

Summary of GMM Estimates

your old pal Jo

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Joint GMM Estimation of Production and Demand - Preferred Specification

	$\epsilon_{\tau,g}$		$\epsilon_{x,H}$		δ_1		δ_2	
	$(\kappa = 0)$	$(\kappa = 1)$	$(\kappa = 0)$	$(\kappa = 1)$	$(\kappa = 0)$	$(\kappa = 1)$	$(\kappa = 0)$	$(\kappa = 1)$
	0.20 (0.05)	0.20 (0.05)	0.49 (0.08)	0.49 (0.08)	0.08 (0.04)	0.12 (0.04)	0.93 (0.01)	0.93 (0.01)
	$\tilde{\phi}_m$: Mother's Time $(\kappa = 0)$	$(\kappa = 1)$	$\tilde{\phi}_f$: Father's Time $(\kappa = 0)$	$(\kappa = 1)$	$\tilde{\phi}_x$: Childcare $(\kappa = 0)$	$(\kappa = 1)$	ϕ_θ : TFP $(\kappa = 0)$	$(\kappa = 1)$
Const.	8.30 (1.96)	8.28 (1.93)	4.07 (1.26)	4.01 (1.24)	-1.19* (0.41)	-1.19 (0.41)	-1.06 (0.40)	-1.46 (0.43)
Single	-0.00* (0.37)	0.03 (0.37)	- -	- -	0.57 (0.21)	0.56 (0.21)	-0.07 (0.06)	-0.10 (0.07)
Type 2	-1.24 (0.61)	-1.24 (0.61)	- -	- -	0.08 (0.31)	0.10 (0.31)	0.23 (0.08)	0.13 (0.10)
Type 3	-2.78* (1.03)	-2.76 (1.01)	- -	- -	0.03 (0.31)	0.04 (0.31)	0.02 (0.12)	-0.16 (0.15)
Mother: Some College	-0.33 (0.44)	-0.33 (0.44)	- -	- -	-0.01 (0.20)	-0.01 (0.20)	0.03 (0.06)	-0.02 (0.07)
Mother: College+	-1.59 (0.72)	-1.57 (0.71)	- -	- -	-0.27 (0.19)	-0.26 (0.19)	0.01 (0.10)	-0.09 (0.11)
Child Age	-0.58 (0.17)	-0.58 (0.17)	-0.47* (0.17)	-0.46 (0.17)	-0.06* (0.03)	-0.06 (0.03)	-0.02 (0.01)	-0.02 (0.02)
Num. Children 0-5	0.52 (0.31)	0.48 (0.30)	0.64 (0.42)	0.62 (0.42)	0.10 (0.12)	0.10 (0.12)	0.15 (0.05)	0.14 (0.05)
Father: College+	- -	- -	-1.03 (0.73)	-1.04 (0.72)	-0.00 (0.25)	-0.01 (0.25)	0.09 (0.08)	0.06 (0.08)
Father: Some College	- -	- -	-0.70 (0.64)	-0.68 (0.63)	-0.67 (0.24)	-0.68 (0.24)	0.30 (0.08)	0.26 (0.09)
ind02	- -	- -	- -	- -	- -	- -	0.14 (0.06)	0.20 (0.07)

Joint GMM Estimation of Demand - Preferred Specification

	$\epsilon_{\tau,g}$		$\epsilon_{x,H}$		Correl. residuals	
	(1)	(2)	(1)	(2)	(1)	(2)
	0.20 (0.05)	0.37 (0.17)	0.52 (0.09)	0.77 (0.09)	0.88	0.88
	$\tilde{\phi}_m$: Mother's Time (1)	(2)	$\tilde{\phi}_f$: Father's Time (1)	(2)	$\tilde{\phi}_x$: Childcare (1)	(2)
Const.	8.32 (1.95)	5.54 (1.67)	4.10 (1.27)	3.35 (0.76)	-1.19 (0.40)	-1.45 (0.28)
Single	0.29 (0.38)	0.11 (0.21)	-	-	0.62 (0.21)	0.63 (0.14)
Type 2	-1.14 (0.59)	-0.49 (0.46)	-	-	0.03 (0.29)	0.00 (0.20)
Type 3	-2.46 (0.95)	-1.08 (0.86)	-	-	-0.04 (0.30)	-0.10 (0.21)
Mother: Some College	-0.44 (0.45)	-0.13 (0.28)	-	-	-0.01 (0.19)	-0.06 (0.13)
Mother: College+	-1.79 (0.76)	-0.76 (0.65)	-	-	-0.20 (0.19)	-0.28 (0.13)
Child Age	-0.60 (0.18)	-0.34 (0.15)	-0.48 (0.18)	-0.24 (0.14)	-0.07 (0.03)	-0.04 (0.02)
Num. Children 0-5	0.34 (0.29)	0.16 (0.18)	0.59 (0.41)	0.29 (0.26)	0.09 (0.12)	0.08 (0.08)
Father: College+	-	-	-1.08 (0.73)	-0.41 (0.45)	0.06 (0.25)	0.01 (0.17)
Father: Some College	-	-	-0.83 (0.66)	-0.22 (0.44)	-0.53 (0.23)	-0.41 (0.16)

Table 1: Joint GMM Estimation - Fully Restricted Case, No Binding Constraints

	$\epsilon_{\tau,g}$				$\epsilon_{x,H}$				δ_1				δ_2		
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)
	0.32 (0.05)	0.26 (0.05)	0.20 (0.05)	0.18 (0.05)	0.52 (0.08)	0.44 (0.08)	0.49 (0.08)	0.50 (0.08)	0.06 (0.04)	0.08 (0.04)	0.08 (0.04)	0.07 (0.04)	0.93 (0.01)	0.93 (0.01)	0.93 (0.01)
	ϕ_m : Mother's Time				ϕ_f : Father's Time				ϕ_x : Childcare				ϕ_θ : TFP		
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)
Constant	5.07 (0.68)	6.32 (1.02)	8.30 (1.96)	13.18 (3.97)	3.27 ⁺ (0.74)	3.49 ⁺ (0.90)	4.07 (1.26)	4.17 (1.41)	-1.17 ⁺ (0.32)	-1.21 ⁺ (0.44)	-1.19 ⁺ (0.41)	-1.45 ⁺ (0.61)	-0.78 (0.46)	-1.18 (0.49)	-1.06 (0.40)
Single	0.13 (0.24)	0.11 ⁺ (0.28)	-0.00 ⁺ (0.37)	0.08 ⁺ (0.41)	-	-	-	-	0.52 ⁺ (0.20)	0.52 (0.24)	0.57 (0.21)	0.60 ⁺ (0.21)	-0.08 (0.06)	-0.07 (0.06)	-0.07 (0.06)
Mother some coll.	-0.19 (0.27)	-	-0.33 (0.44)	-0.39 (0.50)	-	-	-	-	0.04 (0.19)	-	-0.01 (0.20)	0.04 (0.20)	0.07 (0.06)	-	0.03 (0.06)
Mother coll+	-0.83 (0.35)	-	-1.59 (0.72)	-1.74 (0.83)	-	-	-	-	-0.22 (0.18)	-	-0.27 (0.19)	-0.23 (0.19)	0.06 (0.08)	-	0.01 (0.10)
Child's age	-0.36 (0.08)	-0.45 (0.10)	-0.58 (0.17)	-0.65 (0.21)	-0.27 ⁺ (0.08)	-0.34 ⁺ (0.11)	-0.47 ⁺ (0.17)	-0.51 ⁺ (0.21)	-0.06 ⁺ (0.03)	-0.06 ⁺ (0.03)	-0.06 ⁺ (0.03)	-0.06 ⁺ (0.03)	-0.02 (0.01)	-0.02 (0.01)	-0.02 (0.01)
Num. of children 0-5	0.35 (0.18)	0.44 (0.23)	0.52 (0.31)	0.65 (0.36)	0.41 (0.25)	0.46 (0.30)	0.64 (0.42)	0.80 (0.49)	0.10 (0.12)	0.13 (0.14)	0.10 (0.12)	0.10 (0.13)	0.14 (0.05)	0.16 (0.05)	0.15 (0.05)
Type 2	-	-0.81 (0.41)	-1.24 (0.61)	-	-	-	-	-	-	0.12 (0.34)	0.08 (0.31)	-	-	0.23 (0.08)	0.23 (0.08)
Type 3	-	-1.94 (0.61)	-2.78 ⁺ (1.03)	-	-	-	-	-	-	0.08 (0.34)	0.03 (0.31)	-	-	0.01 (0.12)	0.02 (0.12)
μ_k	-	-	-	-3.00 ⁺ (1.21)	-	-	-	-	-	-	-	0.12 ⁺ (0.25)	-	-	-
Father some coll.	-	-	-	-	-0.46 (0.41)	-0.63 (0.50)	-1.03 (0.73)	-1.11 (0.82)	-0.00 (0.24)	0.05 (0.29)	-0.00 (0.25)	-0.03 (0.25)	0.12 (0.08)	0.10 (0.08)	0.09 (0.08)
Father coll+	-	-	-	-	-0.17 (0.36)	-0.23 (0.42)	-0.70 (0.64)	-0.84 (0.72)	-0.66 (0.21)	-0.71 (0.25)	-0.67 (0.24)	-0.73 (0.24)	0.33 (0.08)	0.34 (0.08)	0.30 (0.08)
Year = 2002	-	-	-	-	-	-	-	-	-	-	-	-	0.14 (0.06)	0.16 (0.06)	0.14 (0.06)

Table 2: Joint GMM Estimation - Fully Restricted Case, Unconstrained, Older Children

	ρ				δ_1				δ_2			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
	0.24 (0.06)	0.18 (0.06)	0.11 (0.07)	0.06 (0.07)	-0.02 (0.04)	0.04 (0.05)	-0.02 (0.04)	-0.03 (0.04)	0.97 (0.02)	0.97 (0.02)	0.97 (0.02)	0.97 (0.02)
	ϕ_m : Mother's Time				ϕ_f : Father's Time				ϕ_θ : TFP			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
	6.13 (2.16)	7.93 (3.17)	13.65 (8.64)	40.46 (47.99)	3.84 (2.36)	4.69 (3.21)	7.56 (6.41)	13.02 (16.64)	0.04 (0.47)	-0.46 (0.48)	0.04 (0.47)	0.22 (0.43)
Const.												
Single	0.39 (0.45)	0.42 (0.60)	0.50 (1.02)	0.82 (2.07)	- -	- -	- -	- -	-0.10 (0.08)	-0.14 (0.09)	-0.11 (0.08)	-0.11 (0.08)
Mother: Some College	-0.56 (0.56)	- -	-1.44 (1.55)	-2.58 (3.96)	- -	- -	- -	- -	-0.07 (0.09)	- -	-0.07 (0.09)	-0.06 (0.09)
Mother: College+	-1.19 (0.71)	- -	-3.35 (2.73)	-6.37 (8.46)	- -	- -	- -	- -	0.05 (0.12)	- -	0.05 (0.13)	0.04 (0.13)
Child Age	-0.50 (0.21)	-0.63 (0.31)	-1.07 (0.77)	-1.99 (2.46)	-0.37 (0.24)	-0.54 (0.35)	-1.04 (0.84)	-2.04 (2.65)	-0.01 (0.04)	-0.03 (0.04)	-0.01 (0.04)	-0.01 (0.04)
Num. Children 0-5	0.55 (0.43)	0.95 (0.61)	1.24 (1.14)	2.80 (3.64)	0.56 (0.52)	0.74 (0.70)	1.22 (1.34)	2.24 (3.32)	-0.00 (0.11)	0.01 (0.11)	0.00 (0.10)	0.01 (0.10)
Type 2	- -	-1.55 (1.02)	-3.11 (2.51)	- -	- -	- -	- -	- -	- -	0.00 (0.11)	0.11 (0.12)	- -
Type 3	- -	-3.17 (1.62)	-5.72 (4.27)	- -	- -	- -	- -	- -	- -	-0.16 (0.19)	0.07 (0.17)	- -
μ_k	- -	- -	- -	-12.10 (15.53)	- -	- -	- -	- -	- -	- -	- -	-0.01 (0.20)
Father: College+	- -	- -	- -	- -	-1.26 (0.85)	-1.76 (1.19)	-3.72 (3.12)	-7.77 (10.35)	-0.01 (0.14)	-0.10 (0.14)	-0.01 (0.14)	-0.00 (0.14)
Father: Some College	- -	- -	- -	- -	-0.94 (0.73)	-1.59 (1.07)	-3.44 (2.96)	-7.51 (10.08)	0.33 (0.13)	0.27 (0.14)	0.37 (0.13)	0.38 (0.14)
ind02	- -	- -	- -	- -	- -	- -	- -	- -	0.22 (0.08)	0.23 (0.08)	0.22 (0.08)	0.22 (0.08)

Table 3: Joint GMM Estimation - Unrestricted, No Binding Constraints

	$\epsilon_{\tau,g}$		$\epsilon_{x,H}$		δ_1	δ_2	$2N(Q_N - \tilde{Q}_N)$
	Rel.	Dem.	Prod.	Rel.	Dem.	Prod.	-
	0.18	-		0.51	-		6.52
	(0.05)	-		(0.08)	-		(0.26)
	ϕ_m : Mother's Time		ϕ_f : Father's Time		ϕ_Y : Childcare		ϕ_θ : TFP
	Rel.	Dem.	Prod.	Rel.	Dem.	Prod.	-
Const.	8.87	-		4.19	-		-1.71
	(2.23)			(1.38)			(0.75)
Single	0.02	3.09		-	-		0.08
	(0.40)	(7.21)					(0.21)
Type 2	-1.36	-		-	-		0.20
	(0.67)						(0.13)
Type 3	-3.01	0.64		-	-		0.13
	(1.15)	(5.37)					(0.26)
Mother: Some College	-0.39	-		-	-		0.03
	(0.48)						(0.09)
Mother: College+	-1.76	-		-	-		-0.01
	(0.81)						(0.14)
Child Age	-0.64	-		-0.50	-2.15	-14.94	-0.00
	(0.20)			(0.20)	(876691433.57)	(3599435.10)	(0.03)
Num. Children 0-5	0.52	-		0.69	-		0.16
	(0.33)			(0.46)			(0.07)
Father: College+	-	-		-1.13	-		0.06
				(0.79)			(0.09)
Father: Some College	-	-		-0.78	-		0.27
				(0.70)			(0.11)
ind02	-	-		-	-		0.17
							(0.10)

Note: the distance metric, $2N(Q_N - \tilde{Q}_N)$, is the difference between the optimally weighted gmm criterion at the restricted estimates and its value at the relaxed estimates. It has a χ^2 distribution with degrees of freedom equal to the number of constraints that are relaxed. Standard errors are indicated in parentheses *except* for the distance metric, which reports a p-value.

Table 4: Joint GMM Estimation - Mother's Share Unrestricted, No Borrowing or Saving

	$\epsilon_{\tau,g}$			$\epsilon_{x,H}$			δ_1	δ_2	$2N(Q_N - \tilde{Q}_N)$
	Rel.	Dem.	Prod.	Rel.	Dem.	Prod.	-	-	-
	0.20	-		0.49	-		0.13	0.92	0.34
	(0.05)	-		(0.08)	-		(0.05)	(0.02)	(0.56)
	ϕ_m : Mother's Time			ϕ_f : Father's Time			ϕ_Y : Childcare		ϕ_θ : TFP
	Rel.	Dem.	Prod.	Rel.	Dem.	Prod.	Rel.	Dem.	Prod.
Const.	8.32		10.40	4.02		-	-1.19		-1.69
	(1.96)		(4.98)	(1.26)		-	(0.41)		(0.69)
Single	0.02		-	-		-	0.56		-0.07
	(0.37)					-	(0.21)		(0.07)
Type 2	-1.25		-	-		-	0.10		0.19
	(0.61)					-	(0.31)		(0.15)
Type 3	-2.75		-	-		-	0.04		-0.04
	(1.02)					-	(0.31)		(0.26)
Mother: Some College	-0.33		-	-		-	-0.01		0.00
	(0.44)					-	(0.20)		(0.08)
Mother: College+	-1.58		-	-		-	-0.26		-0.01
	(0.72)					-	(0.19)		(0.17)
Child Age	-0.58		-	-0.46		-	-0.06		-0.00
	(0.17)			(0.17)		-	(0.03)		(0.05)
Num. Children 0-5	0.47		-	0.62		-	0.10		0.13
	(0.30)			(0.41)		-	(0.12)		(0.05)
Father: College+	-		-	-1.05		-	-0.01		0.06
				(0.73)		-	(0.25)		(0.09)
Father: Some College	-		-	-0.70		-	-0.68		0.24
				(0.64)		-	(0.24)		(0.10)
ind02	-		-	-		-	-		0.19
						-			(0.07)

Note: the distance metric, $2N(Q_N - \tilde{Q}_N)$, is the difference between the optimally weighted gmm criterion at the restricted estimates and its value at the relaxed estimates. It has a χ^2 distribution with degrees of freedom equal to the number of constraints that are relaxed. Standard errors are indicated in parentheses *except* for the distance metric, which reports a p-value.

Table 5: Joint GMM Estimation - Mother's Share Unrestricted, No Binding Constraints

	$\epsilon_{\tau,g}$			$\epsilon_{x,H}$			δ_1	δ_2	$2N(Q_N - \tilde{Q}_N)$
	Rel.	Dem.	Prod.	Rel.	Dem.	Prod.	-	-	-
	0.20 (0.05)	- -		0.49 (0.08)	- -		0.08 (0.04)	0.93 (0.01)	0.26 (0.61)
	ϕ_m : Mother's Time			ϕ_f : Father's Time			ϕ_Y : Childcare		ϕ_θ : TFP
	Rel.	Dem.	Prod.	Rel.	Dem.	Prod.	Rel.	Dem.	Prod.
Const.	8.40 (2.00)	10.05 (7.40)		4.08 (1.28)	-		-1.19 (0.41)	-	-1.18 (0.64)
Single	-0.00 (0.38)	-		-	-		0.57 (0.21)	-	-0.05 (0.07)
Type 2	-1.27 (0.62)	-		-	-		0.08 (0.31)	-	0.26 (0.16)
Type 3	-2.81 (1.04)	-		-	-		0.03 (0.31)	-	0.07 (0.29)
Mother: Some College	-0.34 (0.45)	-		-	-		-0.01 (0.20)	-	0.04 (0.08)
Mother: College+	-1.62 (0.73)	-		-	-		-0.27 (0.19)	-	0.05 (0.19)
Child Age	-0.59 (0.18)	-		-0.47 (0.18)	-		-0.06 (0.03)	-	-0.01 (0.05)
Num. Children 0-5	0.52 (0.31)	-		0.65 (0.42)	-		0.10 (0.12)	-	0.15 (0.05)
Father: College+	-	-		-1.05 (0.74)	-		-0.00 (0.25)	-	0.08 (0.08)
Father: Some College	-	-		-0.73 (0.65)	-		-0.67 (0.24)	-	0.29 (0.09)
ind02	-	-		-	-		-	-	0.14 (0.06)

Note: the distance metric, $2N(Q_N - \tilde{Q}_N)$, is the difference between the optimally weighted gmm criterion at the restricted estimates and its value at the relaxed estimates. It has a χ^2 distribution with degrees of freedom equal to the number of constraints that are relaxed. Standard errors are indicated in parentheses *except* for the distance metric, which reports a p-value.