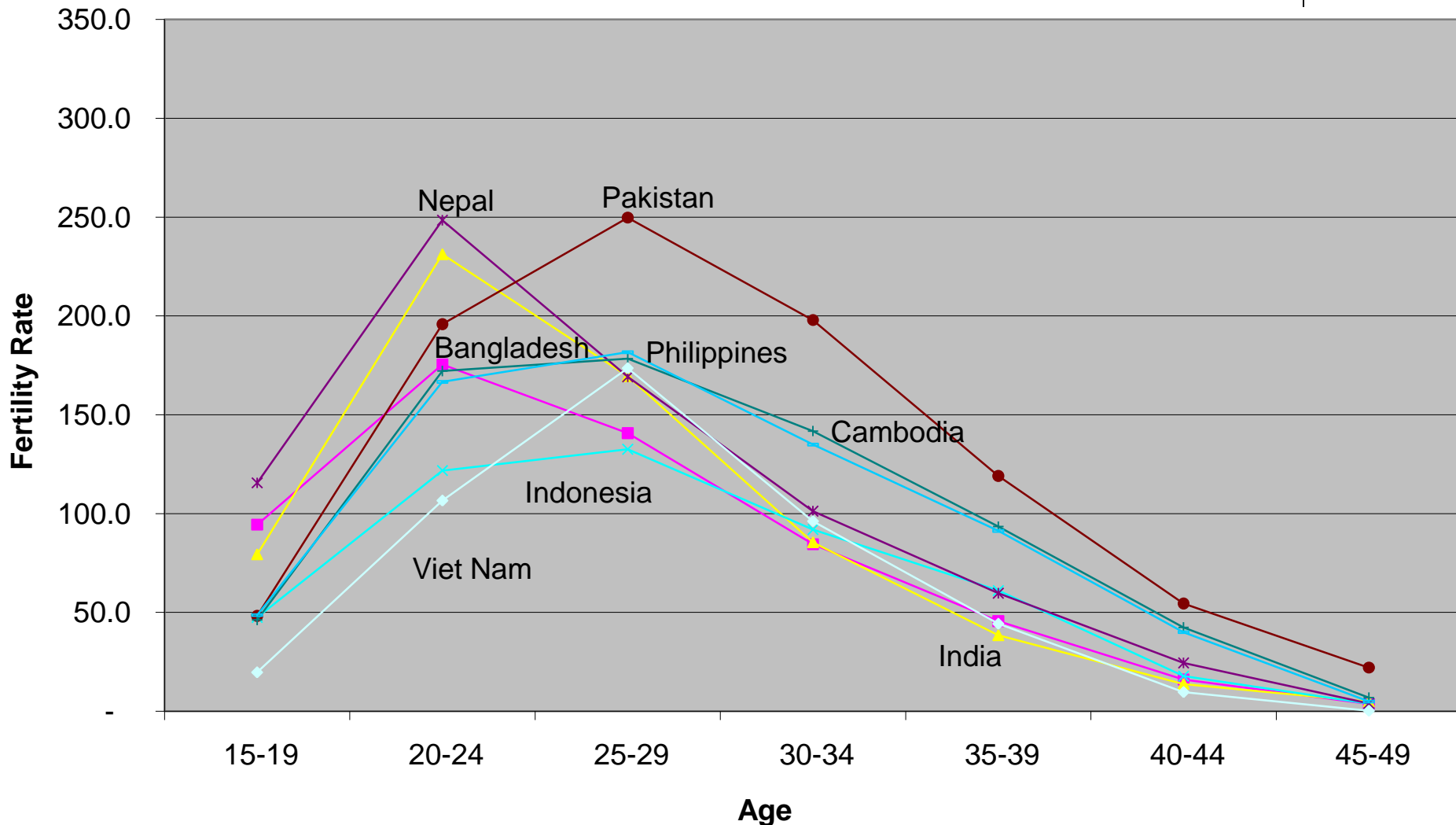
All women in sample had at least one birth.

* Age at first birth was less than 25.

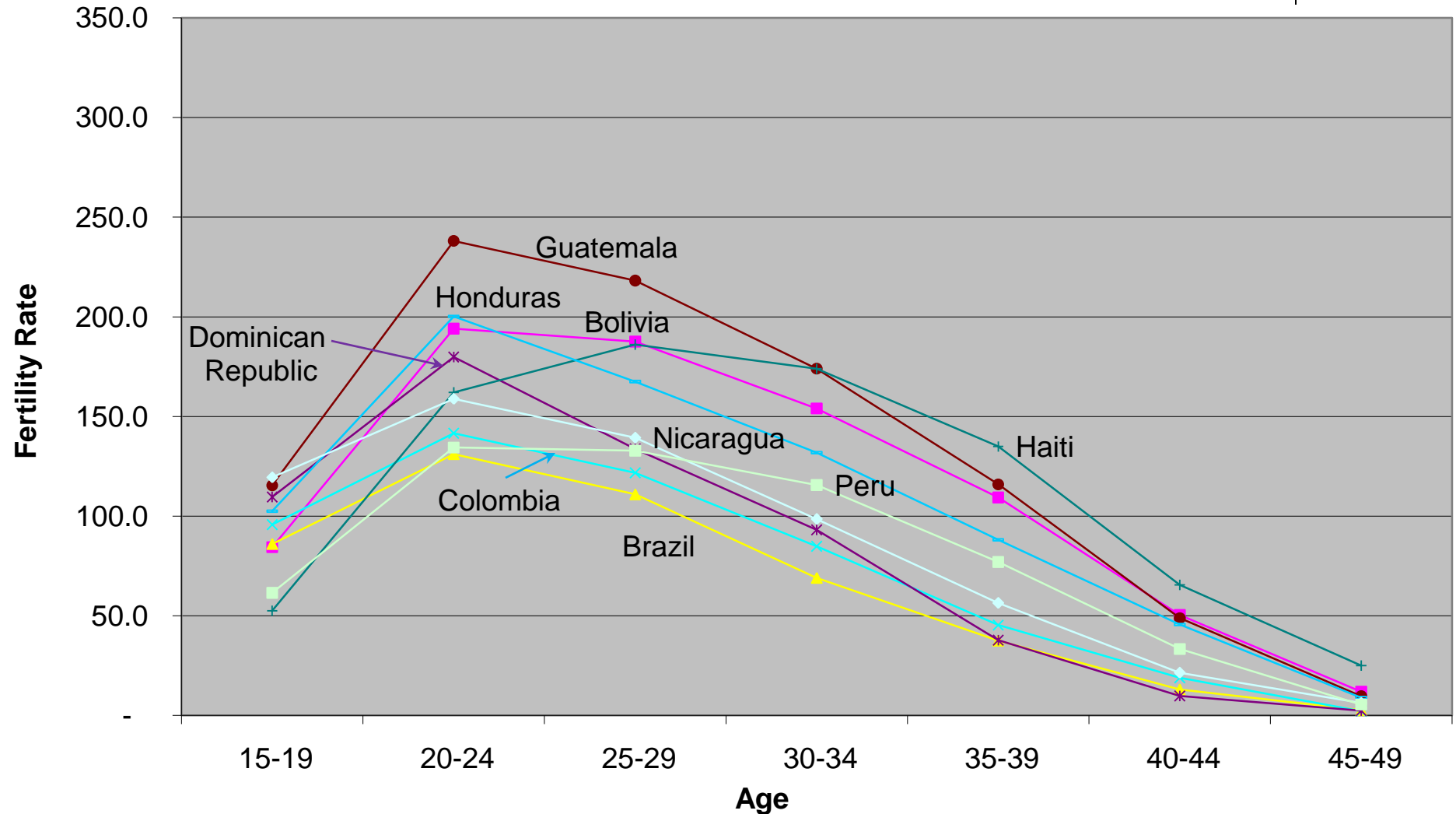
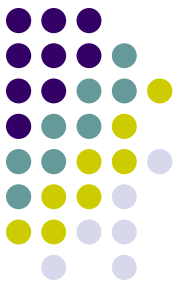
Age-Specific Fertility Rates in Sub-Saharan Africa 2000-2005



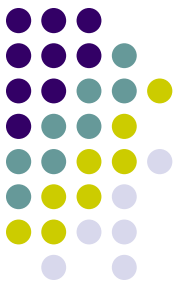
Age-Specific Fertility Rates in Asia, 2000-2005



Age-Specific Fertility Rates in LAC, 2000-2005



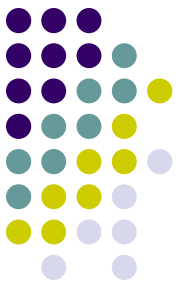
Sex Ratios & Mortality Rates by Sex & Region (2000-2005)



Country or Region	Sex ratio at birth (per 1,000 population)	Infant mortality rate by sex			Under-five mortality by sex		
		Male	Female	% Difference	Male	Female	% Difference
South-Central Asia	1.07	63.3	63.7	-0.6%	88	95	-7.4%
Bangladesh	1.04	59.4	54.9	8.2%	77	76	1.3%
India	1.08	61.2	62.4	-1.9%	86	95	-9.5%
Indonesia	1.05	38.5	29.7	29.6%	47	37	27.0%
Nepal	1.05	54.8	54.6	0.4%	70	75	-6.7%
Pakistan	1.05	68.5	72.7	-5.8%	96	104	-7.7%
South-Eastern Asia	1.05	37.6	29.3	28.3%	48	39	23.1%
Latin America and the Caribbean	1.05	29	22.4	29.5%	36	28	28.6%
Sub-Saharan Africa	1.03	100.6	88.8	13.3%	167	154	8.4%

Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, World Population Prospects: The 2008 Revision, <http://esa.un.org/unpp>, accessed on April 15, 2009

Regressions



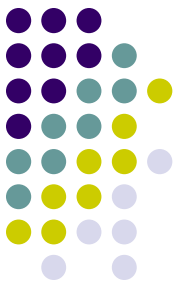
$$Y_{ijt} = \beta_0 + \beta_1 \text{Twins}_{ijt} + \beta_2 A_{ijt} + \mu_j + \eta_t + \varepsilon_{ijt} \quad (1)$$

$$Y_{ijt} = \beta_0 + \beta_1 (\text{Twins Girls})_{ijt} + \beta_2 (\text{Twins Boys})_{ijt} + \beta_3 (\text{Twins Boy/Girl})_{ijt} + \beta_4 A_{ijt} + \mu_j + \eta_t + \varepsilon_{ijt} \quad (2)$$

A_{ijt} : age at first birth, age at last birth

μ_j : country fixed effects

η_t : survey year fixed effects



Regressions

$$Y_{ijt} = \beta_0 + \beta_1 \textit{Twin}_{ijt} + \beta_2 A_{ijt} + \mu_j + \eta_t + \varepsilon_{ijt} \quad (1)$$

$$Y_{ijt} = \beta_0 + \beta_1 (\textit{Twin Girls})_{ijt} + \beta_2 (\textit{Twin Boys})_{ijt} + \beta_3 (\textit{Twin Boy/Girl})_{ijt} + \beta_4 A_{ijt} + \mu_j + \eta_t + \varepsilon_{ijt} \quad (2)$$

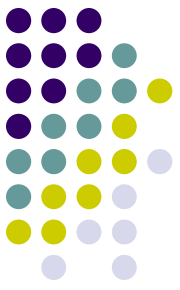
$$Y_{ijt} = \beta_0 + \beta_1 (\textit{Same Sex})_{ijt} + \beta_2 (\textit{First is Boy})_{ijt} + \beta_3 (\textit{Second is Boy})_{ijt} + \beta_4 A_{ijt} + \mu_j + \eta_t + \varepsilon_{ijt} \quad (3)$$

$$Y_{ijt} = \beta_0 + \beta_1 (\textit{1st is Boy})_{ijt} + \beta_2 (\textit{1st Two Boys})_{ijt} + \beta_3 (\textit{1st Two Girls})_{ijt} + \beta_4 A_{ijt} + \mu_j + \eta_t + \varepsilon_{ijt} \quad (4)$$

A_{ijt} : age at first birth, age at last birth

μ_j : country fixed effects

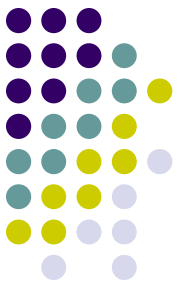
η_t : survey year fixed effects



Effect of Twins at 1st Birth on Fertility in Sub-Saharan Africa & South Asia

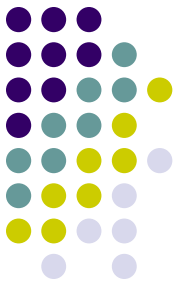
Age:	<u>Number of Children Ever Born</u>				<u>Number of Surviving Children</u>			
	15-44	15-24	25-34	35-44	15-44	15-24	25-34	35-44
URBAN WOMEN								
Sub-Saharan Africa	1.028*** (0.031)	1.040*** (0.023)	0.993*** (0.040)	1.064*** (0.078)	0.421*** (0.031)	0.445*** (0.030)	0.440*** (0.040)	0.377*** (0.076)
South Asia	0.985*** (0.043)	0.992*** (0.047)	0.970*** (0.054)	1.013*** (0.088)	0.385*** (0.041)	0.459*** (0.054)	0.404*** (0.053)	0.340*** (0.083)
RURAL WOMEN								
Sub-Saharan Africa	1.081*** (0.024)	1.053*** (0.018)	1.067*** (0.031)	1.136*** (0.059)	0.232*** (0.025)	0.252*** (0.025)	0.228*** (0.033)	0.214*** (0.060)
South Asia	1.057*** (0.036)	1.061*** (0.030)	1.085*** (0.051)	1.025*** (0.088)	0.119*** (0.036)	0.317*** (0.036)	0.150*** (0.050)	-0.077 (0.085)

Effect of Twins at 1st Birth on Women's LFP in Sub-Saharan Africa & South Asia



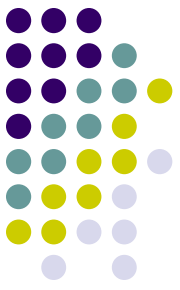
Age:	<u>Labor Force Participation</u>			
	15-44	15-24	25-34	35-44
URBAN WOMEN				
Sub-Saharan Africa	0.051 (0.073)	-0.005 (0.148)	0.120 (0.107)	-0.021 (0.135)
South Asia	-0.025 (0.121)	-0.278 (0.404)	-0.194 (0.187)	0.181 (0.179)
RURAL WOMEN				
Sub-Saharan Africa	0.069 (0.059)	0.003 (0.119)	-0.029 (0.086)	0.256** (0.113)
South Asia	0.058 (0.095)	-0.331 (0.204)	0.116 (0.142)	0.262 (0.168)

Effect of Sex of Twins at 1st Birth on Fertility in Urban Sub-Saharan Africa & South Asia



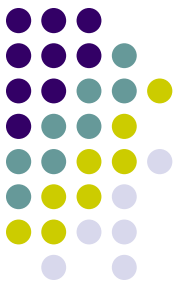
Age of Women:	<u>Number of Children Ever Born</u>				<u>Number of Surviving Children</u>			
	15-44	15-24	25-34	35-44	15-44	15-24	25-34	35-44
Sub-Saharan Africa								
Twin Girls	1.004*** (0.055)	1.049*** (0.039)	1.033*** (0.068)	0.940*** (0.144)	0.425*** (0.055)	0.374*** (0.052)	0.493*** (0.069)	0.356** (0.140)
Twin Boys	0.973*** (0.055)	1.036*** (0.039)	0.905*** (0.072)	1.014*** (0.137)	0.307*** (0.055)	0.465*** (0.052)	0.298*** (0.073)	0.224* (0.132)
Twin Boy & Girl	1.099*** (0.052)	1.035*** (0.039)	1.031*** (0.066)	1.202*** (0.126)	0.519*** (0.052)	0.495*** (0.053)	0.510*** (0.067)	0.523*** (0.122)
South Asia								
Twin Girls	0.978*** (0.073)	1.029*** (0.074)	0.976*** (0.092)	0.970*** (0.157)	0.424*** (0.070)	0.508*** (0.085)	0.505*** (0.090)	0.285* (0.147)
Twin Boys	0.930*** (0.070)	0.945*** (0.074)	0.862*** (0.094)	1.025*** (0.137)	0.324*** (0.067)	0.341*** (0.085)	0.249*** (0.091)	0.407*** (0.129)
Twin Boy & Girl	1.065*** (0.080)	1.012*** (0.104)	1.074*** (0.095)	1.045*** (0.170)	0.419*** (0.077)	0.595*** (0.120)	0.456*** (0.092)	0.300* (0.160)

Effect of Sex of Twins at 1st Birth on LFP in Urban Sub-Saharan Africa & South Asia



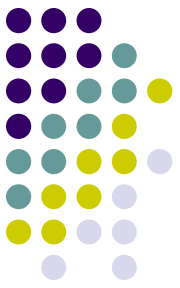
Age of Women:	<u>Labor Force Participation</u>			
	15-44	15-24	25-34	35-44
Sub-Saharan Africa				
Twin Girls	0.065 (0.129)	0.540** (0.260)	-0.026 (0.182)	-0.121 (0.243)
Twin Boys	-0.034 (0.127)	-0.300 (0.252)	0.033 (0.191)	0.086 (0.244)
Twin Boy & Girl	0.113 (0.121)	-0.234 (0.260)	0.333* (0.183)	-0.029 (0.216)
South Asia				
Twin Girls	0.365* (0.197)	-0.183 (0.583)	-0.067 (0.312)	0.973*** (0.325)
Twin Boys	-0.005 (0.199)	0.156 (0.598)	-0.173 (0.321)	0.046 (0.281)
Twin Boy & Girl	-0.572** (0.253)	-17.463 (0.000)	-0.360 (0.342)	-0.573 (0.384)

Effect of Sex of Twins at 1st Birth on Fertility in Rural Sub-Saharan Africa & South Asia



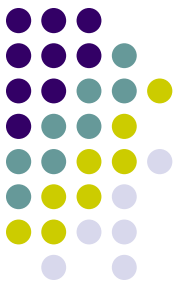
Age of Women:	<u>Number of Children Ever Born</u>				<u>Number of Surviving Children</u>			
	15-44	15-24	25-34	35-44	15-44	15-24	25-34	35-44
Sub-Saharan Africa								
Twin Girls	1.026*** (0.043)	1.019*** (0.032)	1.030*** (0.056)	1.042*** (0.111)	0.249*** (0.045)	0.336*** (0.045)	0.223*** (0.060)	0.207* (0.112)
Twin Boys	1.066*** (0.040)	1.094*** (0.030)	1.044*** (0.054)	1.095*** (0.096)	0.116*** (0.042)	0.120*** (0.042)	0.161*** (0.058)	0.062 (0.098)
Twin Boy & Girl	1.143*** (0.040)	1.042*** (0.031)	1.117*** (0.051)	1.261*** (0.101)	0.330*** (0.042)	0.313*** (0.043)	0.290*** (0.054)	0.388*** (0.103)
South Asia								
Twin Girls	1.091*** (0.061)	1.057*** (0.046)	1.085*** (0.083)	1.171*** (0.164)	0.185*** (0.060)	0.319*** (0.056)	0.252*** (0.082)	-0.063 (0.159)
Twin Boys	1.075*** (0.059)	1.089*** (0.053)	1.243*** (0.084)	0.874*** (0.130)	0.028 (0.059)	0.198*** (0.064)	0.069 (0.084)	-0.133 (0.126)
Twin Boy & Girl	0.985*** (0.071)	1.035*** (0.059)	0.874*** (0.098)	1.127*** (0.171)	0.160** (0.070)	0.464*** (0.071)	0.117 (0.098)	0.005 (0.165)

Effect of Sex of Twins at 1st Birth on LFP in Rural Sub-Saharan Africa & South Asia



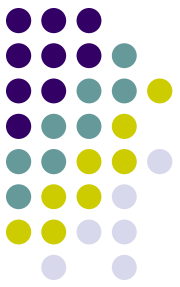
Age of Women:	<u>Labor Force Participation</u>			
	15-44	15-24	25-34	35-44
Sub-Saharan Africa				
Twin Girls	-0.098 (0.106)	-0.315 (0.209)	-0.216 (0.153)	0.281 (0.214)
Twin Boys	0.070 (0.097)	-0.007 (0.193)	0.028 (0.146)	0.162 (0.176)
Twin Boy & Girl	0.219** (0.103)	0.337 (0.220)	0.076 (0.144)	0.352* (0.203)
South Asia				
Twin Girls	0.057 (0.160)	-0.539* (0.311)	0.153 (0.234)	0.730** (0.367)
Twin Boys	0.125 (0.153)	0.381 (0.350)	0.078 (0.240)	0.028 (0.239)
Twin Boy & Girl	-0.037 (0.183)	-0.986** (0.473)	0.115 (0.268)	0.295 (0.320)

Effect of Sex at 1st Birth on Fertility in Urban Sub-Saharan Africa & South Asia



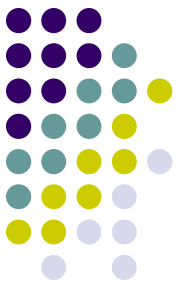
Age of Women:	<u>Number of Children Ever Born</u>				<u>Number of Surviving Children</u>			
	15-44	15-24	25-34	35-44	15-44	15-24	25-34	35-44
Sub-Saharan Africa								
1st 2 children: same sex	0.014* (0.008)	0.012 (0.010)	0.018* (0.010)	0.011 (0.017)	0.012 (0.008)	0.000 (0.012)	0.018* (0.010)	0.008 (0.016)
1st child: boy	-0.005 (0.008)	0.016 (0.010)	-0.002 (0.010)	-0.021 (0.017)	-0.023*** (0.008)	-0.016 (0.012)	-0.027*** (0.010)	-0.024 (0.016)
2nd child: boy	0.012 (0.008)	0.003 (0.010)	0.009 (0.010)	0.015 (0.017)	-0.016** (0.008)	-0.021* (0.012)	-0.008 (0.010)	-0.026 (0.016)
South Asia								
1st 2 children: same sex	0.051*** (0.008)	0.010 (0.014)	0.055*** (0.010)	0.058*** (0.014)	0.046*** (0.008)	0.003 (0.016)	0.051*** (0.010)	0.052*** (0.013)
1st child: boy	-0.086*** (0.008)	-0.026* (0.014)	-0.082*** (0.010)	-0.104*** (0.014)	-0.117*** (0.008)	-0.046*** (0.016)	-0.113*** (0.010)	-0.136*** (0.013)
2nd child: boy	-0.065*** (0.008)	-0.011 (0.014)	-0.060*** (0.010)	-0.083*** (0.014)	-0.089*** (0.008)	0.006 (0.016)	-0.077*** (0.010)	-0.121*** (0.013)

Effect of Sex at 1st Birth on Women's LFP in Urban Sub-Saharan Africa & South Asia



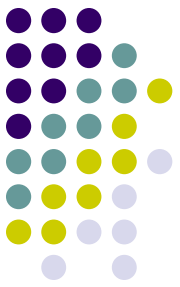
	<u>Labor Force Participation</u>			
	15-44	15-24	25-34	35-44
Sub-Saharan Africa				
1st 2 children: same sex	0.008 (0.017)	0.079* (0.044)	-0.005 (0.024)	-0.004 (0.028)
1st child: boy	-0.036** (0.017)	0.012 (0.044)	-0.050** (0.024)	-0.037 (0.028)
2nd child: boy	-0.016 (0.017)	-0.012 (0.044)	-0.015 (0.024)	-0.023 (0.028)
South Asia				
1st 2 children: same sex	0.031 (0.021)	0.085 (0.085)	0.049 (0.031)	0.005 (0.029)
1st child: boy	-0.101*** (0.021)	0.028 (0.085)	-0.077** (0.032)	-0.142*** (0.029)
2nd child: boy	-0.067*** (0.021)	-0.105 (0.085)	-0.039 (0.032)	-0.090*** (0.029)

Effect of Sex at 1st Birth on Fertility in Rural Sub-Saharan Africa & South Asia



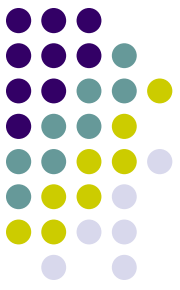
Age of Women:	Number of Children Ever Born				Number of Surviving Children			
	15-44	15-24	25-34	35-44	15-44	15-24	25-34	35-44
Sub-Saharan Africa								
1st 2 children: same sex	0.030*** (0.005)	0.023*** (0.006)	0.027*** (0.007)	0.035*** (0.012)	0.015*** (0.006)	0.004 (0.008)	0.017** (0.007)	0.014 (0.012)
1st child: boy	0.002 (0.005)	0.012* (0.006)	-0.001 (0.007)	0.001 (0.012)	-0.028*** (0.006)	-0.028*** (0.008)	-0.026*** (0.007)	-0.030** (0.012)
2nd child: boy	0.001 (0.005)	-0.004 (0.006)	0.002 (0.007)	-0.001 (0.012)	-0.023*** (0.006)	-0.011 (0.008)	-0.019*** (0.007)	-0.034*** (0.012)
South Asia								
1st 2 children: same sex	0.039*** (0.006)	0.013* (0.008)	0.040*** (0.008)	0.050*** (0.012)	0.034*** (0.006)	-0.020** (0.009)	0.038*** (0.008)	0.049*** (0.012)
1st child: boy	-0.089*** (0.006)	-0.024*** (0.008)	-0.074*** (0.008)	-0.134*** (0.012)	-0.131*** (0.006)	-0.054*** (0.009)	-0.113*** (0.008)	-0.180*** (0.012)
2nd child: boy	-0.063*** (0.006)	-0.029*** (0.008)	-0.054*** (0.008)	-0.086*** (0.012)	-0.084*** (0.006)	-0.033*** (0.009)	-0.068*** (0.008)	-0.119*** (0.012)

Effect of Sex at 1st Birth on Women's LFP in Rural Sub-Saharan Africa & South Asia



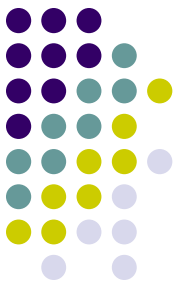
	<u>Labor Force Participation</u>			
	15-44	15-24	25-34	35-44
Sub-Saharan Africa				
1st 2 children: same sex	-0.027** (0.012)	-0.053* (0.029)	-0.020 (0.017)	-0.021 (0.021)
1st child: boy	-0.027** (0.012)	0.030 (0.029)	-0.030* (0.017)	-0.048** (0.021)
2nd child: boy	-0.005 (0.012)	0.024 (0.029)	-0.005 (0.017)	-0.024 (0.021)
South Asia				
1st 2 children: same sex	-0.003 (0.014)	0.047 (0.040)	-0.013 (0.021)	-0.008 (0.023)
1st child: boy	-0.039*** (0.014)	0.098** (0.040)	-0.019 (0.021)	-0.111*** (0.023)
2nd child: boy	-0.024* (0.014)	0.024 (0.040)	-0.019 (0.021)	-0.046** (0.023)

Effect of Sex in 1st Two Births on Fertility in Urban Sub-Saharan Africa & South Asia



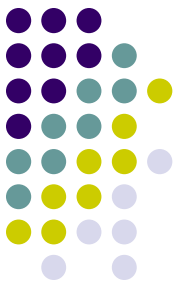
Age of Women:	Number of Children Ever Born				Number of Surviving Children			
	15-44	15-24	25-34	35-44	15-44	15-24	25-34	35-44
Sub-Saharan Africa								
1st child: boy	-0.017 (0.012)	0.013 (0.014)	-0.011 (0.014)	-0.036 (0.024)	-0.006 (0.012)	0.005 (0.017)	-0.019 (0.014)	0.003 (0.023)
1st 2 children: both boys	0.026** (0.012)	0.015 (0.014)	0.028** (0.014)	0.026 (0.024)	-0.005 (0.012)	-0.021 (0.017)	0.010 (0.014)	-0.018 (0.023)
1st 2 children: both girls	0.002 (0.012)	0.009 (0.014)	0.009 (0.014)	-0.004 (0.024)	0.028** (0.012)	0.021 (0.018)	0.026* (0.014)	0.035 (0.023)
South Asia								
1st child: boy	-0.021* (0.012)	-0.016 (0.020)	-0.022 (0.015)	-0.021 (0.020)	-0.028** (0.011)	-0.052** (0.022)	-0.036** (0.014)	-0.015 (0.019)
1st 2 children: both boys	-0.014 (0.011)	-0.001 (0.020)	-0.005 (0.015)	-0.025 (0.020)	-0.043*** (0.011)	0.009 (0.022)	-0.026* (0.014)	-0.069*** (0.019)
1st 2 children: both girls	0.116*** (0.012)	0.020 (0.020)	0.115*** (0.015)	0.141*** (0.021)	0.136*** (0.011)	-0.003 (0.023)	0.128*** (0.014)	0.173*** (0.019)

Effect of Sex in 1st Two Births on LFP in Urban Sub-Saharan Africa & South Asia



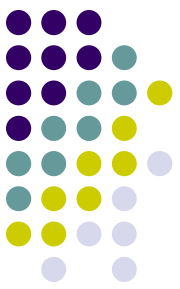
Age of Women:	<u>Labor Force Participation</u>			
	15-44	15-24	25-34	35-44
Sub-Saharan Africa				
1st child: boy	-0.015 (0.023)	0.024 (0.062)	-0.036 (0.033)	-0.015 (0.040)
1st 2 children: both boys	-0.007 (0.023)	0.067 (0.063)	-0.019 (0.033)	-0.027 (0.039)
1st 2 children: both girls	0.019 (0.024)	0.091 (0.063)	0.010 (0.034)	0.018 (0.040)
South Asia				
1st child: boy	-0.034 (0.029)	0.133 (0.121)	-0.038 (0.044)	-0.052 (0.041)
1st 2 children: both boys	-0.026 (0.029)	-0.021 (0.119)	0.010 (0.044)	-0.086** (0.041)
1st 2 children: both girls	0.068** (0.029)	0.190 (0.121)	0.088* (0.045)	0.095** (0.042)

Effect of Sex in 1st Two Births on Fertility in Rural Sub-Saharan Africa & South Asia



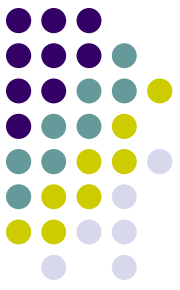
Age of Women:	Number of Children Ever Born				Number of Surviving Children			
	15-44	15-24	25-34	35-44	15-44	15-24	25-34	35-44
Sub-Saharan Africa								
1st child: boy	0.002 (0.008)	0.015* (0.008)	-0.002 (0.009)	0.002 (0.017)	-0.004 (0.008)	-0.017 (0.011)	-0.007 (0.010)	0.004 (0.017)
1st 2 children: both boys	0.031*** (0.008)	0.020** (0.008)	0.029*** (0.009)	0.034** (0.017)	-0.008 (0.008)	-0.007 (0.011)	-0.001 (0.010)	-0.020 (0.017)
1st 2 children: both girls	0.030*** (0.008)	0.027*** (0.009)	0.025*** (0.009)	0.036** (0.017)	0.038*** (0.008)	0.014 (0.011)	0.036*** (0.010)	0.048*** (0.017)
South Asia								
1st child: boy	-0.026*** (0.009)	0.005 (0.011)	-0.021* (0.011)	-0.047*** (0.017)	-0.048*** (0.008)	-0.021 (0.013)	-0.045*** (0.011)	-0.061*** (0.017)
1st 2 children: both boys	-0.024*** (0.008)	-0.016 (0.011)	-0.013 (0.011)	-0.037** (0.017)	-0.050*** (0.008)	-0.053*** (0.013)	-0.030*** (0.011)	-0.070*** (0.016)
1st 2 children: both girls	0.102*** (0.009)	0.043*** (0.012)	0.094*** (0.011)	0.136*** (0.018)	0.117*** (0.008)	0.014 (0.013)	0.106*** (0.011)	0.168*** (0.017)

Effect of Sex in 1st Two Births on LFP in Rural Sub-Saharan Africa & South Asia



Age of Women:	<u>Labor Force Participation</u>			
	15-44	15-24	25-34	35-44
Sub-Saharan Africa				
1st child: boy	-0.022 (0.017)	0.006 (0.042)	-0.025 (0.025)	-0.025 (0.030)
1st 2 children: both boys	-0.032* (0.017)	-0.029 (0.041)	-0.025 (0.024)	-0.045 (0.029)
1st 2 children: both girls	-0.021 (0.017)	-0.077* (0.042)	-0.016 (0.025)	0.002 (0.030)
South Asia				
1st child: boy	-0.015 (0.020)	0.074 (0.056)	0.000 (0.029)	-0.065** (0.033)
1st 2 children: both boys	-0.028 (0.020)	0.071 (0.055)	-0.032 (0.029)	-0.054* (0.032)
1st 2 children: both girls	0.021 (0.021)	0.023 (0.057)	0.006 (0.030)	0.039 (0.033)

Summary of Findings

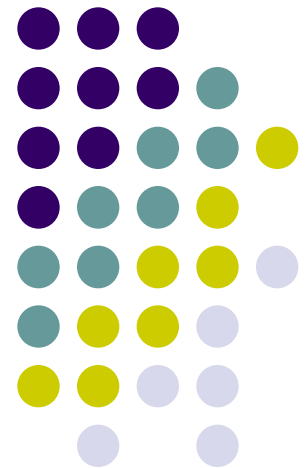


- Decisions regarding fertility and labor depend on a woman's age and geographic location
- Women have more children if they had twins in the first birth or if the first two births were the same sex
- South Asian women have fewer children if either or both of their first two children born were sons
- Many women in developing countries (like U.S. women) are less likely to work when they have more children
- But some are more likely to work, possibly because of:
 - Tight budget constraints
 - High infant and child mortality rates
 - Ability to work from home
 - Improved bargaining power
 - Sons provide old-age insurance
 - Women breastfeed sons longer than daughters
 - Daughters substitute for mothers' time in household production

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DHS Surveys in Analysis



Country	Survey Years	Country	Survey Years
Armenia	2000-2005	Lesotho	2004-05
Bangladesh	1993-2000, 2004	Liberia	2006-07
Benin	1996, 2001, 2006	Madagascar	1997, 2003-04
Bolivia	1993-98, 2003-04	Malawi	2000-05
Brazil	1996	Mali	1995-96, 2001, 2006
Burkina Faso	1998-99, 2003	Mauritania	2000-01
Cambodia	2000, 2005-06	Moldova	2005
Cameroon	1998, 2004	Morocco	2003-04
CAR	1994-95	Mozambique	1997, 2003-04
Chad	1996-97	Namibia	2000, 2006-07
Colombia	1996, 2000-05	Nepal	1996, 2001, 2006
Comoros	1996	Nepal	1996
Congo (Brazzaville)	2005	Nicaragua	1997-98, 2001
Cote d'Ivoire	1994-99	Niger	1998, 2006
Dominican Republic	1996-99, 2002, 2007	Nigeria	1999, 2003
Egypt	1995-96, 2000-05	Pakistan	2006-07
Eritrea	1995-96	Peru	1996, 2000-05
Ethiopia	1992-97	Philippines	1998, 2003
Gabon	2000-01	Rwanda	2000-05
Ghana	1998-99, 2003	Senegal	2005
Guatemala	1995-99	South Africa	1998
Guinea	1999, 2005	Tanzania	1996-99, 2004-05
Haiti	1994-95, 2000, 2005-06	Togo	1998-99
Honduras	2005-06	Turkey	1998, 2003-04
India	1998-2000, 2005-6	Uganda	1995, 2000-01, 2006
Indonesia	1994-97, 2002-03	Uzbekistan	1996
Jordan	1997, 2002, 2007	Vietnam	1997-2002
Kazakhstan	1995-99	Yemen	1997
Kenya	1998, 2003	Zambia	1996-97, 2001-02
Kyrgyz Republic	1997	Zimbabwe	1994

