Online Appendix: Effects of Motherhood Timing, Breast Milk Substitutes and Education on the Duration of Breastfeeding: Evidence from Egypt

1 Nevo and Rosen Bounds

We use the Nevo and Rosen (2012) bounding approach to account for the presence of non-random miscarriages.[1] To implement the Nevo and Rosen (2012) bounding approach, we formally define our first instrument $z_1 = \Delta\widehat{ABG}_{art}$ as the predicted change in age of first birth by region and the second instrument z_2 as the negative sign of the compulsory years of schooling.[2] Formally, we define the instrument as follows:

$$z_m = \gamma Z_2 - (1-\gamma)Z_1$$

where $\gamma \in (0, 1)$.

The first stage of the 2SLS results in Appendix Table A2 show that both z_1 and z_2 are positively associated with A_m. Thus, the mother's age of first birth is also positively associated with the instrument z_m. Figure 1 in the text and the first stage results in the Appendix imply that both instruments z_1 and z_2 are positively correlated with the unobservables that affect the duration of breastfeeding. That is:

$$\sigma_{z_1 u_m} < 0 \quad \text{and} \quad \sigma_{z_2 u_m} < 0$$

Given this setting, we can directly apply the Nevo and Rosen (2012) framework to obtain the upper and lower bounds of the 2SLS estimator.

To apply the bounding approach in the presence of additional regressors, Nevo and Rosen (2012) first suggest that to partial out the effects of all other covariates $W_m = [X_m\, \alpha\, \gamma]$ in equation (1). We denote the residuals from regressing y on z_m as $\tilde{y}$ and A_m on W as $\tilde{A}_m$.

[1] Hotz et al. (1997) implement nonparametric bounds; however, this approach uses a much stronger assumption than the Nevo and Rosen (2012).

[2] Note that adding a negative sign in an instrument does not affect the 2SLS estimates and also the standard errors. We add that negative sign to make sure that we can apply the Nevo and Rosen (2012) bounding approach.

Thus, we can rewrite equation (1) as follows:

$$\tilde{y}_i = \beta_1 \tilde{A}_m + u_m \tag{1}$$

To obtain the sharp bounds for β_1 from equation (3), first we restate the necessary assumptions from Nevo and Rosen (2012) and discuss whether those assumptions are satisfied in our setting.

A1. The observations (y_i, A_m, W_m, z_m), we set $i = 1$ for the first child and $m = 1, ..., n$, are stationary and weakly dependent.

A2. All control variables are uncorrelated with u_m, $E(W_m u_m) = 0$.

A3. The correlations between our endogenous regressor $\tilde{A}_m$ and u_m and the imperfect instrument z_m and u_m have the same sign, that is, $\rho_{\tilde{A}u} \times \rho_{z_1 u} \geq 0$ and $\rho_{\tilde{A}u} \times \rho_{z_2 u} \geq 0$.

A4. The imperfect instrument z_m is less endogenous than our endogenous regressor $\tilde{A}_m$, which implies that $|\rho_{\tilde{A}u}| \geq |\rho_{\tilde{z}u}|$.

A5. The standard rank and order conditions are satisfied, $Rank\Big(E\big(z_m, W_m\big)'\big(z_m, W_m\big)\Big) = Rank\Big(E\big(A_m, W_m\big)'\big(A_m, W_m\big)\Big) = Rank\Big(E\big(z_m, W_m\big)'\big(A_m, W_m\big)\Big) = k + 1$, where k is the column dimension of W_m.

Assumptions A1, A2 and A5 are standard in the literature. The key identifying assumptions for obtaining the bounds are A3 and A4. In our setup, A3 implies that the correlation between u_m and the unexplained decision-making part of age at first birth ($\tilde{A}_m$), and the imperfect instrument z_m and u_m have the same sign. Based on our previous discussion, we infer that $\rho_{\tilde{A}u} < 0$ and $\rho_{zu} < 0$. Thus, assumption A3 seems to hold in our setup. A4 implies that the instrumental variable z_m is less endogenous than the first motherhood timing. The identification of the Nevo and Rosen (2012) bounding approach mainly depends on this assumption because if this assumption does not hold, then the IV estimator are more biased than the simple OLS estimator.

The assumption A4 seems quite plausible in our setting for a couple of reasons. Since Egypt have 22 regions, each region has a significant amount of population. Thus, the predicted regional changes in age of first birth for different age categories are directed related to the unobserved characteristics of individual mothers. As we explained in Section 2.3, the indirect correlation may only exists through the regional shares of age-specific first birth. If there exists a weak indirect correlation between z_1 and u_m, it must be less than the strong direct correlation between u_m and an individual mother's first motherhood timing. We already argued that the z_2 has probably no significant correlation with u_m because the law is passed by Egyptian government and it is implemented across all the regions. Therefore, it seems plausible that in our setting the assumption A4 also holds.

Since both $\sigma_{z_1 u_m}$ and $\sigma_{z_2 u_m}$ are negative and our combined instrument z_m is a linear combination of z_1 and z_2, we find that in our setup $\sigma_{z_m u_m} < 0$. To apply the Nevo and Rosen (2012) Proposition 5 result, we also need to check which inequality $\sigma_{\tilde{A}z_j}\left(\sigma_{\tilde{A}A}\sigma_{z_j} - \sigma_A \sigma_{\tilde{A}z_j}\right) \lesseqgtr 0$ holds in our setup for $j = 1, 2$. Since we have already shown that $\sigma_{\tilde{A}z_j} > 0$ for $j = 1, 2$, we only need to find the sign of $\left(\sigma_{\tilde{A}A}\sigma_{z_j} - \sigma_A \sigma_{\tilde{A}z_j}\right)$ $j = 1, 2$.[3] Using our sample data, we find that $\left(\sigma_{\tilde{A}A}\sigma_z - \sigma_A \sigma_{\tilde{A}z}\right) > 0$. Therefore, the other regularity condition of Nevo and Rosen (2012) Proposition 5 in our setting is:

$$\left(\sigma_{\tilde{A}A}\sigma_{z_j} - \sigma_A \sigma_{\tilde{A}z_j}\right)\sigma_{\tilde{A}z_j} > 0 \tag{2}$$

for $j = 1, 2$. Given that the conditions in equations (2) and assumptions A1-A5 hold for both z_1 and z_2, Nevo and Rosen (2012) Proposition 5 shows the following two-sided bounds of β:

$$\beta_{z_m(\gamma)} \leq \beta \leq min\left\{\beta^{IV}_{z1}, \beta^{IV}_{z_2}, \beta^{IV}_{\nu_1(1)}, \beta^{IV}_{\nu_2(1)}, \beta^{IV}_{\nu^*_1(1)}\right\} \tag{3}$$

where $\beta^{IV}_{\nu_1(1)}$, $\beta^{IV}_{\nu_2(1)}$, $\beta_{z_m(\gamma)}$, and $\beta^{IV}_{\nu^*_1(1)}$ are defined by using $\nu(1)$, $\nu(2)$ and $z_m(\gamma)$. Nevo and

[3] This expression can be simplified as $\sigma_{\tilde{A}A}\sigma_{z_j} - \sigma_A \sigma_{\tilde{A}z_j} = \sigma_{z_j}\sigma_A\left(\sigma_{\tilde{A}A}/\sigma_A - \sigma_{\tilde{A}z_j}/\sigma_{z_j}\right) = \sigma_{z_j}\sigma_A(\delta_1\sigma_A - \delta_2\sigma_{z_j})$, where δ_1 and δ_2 are the OLS regression coefficients obtained from regressing $\tilde{A}$ on A and z_j, respectively.

Rosen (2012) introduce a modified instrument, $\nu(\eta)$, which is constructed as follows:

$$\nu_j(\eta) = \sigma_{\tilde{A}} z_j - \eta \sigma_{z_j} \tilde{A}_m \quad \text{for} \;\; j = 1, 2. \tag{4}$$

where $\eta = \rho_{z_j u}/\rho_{\tilde{A}u}$. Note that assumption A3 implies that $\eta \geq 0$ and assumption A4 provides an upper bound of η, that is, $\eta \leq 1$. Combining these two inequalities, we get $0 \leq \eta \leq 1$.

To verify that $\nu(\eta)$ is a valid instrument, Nevo and Rosen (2012) show that

$$\begin{aligned} E\Big(\nu_j\big(\eta\big) u_m\Big) &= E\Big(\big(\sigma_{\tilde{A}_m} z_j - \eta \sigma_{z_j} \tilde{A}_m\big) u_m\Big) \\ &= \sigma_{\tilde{A}} \sigma_{z_j u} - \left(\frac{\rho_{z_j u}}{\rho_{\tilde{A}u}}\right) \sigma_z \sigma_{\tilde{A}u} = \sigma_{\tilde{A}} \sigma_{z_j u} - \sigma_{\tilde{A}} \sigma_{z_j u} = 0 \end{aligned} \tag{5}$$

for $\eta \in [0, 1]$. Similarly, to equation (4), Nevo and Rosen (2012) define $\nu^*(1) = \sigma_{\tilde{A}} z_m - \sigma_z \tilde{A}_m$. Following the similar steps as shows in equation (5), we can also show that $E\Big(\nu^*\big(\eta\big) u_m\Big) = 0$.

The intuition behind the Nevo and Rosen (2012) two-sided bound is that when $\eta = 1$, the Nevo and Rosen (2012) modified instrument $\nu_j(1)$ can be expressed as

$$\nu_j(1) = \sigma_{\tilde{A}} z_j - \sigma_z \tilde{A}_m = \sigma_{z_j} \sigma_{\tilde{A}} \left(\frac{z_j}{\sigma_{z_j}} - \frac{\tilde{A}_m}{\sigma_{\tilde{A}}}\right) = \sigma_{z_j} \sigma_{\tilde{A}} \Big(z'_j - \tilde{A}'_m\Big) \tag{6}$$

where $z'_j = z_j/\sigma_{z_j}$ and $\tilde{A}'_m = \tilde{A}_m/\sigma_{\tilde{A}}$. Thus, equation (6) implies that the Nevo and Rosen modified instrument $\nu_j(1)$ uses only a part of z_j that is not related with $\tilde{A}_m$. Using the regularity condition, $\big(\sigma_{\tilde{A}A} \sigma_{z_j} - \sigma_A \sigma_{\tilde{A} z_j}\big) > 0$ for $j = 1, 2$, Nevo and Rosen (2012) Proposition 5 shows that Nevo and Rosen modified instrument $\nu_j(1)$ and $\nu^*(1)$ provides the two-sided bounds of β in our setup.

To summarize, in this setting, the Nevo and Rosen (2012) approach provides a sharp lower bound of the effect of age at first birth on the duration of breastfeeding that is valid under weaker assumptions than those used in many previous studies. More importantly,

this two-sided lower bounds directly account for any unobserved factors that may lead to a correlation between z_m and the mother's unobserved characteristics related to duration of breastfeeding.

2 Cox Hazard Model

To address the potential concern about the OLS and 2SLS estimates due to the right censoring of the breastfeeding duration, we also estimate a proportional hazard model which accounts for the censoring of completed breastfeeding duration due to the fact that many children in our sample are still being nursed. Thus, the main advantage of the hazard model over the linear regression model is that it imposes no condition on the hazard function $h_0(t)$ and models duration of breastfeeding as having a proportional effect on the hazard rate:

$$h_i(t) = h_0(t) \times exp\Big(\beta_1 A_m + X'_{mt}\beta + \gamma_t + \delta_{at} + u_m\Big) \tag{7}$$

Note that the hazard coefficients are for "survival of breastfeeding" rather than the "wean". Thus, a larger coefficient implies that the variable is associated with a longer duration of breastfeeding.

References

Hotz, Joseph, Charles Mullim, and Seth Sanders. 1997. "Bounding Causal Effects Using Data from a Contaminated Natural Experiment: Analysing the Effects of Teenage Childbearing." *The Review of Economic Studies*, 64(4) 575–603.

Nevo, Aviv, and Adam Rosen. 2012. "Identification With Imperfect Instruments." *The Review of Economics and Statistics*, 94(3) 659–671.

Table 1: Summary Statistics (Mean and Standard Deviation)

		Age at First Birth				
	All	13 to 17	18 to 21	22 to 25	26 to 32	33 to 45
Married	0.984	0.984	0.985	0.986	0.981	0.975
	(0.124)	(0.126)	(0.122)	(0.118)	(0.135)	(0.155)
HouseholdSize	7.165	8.604	7.463	6.288	5.601	5.002
	(4.169)	(4.550)	(4.267)	(3.636)	(3.158)	(2.570)
FemaleHeadHousehold	0.046	0.042	0.044	0.046	0.055	0.072
	(0.208)	(0.201)	(0.205)	(0.209)	(0.227)	(0.259)
SurvivingChildren	0.956	0.940	0.954	0.965	0.969	0.962
(%)	(0.206)	(0.237)	(0.209)	(0.184)	(0.173)	(0.191)
$ChildMortality(Age1to5)$	0.005	0.009	0.005	0.004	0.002	0.002
	(0.072)	(0.096)	(0.072)	(0.061)	(0.047)	(0.044)
$ChildMortality(Age0to1)$	0.044	0.060	0.046	0.035	0.031	0.038
	(0.206)	(0.237)	(0.209)	(0.184)	(0.173)	(0.191)
NoEducation	0.390	0.633	0.416	0.245	0.201	0.269
	(0.488)	(0.482)	(0.493)	(0.430)	(0.401)	(0.444)
PrimaryEducation	0.172	0.229	0.187	0.132	0.113	0.131
	(0.378)	(0.420)	(0.390)	(0.338)	(0.316)	(0.338)
SecondaryEducation	0.356	0.137	0.376	0.464	0.412	0.393
	(0.479)	(0.344)	(0.484)	(0.499)	(0.492)	(0.489)
HigherEducation	0.082	0.001	0.021	0.159	0.274	0.207
	(0.274)	(0.034)	(0.143)	(0.366)	(0.446)	(0.405)
$IdealNoofSon$	1.101	1.349	1.114	1.016	0.916	0.873
	(1.109)	(1.300)	(1.087)	(1.046)	(0.963)	(1.036)
$IdealNoofDaughter$	0.925	1.055	0.941	0.871	0.809	0.834
	(0.879)	(0.974)	(0.872)	(0.823)	(0.849)	(1.040)
No of Observations	52,250	9,684	22,474	13,976	5,685	431

Notes: The summary statistics table reports mean and standard deviations (in parentheses) for the DHS samples of Egypt for 1988, 1992, 1995, 2000, 2004, 2008 and 2014. The completed durations of breastfeeding are estimated via a hazard model. The variable *SurvivingChildren* denotes the fraction of children still alive. $ChildMortality(Age0to1)$ and $ChildMortality(Age1to5)$ are the child mortality rate in that specific age group. $IdealNoofSon$ and $IdealNoofDaughter$ denote mother's ideal number of son and daughter.

Table 2: First Stage Results of the 2SLS Estimation Method

	First Child		All Children	
	(1)	(2)	(3)	(4)
$AverageFirstBirthAgeByRegion$	45.428***	7.364***	58.947***	18.964***
	(0.953)	(0.507)	(0.432)	(0.444)
$YearsofCompulsorySchooling$	-1.020***	-0.207***	-0.224***	-0.126***
	(0.026)	(0.014)	(0.011)	(0.011)
$MilkSubst$		0.094***		-0.017
		(0.018)		(0.016)
$Education - primary_m$		0.096**		0.045
		(0.045)		(0.035)
$Education - Secondary_m$		0.232***		0.591***
		(0.035)		(0.032)
$Education - high_m$		0.601***		1.534***
		(0.056)		(0.056)
$MotherWorking$		0.152***		0.324***
		(0.038)		(0.032)
$DeltaIdeal$				-0.213***
				(0.009)
$DeltaIdeal > 0$				-0.781***
				(0.032)
$Gender$		-0.027		0.016
		(0.024)		(0.022)
$Religion$		-0.050		-0.129**
		(0.056)		(0.053)
$HouseholdHead$		0.000		0.139***
		(0.049)		(0.049)
$Education - primary_f$		0.048		-0.020
		(0.044)		(0.035)
$Education - Secondary_f$		0.046		0.133***
		(0.040)		(0.034)
$Education - high_f$		0.111**		0.272***
		(0.054)		(0.050)
$TotalChildren$		-0.315***		-1.441***
		(0.025)		(0.011)
$Rural$		-0.150***		-0.204***
		(0.032)		(0.029)
Age-month FE	Yes	Yes	Yes	Yes
Birth-year FE	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes
Adjusted R^2	0.186	0.887	0.220	0.669
No of Observations	17,591	13,248	67,213	44,005

Notes: The dependent variable is the mother's age at first birth. All regressions include 50 age-month of birth, 32 birth-year and 22 region fixed effects. Robust standard errors are in parenthesis and are clustered by the mother. $*$, $**$, and $***$ refer to significance at 10%, 5%, and 1% levels.

Table 3: Robustness Check: Adding Birth Order and Birth Order Square as Additional Controls

	OLS	2SLS	IIV Bound		Hazard Model	
	(1)	(2)	(3)	(4)	(5)	(6)
$AgeatFirstBirth$	-0.210***	-0.350***	-0.915***	-0.296***	0.020***	0.038***
	(0.018)	(0.090)	(0.189)	(0.029)	(0.003)	(0.012)
$MilkSubst$	-0.705***	-0.709***	-0.718***	-0.708***	0.522***	0.523***
	(0.063)	(0.063)	(0.064)	(0.063)	(0.013)	(0.013)
$ChildBirthOrder$	-0.060	-0.362*	-1.560***	-0.247**	-0.202***	-0.170***
	(0.106)	(0.216)	(0.414)	(0.118)	(0.014)	(0.028)
$ChildBirthOrderSquare$	-0.032***	-0.019*	0.031*	-0.024***	0.008***	0.006***
	(0.007)	(0.011)	(0.019)	(0.008)	(0.001)	(0.001)
$Education - Primary_m$	-0.376***	-0.367***	-0.340***	-0.369***	0.074***	0.072***
	(0.121)	(0.121)	(0.124)	(0.121)	(0.016)	(0.017)
$Education - Secondary_m$	-0.381***	-0.338***	-0.158	-0.356***	0.127***	0.126***
	(0.111)	(0.114)	(0.126)	(0.111)	(0.016)	(0.016)
$Education - High_m$	-0.063	0.103	0.696**	0.047	0.162***	0.136***
	(0.189)	(0.209)	(0.272)	(0.189)	(0.029)	(0.033)
$MotherWorking$	-0.049	-0.005	0.164	-0.021	0.003	0.000
	(0.110)	(0.113)	(0.127)	(0.110)	(0.015)	(0.016)
$Gender$	-0.432***	-0.428***	-0.420***	-0.429***	0.130***	0.128***
	(0.071)	(0.071)	(0.073)	(0.071)	(0.010)	(0.011)
$Religion$	0.478**	0.468**	0.416**	0.473**	-0.090***	-0.089***
	(0.190)	(0.190)	(0.193)	(0.190)	(0.028)	(0.028)
$HouseholdHead$	0.387**	0.395**	0.428**	0.391**	-0.058**	-0.060**
	(0.176)	(0.177)	(0.183)	(0.177)	(0.024)	(0.024)
$Education - Primary_f$	0.037	0.034	0.028	0.035	0.030*	0.032**
	(0.121)	(0.121)	(0.125)	(0.122)	(0.016)	(0.016)
$Education - Secondary_f$	-0.123	-0.108	-0.049	-0.113	0.026	0.032**
	(0.119)	(0.120)	(0.124)	(0.119)	(0.016)	(0.016)
$Education - High_f$	-0.429**	-0.395**	-0.214	-0.412**	0.087***	0.092***
	(0.171)	(0.173)	(0.187)	(0.171)	(0.024)	(0.024)
$TotalChildren$	0.132*	0.068	-0.200*	0.094	0.170***	0.184***
	(0.073)	(0.085)	(0.116)	(0.074)	(0.009)	(0.011)
$Rural$	0.772***	0.759***	0.680***	0.766***	-0.076***	-0.079***
	(0.112)	(0.112)	(0.116)	(0.112)	(0.016)	(0.016)
Age-month FE	Yes	Yes	Yes	Yes	Yes	Yes
Birth-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.385	0.385	0.353	0.386		
No of Observations	50,364	49,268	49,268	49,268	46,147	45,113

Notes: The dependent variable is average duration of breastfeeding in months for all children. *ChildBirthOrder* denotes the birth order of a child and and *ChildBirthOrderSquare* is the square of the birth order. All regressions include 50 age-month of birth, 32 birth-year and 22 region fixed effects. Robust standard errors are in parenthesis and are clustered by the mother. $*$, $**$, and $***$ refer to significance at 10%, 5%, and 1% levels.

Table 4: First Child: Adding Mother's desire to have more children, unwanted pregnancy, and Mother's Occupation FEs

	OLS	2SLS	IIV Bound		Hazard Model	
	(1)	(2)	(3)	(4)	(5)	(6)
$AgeatFirstBirth$	-0.347***	-0.732**	-0.957**	-0.461***	0.062***	0.119***
	(0.050)	(0.308)	(0.428)	(0.093)	(0.007)	(0.034)
$MilkSubst$	-1.200***	-1.177***	-1.163***	-1.193***	0.633***	0.626***
	(0.099)	(0.101)	(0.103)	(0.099)	(0.021)	(0.023)
$DesireforMoreChildren$	-0.454**	-0.424**	-0.398**	-0.456**	0.049**	0.071***
	(0.190)	(0.192)	(0.195)	(0.189)	(0.024)	(0.025)
$UnwantedPregnancy$	-0.769	-0.760	-0.755	-0.767	0.054	0.091
	(1.602)	(1.654)	(1.690)	(1.613)	(0.223)	(0.222)
$Education - primary_m$	-0.580**	-0.528**	-0.507**	-0.554**	0.099***	0.093**
	(0.249)	(0.250)	(0.253)	(0.248)	(0.039)	(0.039)
$Education - Secondary_m$	-0.409**	-0.319	-0.269	-0.379*	0.138***	0.128***
	(0.195)	(0.207)	(0.220)	(0.196)	(0.030)	(0.031)
$Education - high_m$	-0.023	0.156	0.264	0.026	0.222***	0.185***
	(0.302)	(0.334)	(0.367)	(0.304)	(0.049)	(0.055)
$MotherWorking$	1.217***	1.157**	1.128**	1.191***	-0.264***	-0.211***
	(0.462)	(0.465)	(0.469)	(0.462)	(0.075)	(0.080)
$Gender$	-0.388***	-0.390***	-0.394***	-0.385***	0.120***	0.119***
	(0.134)	(0.135)	(0.136)	(0.134)	(0.021)	(0.021)
$Religion$	0.632**	0.609**	0.601*	0.618**	-0.141***	-0.150***
	(0.307)	(0.309)	(0.311)	(0.308)	(0.048)	(0.047)
$HouseholdHead$	0.186	0.175	0.173	0.177	-0.027	-0.026
	(0.284)	(0.286)	(0.287)	(0.284)	(0.041)	(0.041)
$Education - primary_f$	0.119	0.126	0.136	0.114	0.072*	0.072*
	(0.263)	(0.263)	(0.264)	(0.262)	(0.037)	(0.038)
$Education - Secondary_f$	0.273	0.287	0.299	0.273	0.000	0.001
	(0.229)	(0.231)	(0.232)	(0.229)	(0.037)	(0.037)
$Education - high_f$	-0.377	-0.302	-0.261	-0.352	0.040	0.029
	(0.308)	(0.313)	(0.318)	(0.307)	(0.049)	(0.050)
$Totalchildren$	-0.911***	-1.030***	-1.104***	-0.939***	0.420***	0.502***
	(0.195)	(0.223)	(0.242)	(0.197)	(0.022)	(0.044)
$Rural$	0.596***	0.535***	0.495**	0.584***	-0.055*	-0.049
	(0.183)	(0.188)	(0.196)	(0.183)	(0.029)	(0.030)
Age-month FE	Yes	Yes	Yes	Yes	Yes	Yes
Birth-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Mother's Occupation FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.335	0.332	0.325	0.336		
No of Observations	13,488	13,248	13,248	13,248	12,161	11,941

Notes: The dependent variable is average duration of breastfeeding in months for all children. $DesireforMoreChildren$ is a dummy variable whether mother wanted to have more children at the time of survey. $UnwantedPregnancy$ is also a dummy variable which indicates whether the last child was unplanned or not. There are 10 dummies for mother's occupation which are listed in footnote 24 of the text.

Table 5: All Children: Adding Mother's desire to have more children, unwanted pregnancy, and Mother's Occupation FEs

	OLS	2SLS	IIV Bound		Hazard Model	
	(1)	(2)	(3)	(4)	(5)	(6)
$AgeatFirstBirth$	-0.186***	-0.227**	-1.242***	-0.265***	0.038***	0.052***
	(0.018)	(0.090)	(0.314)	(0.029)	(0.003)	(0.012)
$MilkSubst$	-0.730***	-0.732***	-0.753***	-0.733***	0.559***	0.558***
	(0.063)	(0.063)	(0.066)	(0.063)	(0.012)	(0.013)
$DesireforMoreChildren$	-0.101	-0.099	0.159	-0.089	0.085***	0.088***
	(0.107)	(0.111)	(0.143)	(0.108)	(0.015)	(0.016)
$UnwantedPregnancy$	-0.233*	-0.258*	-0.846***	-0.280**	-0.059***	-0.050**
	(0.140)	(0.152)	(0.244)	(0.142)	(0.019)	(0.021)
$DeltaIdeal$	-0.165***	-0.177***	-0.372***	-0.184***	-0.023***	-0.020***
	(0.040)	(0.043)	(0.075)	(0.040)	(0.005)	(0.006)
$DeltaIdeal > 0$	0.324***	0.290*	-0.701**	0.254**	-0.066***	-0.062***
	(0.123)	(0.153)	(0.338)	(0.126)	(0.017)	(0.020)
$Education - primary_m$	-0.436***	-0.434***	-0.371***	-0.431***	0.083***	0.079***
	(0.131)	(0.131)	(0.143)	(0.131)	(0.018)	(0.018)
$Education - Secondary_m$	-0.361***	-0.344***	0.160	-0.326***	0.140***	0.137***
	(0.115)	(0.123)	(0.198)	(0.116)	(0.018)	(0.020)
$Education - high_m$	-0.082	-0.019	1.260***	0.028	0.177***	0.154***
	(0.197)	(0.224)	(0.448)	(0.199)	(0.034)	(0.040)
$MotherWorking$	1.382***	1.360***	0.978**	1.346***	-0.168***	-0.158***
	(0.336)	(0.339)	(0.396)	(0.338)	(0.052)	(0.055)
$Gender$	-0.409***	-0.405***	-0.359***	-0.403***	0.132***	0.130***
	(0.074)	(0.075)	(0.080)	(0.074)	(0.012)	(0.012)
$Religion$	0.464**	0.456**	0.321	0.451**	-0.116***	-0.117***
	(0.202)	(0.203)	(0.222)	(0.202)	(0.031)	(0.032)
$HouseholdHead$	0.301	0.303	0.408**	0.307*	-0.031	-0.030
	(0.184)	(0.185)	(0.206)	(0.185)	(0.026)	(0.027)
$Education - primary_f$	0.107	0.106	0.130	0.107	0.025	0.028
	(0.131)	(0.131)	(0.141)	(0.131)	(0.018)	(0.018)
$Education - Secondary_f$	-0.082	-0.077	0.085	-0.071	0.025	0.032*
	(0.124)	(0.125)	(0.146)	(0.124)	(0.018)	(0.018)
$Education - high_f$	-0.335*	-0.329*	0.047	-0.315*	0.081***	0.084***
	(0.173)	(0.177)	(0.223)	(0.174)	(0.026)	(0.027)
$Totalchildren$	-0.067	-0.125	-1.628***	-0.180***	0.104***	0.126***
	(0.057)	(0.146)	(0.467)	(0.065)	(0.007)	(0.019)
$Rural$	0.754***	0.754***	0.530***	0.745***	-0.092***	-0.094***
	(0.111)	(0.113)	(0.139)	(0.111)	(0.017)	(0.018)
Age-month FE	Yes	Yes	Yes	Yes	Yes	Yes
Birth-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Mother's Occupation FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.389	0.390	0.353	0.390		
No of Observations	44,951	44,005	44,005	44,005	41,183	40,295

Notes: The dependent variable is average duration of breastfeeding in months for all children. $DesireforMoreChildren$ is a dummy variable whether mother wanted to have more children at the time of survey. $UnwantedPregnancy$ is also a dummy variable which indicates whether the last child was unplanned or not. There are 10 dummies for mother's occupation which are listed in footnote 24 of the text. All regressions include 50 age-month of birth, 32 birth-year and 22 region fixed effects. Robust standard errors are in parenthesis and are clustered by the mother. $*$, $**$, and $***$ refer to significance at 10%, 5%, and 1% levels.

Table 6: Robustness Check: Including Average Gap in Between Subsequent Birth as an Additional Control

	OLS	2SLS	IIV Bound		Hazard Model	
	(1)	(2)	(3)	(4)	(5)	(6)
$AgeatFirstBirth$	-0.040**	-0.114	-1.304***	-0.127***	0.020***	0.031**
	(0.018)	(0.093)	(0.382)	(0.030)	(0.002)	(0.012)
$AverageGapBetween$	0.064***	0.062***	0.021	0.061***	-0.006***	-0.006***
$AllSubsequentBirths$	(0.002)	(0.004)	(0.013)	(0.002)	(0.000)	(0.001)
$MilkSubst$	-1.137***	-1.122***	-0.896***	-1.120***	0.567***	0.563***
	(0.062)	(0.065)	(0.102)	(0.063)	(0.014)	(0.015)
$DeltaIdeal$	-0.279***	-0.294***	-0.480***	-0.295***	-0.013***	-0.012**
	(0.038)	(0.041)	(0.074)	(0.038)	(0.005)	(0.005)
$DeltaIdeal > 0$	0.448***	0.386***	-0.642*	0.375***	-0.036**	-0.028
	(0.108)	(0.135)	(0.355)	(0.111)	(0.015)	(0.019)
$Education - Primary_m$	-0.537***	-0.531***	-0.411***	-0.530***	0.086***	0.083***
	(0.125)	(0.126)	(0.147)	(0.126)	(0.018)	(0.018)
$Education - Secondary_m$	-0.538***	-0.499***	0.216	-0.491***	0.153***	0.150***
	(0.110)	(0.123)	(0.261)	(0.111)	(0.017)	(0.019)
$Education - High_m$	-0.308*	-0.197	1.427**	-0.180	0.188***	0.172***
	(0.184)	(0.220)	(0.560)	(0.186)	(0.030)	(0.036)
$MotherWorking$	-0.034	-0.011	0.331*	-0.007	0.010	0.008
	(0.112)	(0.115)	(0.169)	(0.113)	(0.016)	(0.016)
$Gender$	-0.364***	-0.362***	-0.352***	-0.362***	0.120***	0.118***
	(0.073)	(0.073)	(0.079)	(0.073)	(0.011)	(0.011)
$Religion$	0.485**	0.474**	0.320	0.473**	-0.112***	-0.111***
	(0.197)	(0.199)	(0.225)	(0.198)	(0.031)	(0.031)
$HouseholdHead$	0.307*	0.310*	0.392*	0.311*	-0.053**	-0.055**
	(0.178)	(0.179)	(0.206)	(0.179)	(0.025)	(0.026)
$Education - Primary_f$	0.104	0.105	0.131	0.105	0.030*	0.033*
	(0.125)	(0.126)	(0.141)	(0.126)	(0.017)	(0.017)
$Education - Secondary_f$	-0.159	-0.143	0.105	-0.141	0.042**	0.050***
	(0.120)	(0.122)	(0.161)	(0.120)	(0.017)	(0.017)
$Education - High_f$	-0.469***	-0.443**	0.085	-0.438***	0.093***	0.095***
	(0.168)	(0.173)	(0.257)	(0.169)	(0.025)	(0.025)
$TotalChildren$	0.529***	0.405**	-1.631**	0.383***	0.034***	0.054**
	(0.058)	(0.170)	(0.655)	(0.069)	(0.007)	(0.022)
$Rural$	0.870***	0.857***	0.545***	0.854***	-0.093***	-0.095***
	(0.110)	(0.114)	(0.158)	(0.111)	(0.016)	(0.017)
Age-month FE	Yes	Yes	Yes	Yes	Yes	Yes
Birth-year FE	Yes	Yes	Yes	Yes	Yes	Yes
Region FE	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.409	0.410	0.295	0.410		
No of Observations	44,951	44,005	44,005	44,005	41,183	40,295

Notes: The dependent variable is average duration of breastfeeding in months for all children. $AverageGapBetweenAllSubsequentBirths$ denotes the average gap between all the children. All regressions include 50 age-month of birth, 32 birth-year and 22 region fixed effects. Robust standard errors are in parenthesis and are clustered by the mother. $*$, $**$, and $***$ refer to significance at 10%, 5%, and 1% levels.