

Beyond Time and Money: Parental Occupation and Early Childhood Development

Supplementary Material

By HYUN SOO SUH*

I. 3SLS Results

The system of equations is as follows:

Child Skill Production

$$(1) \quad \log \theta_{D,t+1} = \alpha_{10,D} \log \theta_{D,t} + \alpha_{11,D} \log \theta_{D',t} + \alpha_{12,D} \tau_t^m + \alpha_{13,D} \tau_t^m \cdot \theta^m + \alpha_{14,D} \tau_t^f \\ + \alpha_{15,D} \tau_t^f \cdot \theta^f + \alpha_{16,D} N_{1,t} + \alpha_{17,D} N_{2,t} + \sum_{g=1}^3 \phi_{g,D}^m d_{g,t}^m + \phi_{2,D}^f d_{2,t}^f + \nu_{D,t}$$

Parental Time Investment

$$(2) \quad \tau_t^i = \alpha_{20}^i \log \theta_{D,t} + \alpha_{21}^i \log \theta_{D',t} + \alpha_{22}^i \theta^i + \sum_{g=1}^3 \phi_{2g}^m d_{g,t}^m + \phi_{23}^f d_{2,t}^f + \alpha_{24}^i \ln y_t^m + \alpha_{25}^i \ln y_t^f + \alpha_{26}^i \mathbf{Z}_t + \varepsilon_{\tau^i,t}$$

Parental Income

$$(3) \quad \log y_t^m = \alpha_{30}^m \theta^m + \alpha_{31}^m \mathbf{A}_t + \sum_{g=1}^3 \phi_{3g}^m d_{g,t}^m + \varepsilon_{y^m,t}, \quad \log y_t^f = \alpha_{30}^f \theta^f + \alpha_{31}^f \mathbf{A}_t + \phi_{32}^f d_{2,t}^f + \varepsilon_{y^f,t}$$

Parental Occupation

$$(4) \quad d_t^m = \sum_{g=1}^3 \phi_{4g}^m d_{g,t-1}^m + \alpha_{41}^m \theta^m + \varepsilon_{d^m,t}, \quad d_t^f = \phi_{42}^f d_{2,t-1}^f + \alpha_{41}^f \theta^f + \varepsilon_{d^f,t}$$

Estimates for Equation 1 are reported in the main article. The supplementary material reports the remaining 3SLS estimates: parental time investments (Equation 2, Table 1), parental income (Equation 3, Table 2), and parental occupation choice (Equation 4, Table 3).

* Suh: Washington University in St. Louis (hyunsoo@wustl.edu).

Table 1— 3SLS Results - Parental Time Investments

	Mother (1)	Father (2)
<i>At time t</i>		
<i>Parent Human Capital</i>		
Mother's College	-0.155*** (0.006)	
Father's College		-0.0114 (0.009)
<i>Child's Skills</i>		
Log(Cognitive)	-0.00888*** (0.002)	-0.00671*** (0.003)
Log(Non-Cognitive)	0.00356 (0.002)	0.00389 (0.003)
<i>Mother's Occupation (ref: NW)</i>		
Mother PE/PT	0.296*** (0.103)	-0.0309 (0.102)
Mother PE/FT	-0.0539 (0.115)	-0.0606 (0.115)
Mother SE	0.187* (0.097)	-0.0269 (0.096)
<i>Father's Occupation (ref: PE)</i>		
Father SE	0.0393*** (0.007)	-0.0866*** (0.008)
<i>Parent Income</i>		
Log(Mother's Income)	-0.0655*** (0.011)	-0.000294 (0.011)
Log(Father's Income)	0.110*** (0.010)	-0.0136 (0.018)
<i>Family Characteristics</i>		
Fraction fem. siblings age < 3	0.0563*** (0.006)	0.0228*** (0.007)
Fraction fem. siblings age 3 – 6	0.0708*** (0.006)	0.0343*** (0.007)
Constant	6.104*** (0.108)	5.740*** (0.187)
Observations	3969	

Note: Cognitive ability is measured using age-appropriate assessments: the Denver Developmental Screening Test (Communicative) at 9 months, and the British Ability Scales (BAS) verbal at ages 3, 5, and 7. Non-cognitive ability is measured using the Carey Temperament Scale (Mood) at 9 months and the Total Difficulties Score from the Strengths and Difficulties Questionnaire (SDQ) at ages 3 to 7. PE/PT = paid employed, part-time (less than or equal to 30 hours per week); PE/FT = paid employed, full-time (more than 30 hours per week); SE = self-employed (incorporated or unincorporated); NW = non-working. Standard errors are clustered at the child level and reported in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 2— 3SLS Results - Parental Income

	Log(Annual Income) _t	
	Mother (1)	Father (2)
<i>At time t</i>		
<i>Parent Characteristics</i>		
Age ²	-0.00118 (0.006)	-0.00312 (0.002)
Age ³	0.00000704 (0.000)	0.0000130 (0.000)
Age	0.0619 (0.219)	0.199** (0.096)
College=1	-0.512*** (0.194)	0.225 (0.151)
College=1 × Age	0.0241*** (0.005)	0.00512 (0.004)
<i>Occupation (ref: PE for Father, NW for Mother)</i>		
PE/PT	9.119*** (0.023)	
PE/FT	10.21*** (0.033)	
SE	8.663*** (0.044)	-0.237*** (0.027)
Constant	-1.164 (2.511)	6.477*** (1.227)
Observations	3969	

Note: Age refers to mother's age in column (1) and father's age in column (2). College refers to mother's college degree attainment in column (1) and that of father's in column (2). PE/PT = paid employed, part-time (less than or equal to 30 hours per week); PE/FT = paid employed, full-time (more than 30 hours per week); SE = self-employed (incorporated or unincorporated); NW = non-working. Standard errors are clustered at the child level and are in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3— 3SLS Results - Parental Occupational Choice

	Mother PE/PT (1)	Mother PE/FT (2)	Mother SE (3)	Father SE (4)
<i>Mother's Occupation (ref: NW)</i>				
Mother PE/PT	0.416*** (0.015)	0.0303*** (0.009)	-0.0198*** (0.007)	
Mother PE/FT	-0.101*** (0.022)	0.591*** (0.013)	-0.0333*** (0.010)	
Mother SE	-0.137*** (0.033)	0.0102 (0.020)	0.651*** (0.015)	
Mother's College	-0.00309 (0.015)	0.0109 (0.009)	-0.00316 (0.007)	
<i>Father's Occupation (ref: PE)</i>				
Father SE				0.784*** (0.010)
Father's College				-0.0154* (0.008)
Constant	0.271*** (0.011)	0.0281*** (0.007)	0.0453*** (0.005)	0.0475*** (0.005)
Observations	3969			

Note: PE/PT = paid employed, part-time (less than or equal to 30 hours per week); PE/FT = paid employed, full-time (more than 30 hours per week); SE = self-employed (incorporated or unincorporated); NW = non-working. Standard errors are clustered at the child level and are in parentheses.

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