

Online Appendix: Intergenerational mobility in Latin America: the multiple facets of social status and the role of mothers*

Matías Ciaschi

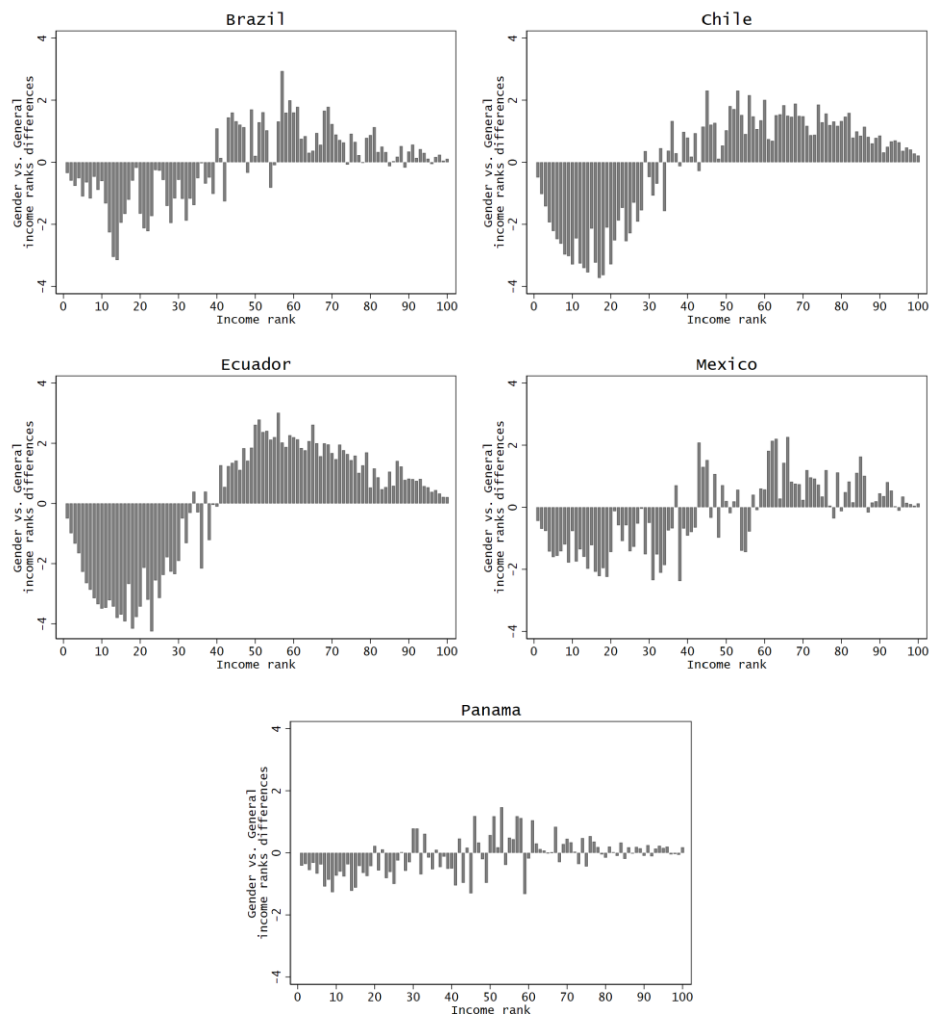
Mariana Marchionni

Guido Neidhöfer

A Descriptive statistics

A.1 Income ranks comparison

Figure A.1: Income ranks comparison: within and not within gender



Source: own estimates based on household surveys.

Notes: The y-axis shows the average difference for each of the cohort-gender income ranks (that we use in this paper) compared to the cohort income ranks, i.e., not computed within gender.

A.2 Children's characteristics

Table A.1: Children's descriptive statistics

	Children's cohort	Age	% Male	Education (years)	Income rank
Brazil					
	All	45.2	46.6	8.9	50.8
	[1940-1944]	72.0	41.8	4.9	49.1
	[1985-1989]	27.1	47.2	11.1	51.0
Chile					
	All	44.6	41.1	10.9	58.1
	[1940-1944]	66.8	45.3	7.9	60.6
	[1985-1989]	23.6	34.8	12.0	59.4
Ecuador					
	All	40.8	47.6	8.5	51.8
	[1940-1944]	59.7	48.5	5.4	51.1
	[1985-1989]	27.1	44.4	10.2	53.7
Mexico					
	All	41.7	60.8	8.6	51.0
	[1940-1944]	63.0	86.1	4.5	48.4
	[1985-1989]	26.6	46.5	10.9	52.3
Panama					
	All	41.4	47.2	9.1	54.2
	[1940-1944]	59.2	50.0	6.9	54.5
	[1985-1989]	23.0	48.4	10.0	57.6
Average					
	All	42.7	48.7	9.2	53.2
	[1940-1944]	64.1	54.3	5.9	52.7
	[1985-1989]	25.5	44.3	10.8	54.8

Source: own estimates based on household surveys.

Table A.2: Parents' descriptive statistics

Children's cohort	Father								Mother							
	Education (years)	Occupation (%)							Education (years)	Occupation (%)						
		Employer	Self-employed	Agricultural	Employee	Domestic Service	Non-employed			Employer	Self-employed	Agricultural	Employee	Domestic Service	Non-employed	
Brazil																
All	4.0	4.5	15.5	39.2	36.2	0.5	4.0		3.9	0.9	7.0	19.4	13.3	6.3	53.1	
[1940-1944]	2.3	3.5	12.9	58.9	19.7	0.7	4.3		1.8	0.6	7.2	28.0	4.6	3.7	55.9	
[1985-1989]	5.7	5.4	18.2	27.1	43.3	0.9	5.3		6.0	1.5	7.6	13.5	20.9	10.2	46.2	
Chile																
All	6.7	3.9	23.8	.	71.4	0.1	0.9		6.2	0.9	8.7	.	17.7	6.5	66.2	
[1940-1944]	4.8	4.0	28.1	.	66.9	0.0	1.0		4.2	0.7	7.6	.	12.3	5.0	74.3	
[1985-1989]	9.2	3.5	23.0	.	72.3	0.0	1.2		8.7	0.8	7.6	.	30.6	7.9	53.2	
Ecuador																
All	5.1	1.4	24.0	49.8	23.4	0.1	1.3		4.6	0.3	11.4	9.7	6.0	2.0	70.6	
[1940-1944]	4.0	1.7	20.4	58.5	17.6	0.0	1.8		3.4	0.1	9.1	12.0	3.0	1.4	74.3	
[1985-1989]	6.4	0.7	26.5	41.9	29.7	0.1	1.1		6.0	0.3	14.5	10.8	11.4	4.3	58.6	
Mexico																
All	4.1	3.7	19.6	33.6	31.9	0.2	10.9		3.8	1.2	11.5	5.0	13.6	3.5	65.2	
[1940-1944]	2.3	1.7	11.2	65.4	16.6	0.4	4.7		1.8	0.0	5.7	12.4	6.3	3.3	72.3	
[1985-1989]	6.7	4.9	26.4	12.3	37.8	0.4	18.2		6.8	0.8	16.8	2.5	21.9	6.0	52.1	
Panama																
All	5.3	2.5	19.2	40.6	32.3	0.2	5.2		4.9	0.5	4.9	3.8	13.0	3.7	74.2	
[1940-1944]	3.8	2.7	19.3	51.3	23.2	0.2	3.2		3.4	0.4	5.0	3.5	6.1	3.1	81.9	
[1985-1989]	7.4	7.2	18.8	28.5	43.9	0.1	1.4		7.2	1.2	3.5	1.9	18.1	5.0	70.3	
Average																
All	5.0	3.2	20.4	40.8	39.0	0.2	4.5		4.7	0.8	8.7	9.5	12.7	4.4	65.9	
[1940-1944]	3.4	2.7	18.4	58.5	28.8	0.3	3.0		2.9	0.4	6.9	14.0	6.5	3.3	71.8	
[1985-1989]	7.1	4.3	22.6	27.5	45.4	0.3	5.4		7.0	0.9	10.0	7.2	20.6	6.7	56.1	

Source: own estimates based on household surveys.

Table A.3: Summary of main estimates. Children’s education

		Father					Mother						
		Education	Occupation					Education	Occupation				
Country	Parameter		Employer	Self-employed	Agricultural	Employee	Domestic Service		Employer	Self-employed	Agricultural	Employee	Domestic Service
Brazil	ρ	1	0.0165	0.0195	0.0991	0.0657	0.0006	0.9478	0.0032	0.0104	0.0615	0.0279	0.0035
Chile		1	0.0068	0.0046	0.0000	0.0032	0.0001	0.9190	0.0020	0.0035	0.0000	0.0194	0.0064
Ecuador		1	0.0040	0.0325	0.0901	0.0535	0.0001	0.9526	0.0010	0.0155	0.0285	0.0208	0.0020
Mexico		1	0.0088	0.0141	0.0715	0.0582	0.0003	0.8964	0.0028	0.0108	0.0110	0.0274	0.0035
Panama		1	0.0049	0.0129	0.0794	0.0601	0.0002	0.9714	0.0018	0.0066	0.0113	0.0408	0.0025
Brazil	φ	0.3111	1.9869	1.2903	0.9946	1.3423	1.2713	0.3301	0.8241	0.7848	1.9090	0.2136	0.3905
Chile		0.2578	1.2465	0.7044	0.0000	0.6300	1.3185	0.2547	0.8459	0.2671	0.0000	0.2128	0.4282
Ecuador		0.3307	1.6639	1.1577	0.7044	1.3227	1.3916	0.3859	1.8384	0.7206	1.3578	0.5392	0.7339
Mexico		0.3125	1.5429	0.7599	0.8327	0.8145	0.9917	0.3165	0.7849	0.6845	1.0471	0.4470	0.5520
Panama		0.2919	0.7768	0.7057	1.4608	0.8369	1.7517	0.3751	2.4034	0.9163	1.5465	0.8557	0.8421

Source: own estimates based on household surveys. Simple average across cohorts.

Table A.4: Summary of main estimates. Children's income rank

Country	Parameter	Father						Mother					
		Education	Occupation					Education	Occupation				
			Employer	Self-employed	Agricultural	Employee	Domestic Service		Employer	Self-employed	Agricultural	Employee	Domestic Service
Brazil	ρ	1	0.0186	0.0116	0.0781	0.0488	0.0006	0.9160	0.0038	0.0062	0.0537	0.0246	0.0063
Chile		1	0.0098	0.0047	0.0000	0.0126	0.0002	0.9151	0.0035	0.0059	0.0000	0.0221	0.0063
Ecuador		1	0.0049	0.0358	0.0954	0.0539	0.0003	0.9260	0.0014	0.0183	0.0268	0.0207	0.0019
Mexico		1	0.0157	0.0254	0.1024	0.0685	0.0003	0.9028	0.0055	0.0143	0.0123	0.0175	0.0051
Panama		1	0.0100	0.0130	0.0840	0.0599	0.0004	1.0010	0.0015	0.0064	0.0107	0.0420	0.0048
Brazil	φ	0.0180	0.1245	0.0467	0.0495	0.0336	0.0743	0.0129	0.0970	0.0262	0.1017	0.0286	0.0456
Chile		0.0133	0.0990	0.0765	0.0000	0.0771	0.1918	0.0127	0.1078	0.0329	0.0000	0.0227	0.0349
Ecuador		0.0135	0.0717	0.0562	0.0695	0.0514	0.1233	0.0130	0.1381	0.0422	0.0396	0.0250	0.0360
Mexico		0.0159	0.0987	0.0475	0.1327	0.0431	0.0818	0.0148	0.1151	0.0629	0.0894	0.0425	0.0459
Panama		0.0118	0.1270	0.0965	0.1050	0.1066	0.0649	0.0181	0.0890	0.0521	0.1013	0.0375	0.0747

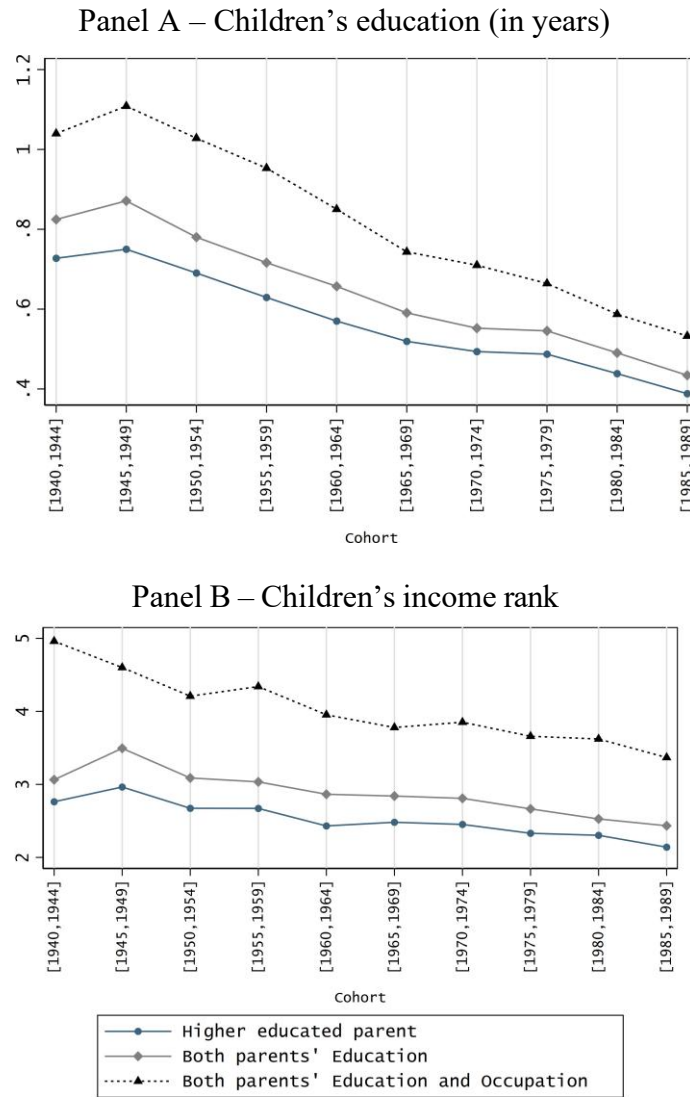
Source: own estimates based on household surveys. Simple average across cohorts.

B Additional results

B.1 Relevance of parents' occupation in intergenerational persistence

B.1.1 Unweighted average

Figure A.2: Intergenerational persistence (unweighted average). LW estimates



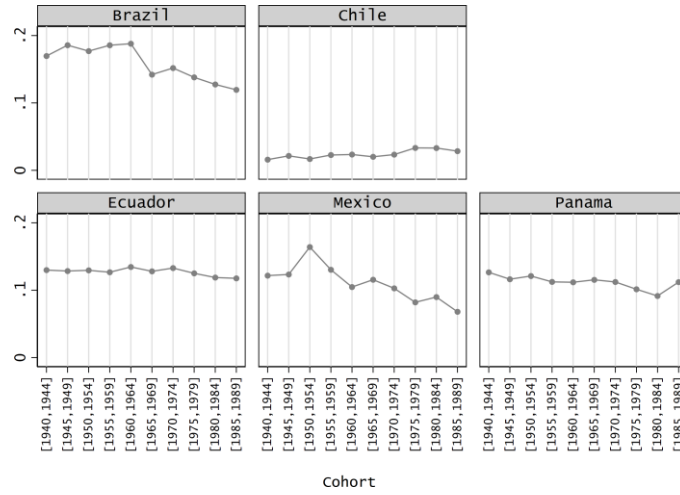
Source: own estimates based on household surveys.

Notes: Estimated intergenerational persistence coefficients. The figures show the estimated β from Equation (4). In blue, estimates only considering the higher education among parents. In gray, LW estimates only considering both parents' education as proxies for parental background; in black, LW estimates also considering both parents' occupational categories.

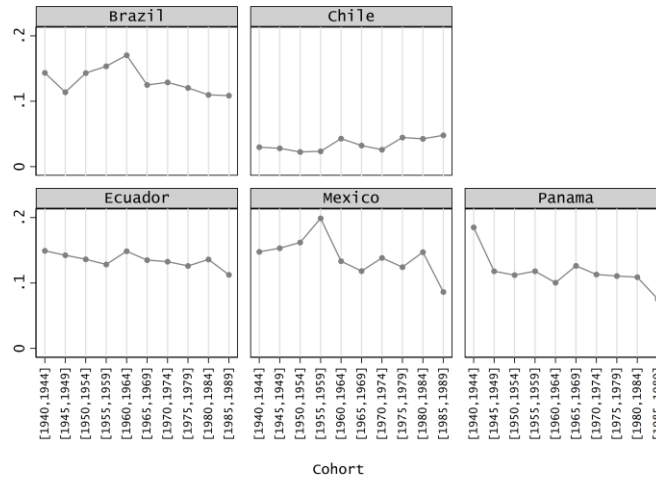
B.1.2 Ratio of occupation vs education weights

Figure A.3: Ratio of ρ_j estimates: occupation relative to education

Panel A – Children's education (in years)



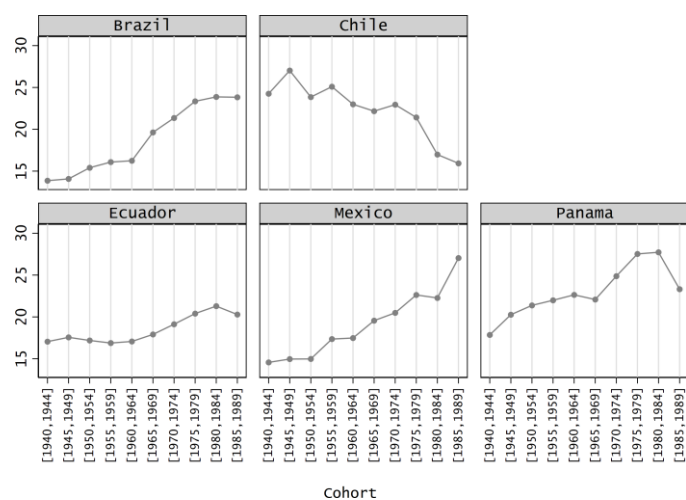
Panel B – Children's income rank



Source: own estimates based on household surveys.

Notes: LW estimated ρ_j coefficients. The figures show the ratio of occupation over education estimated ρ_j from Equation (3).

Figure A.4: Parental dispersion in years of schooling

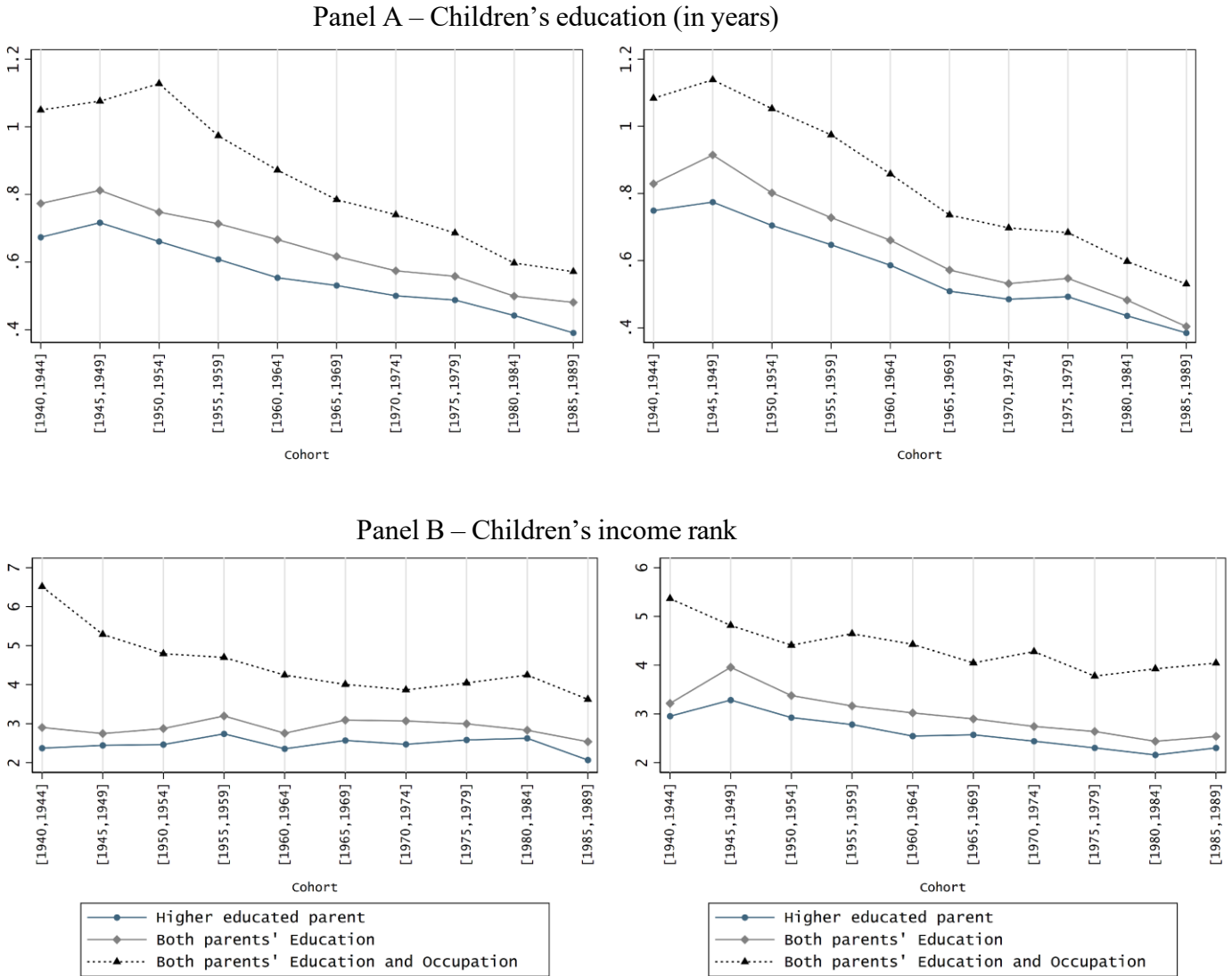


Source: own estimates based on household surveys.

Notes: Parental dispersion in years of schooling measured by the variance of parental education.

B.1.3 Sons and daughters

Figure A.5: Intergenerational persistence (unweighted average). LW estimates. Daughters (left) and sons (right)

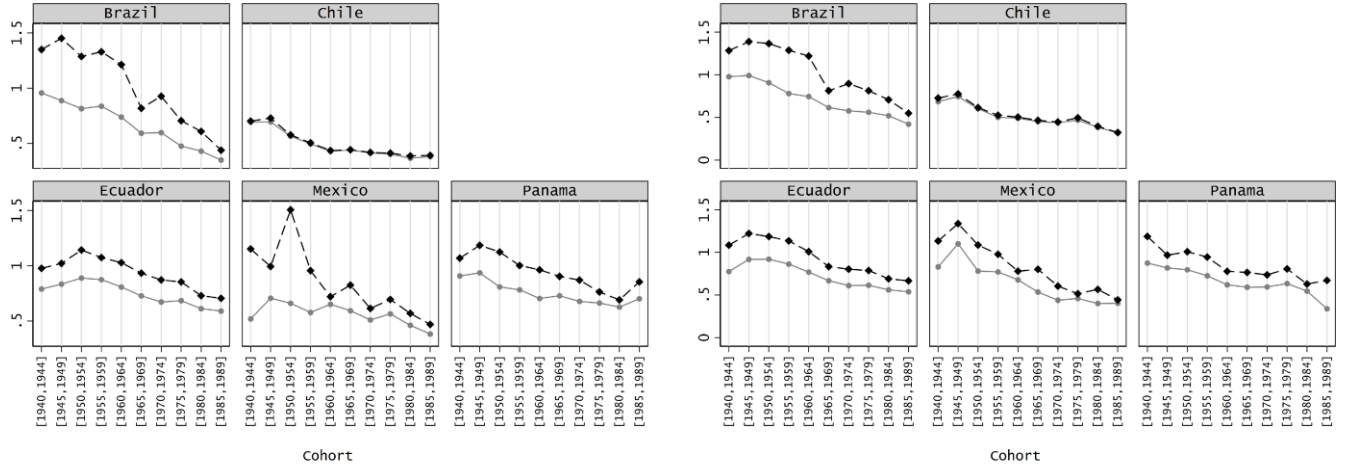


Source: own estimates based on household surveys.

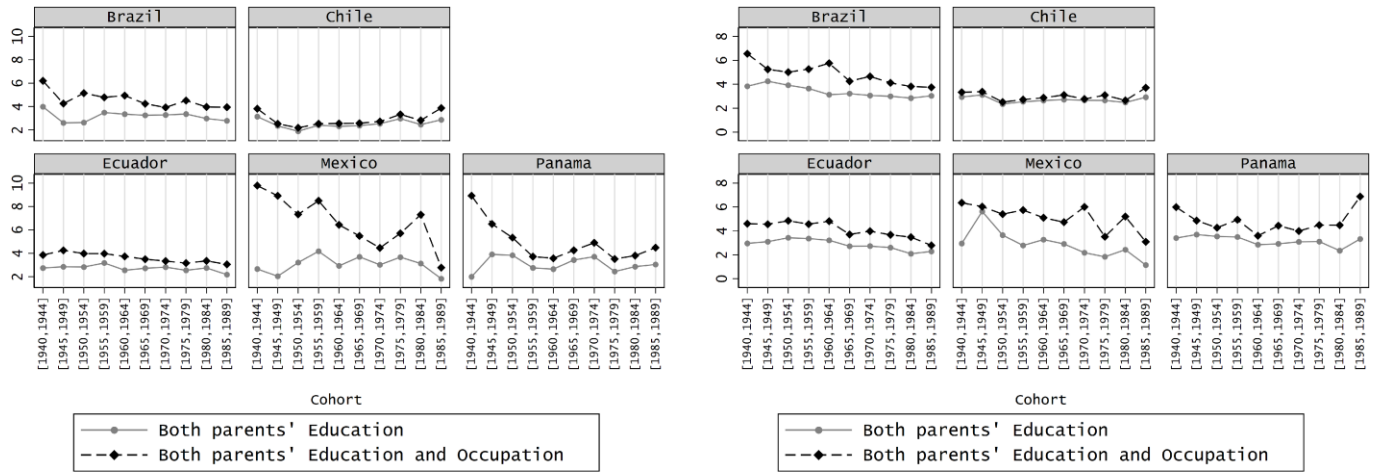
Notes: Estimated intergenerational persistence coefficients. The figures show the estimated β from Equation (4). In blue, estimates only considering the higher education among parents. In gray, LW estimates only considering both parents' education as proxies for parental background; in black, LW estimates also considering both parents' occupational categories.

Figure A.6: Intergenerational persistence by country. LW estimates. Daughters (left) and sons (right)

Panel A – Children's education (in years)



Panel B – Children's income rank

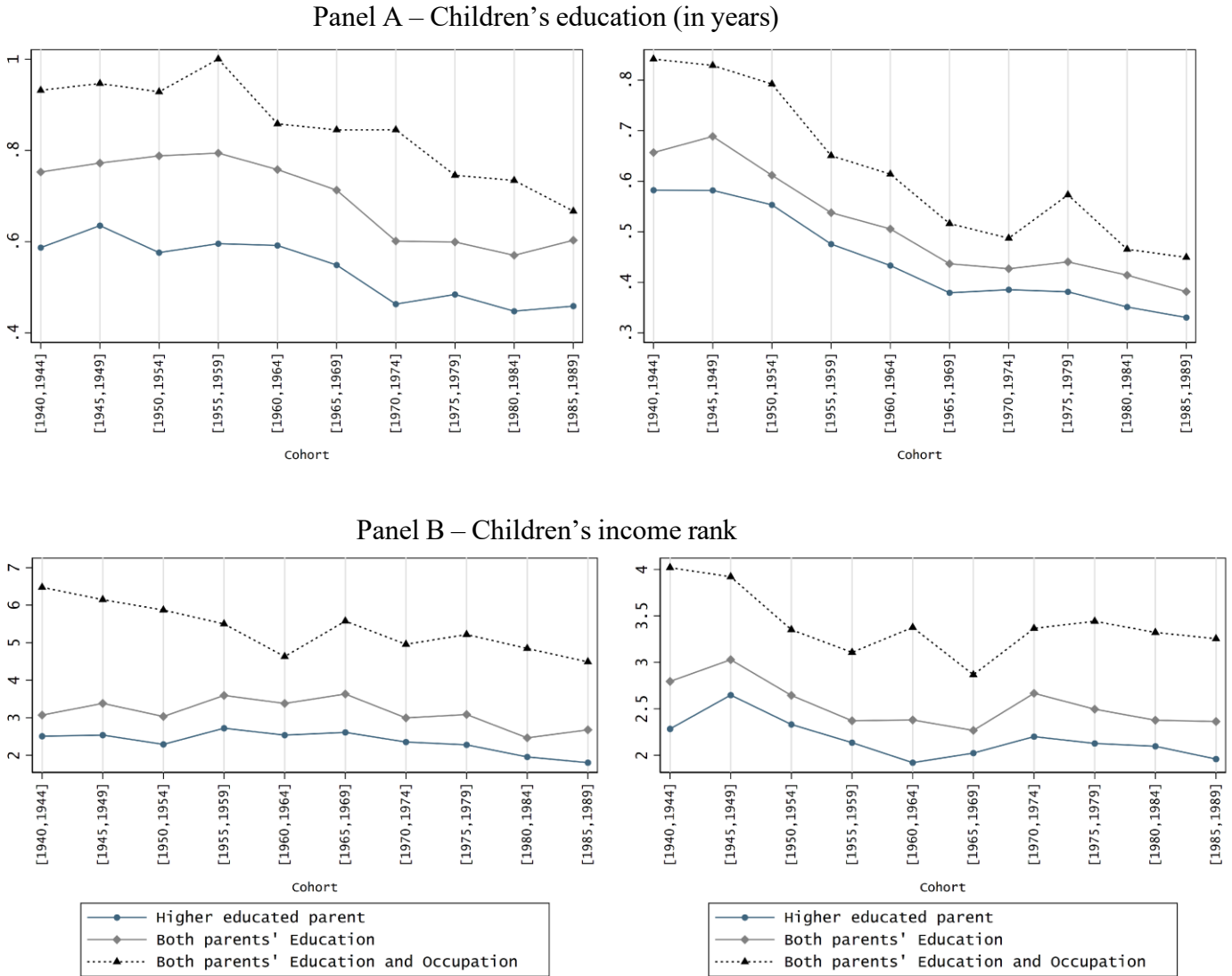


Source: own estimates based on household surveys.

Notes: LW estimated intergenerational persistence coefficients. The figures show the estimated β from Equation (4). In gray, estimates only considering both parents' education as proxies for parental background; in black, estimates also considering both parents' occupational categories.

B.1.4 Urban and rural birth zones

Figure A.7: Intergenerational persistence (unweighted average). LW estimates. Rural (left) and urban (right) birth zones

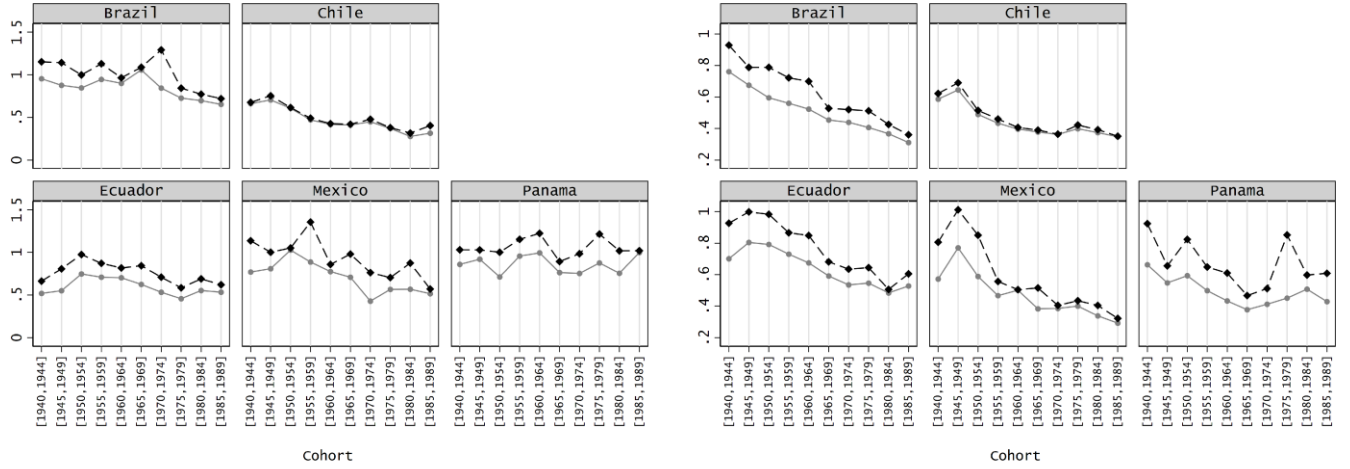


Source: own estimates based on household surveys.

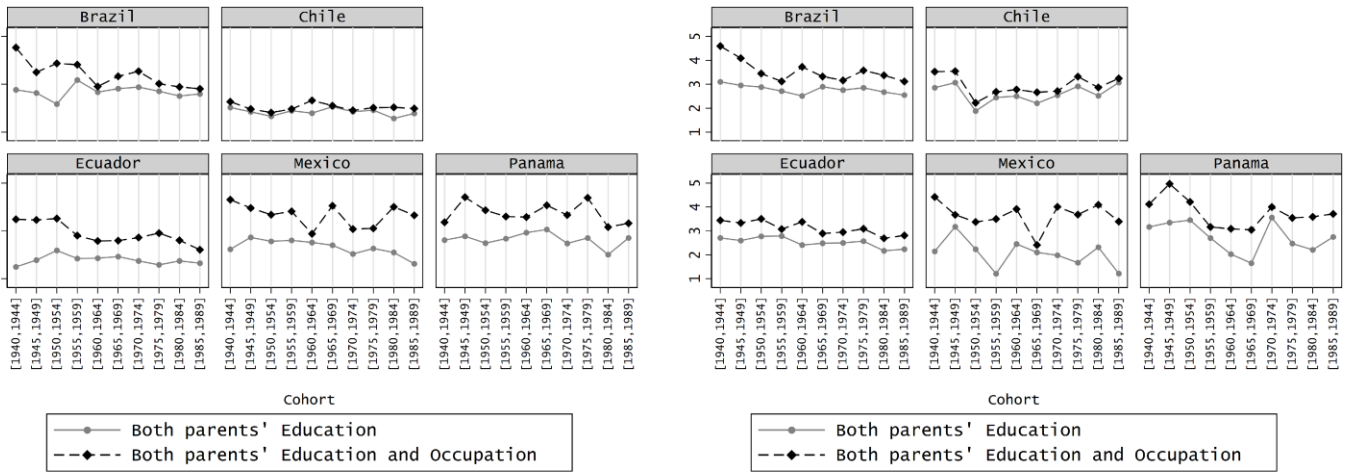
Notes: Estimated intergenerational persistence coefficients. The figures show the estimated β from Equation (4). In blue, estimates only considering the higher education among parents. In gray, LW estimates only considering both parents' education as proxies for parental background; in black, LW estimates also considering both parents' occupational categories.

Figure A.8: Intergenerational persistence by countries. LW estimates. Rural (left) and urban (right) birth zones

Panel A – Children's education (in years)



Panel B – Children's income rank



Source: own estimates based on household surveys.

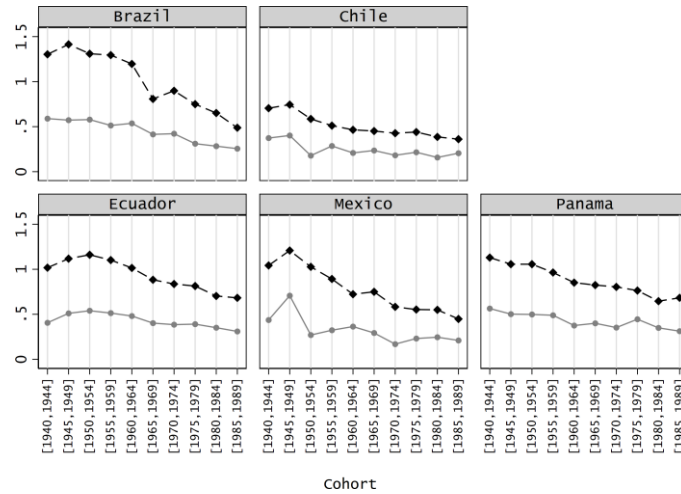
Notes: LW estimated intergenerational persistence coefficients. The figures show the estimated β from Equation (4). In gray, estimates only considering both parents' education as proxies for parental background; in black, estimates also considering both parents' occupational categories.

B.2 The role of mothers in parental background

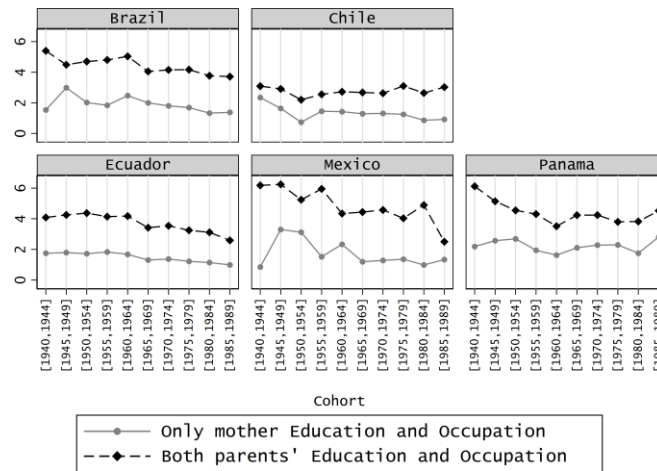
B.2.1 Beta estimates: only mothers' or both parents characteristics

Figure A.9: Beta estimates ($\sum_j \rho_j * \varphi_j$) only considering mothers' characteristics compared to both parents' characteristics. Education (left) and Education and Occupation (right)

Panel A – Children's education (in years)



Panel B – Children's income rank



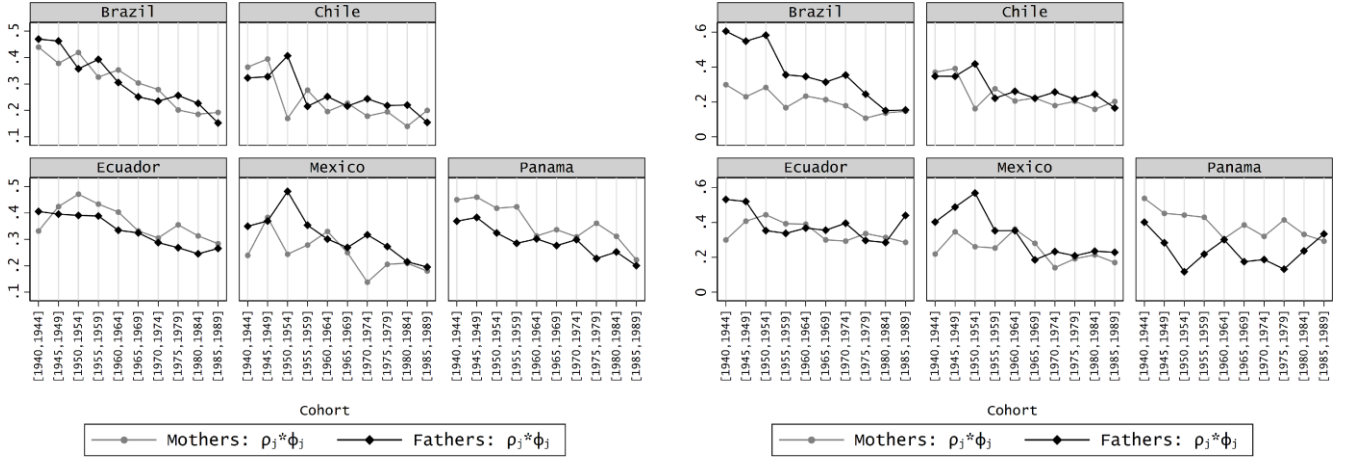
Source: own estimates based on household surveys.

Notes: LW estimated persistence coefficients. The figures show the estimated β from Equation (4). In gray, estimates only considering mothers' characteristics; in black, considering both parents' characteristics.

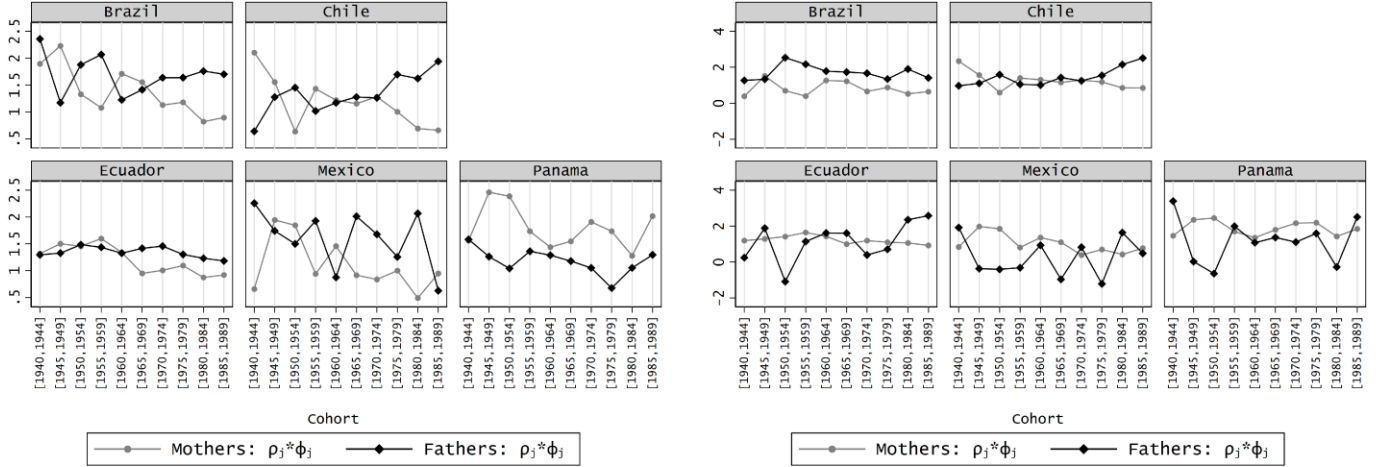
B.2.2 Beta estimates only considering mothers or fathers

Figure A.10: Beta estimates ($\sum_j \rho_j * \phi_j$) for mothers and fathers separately estimated. Education (left) and Education and Occupation (right)

Panel A – Children's education (in years)



Panel B – Children's income rank



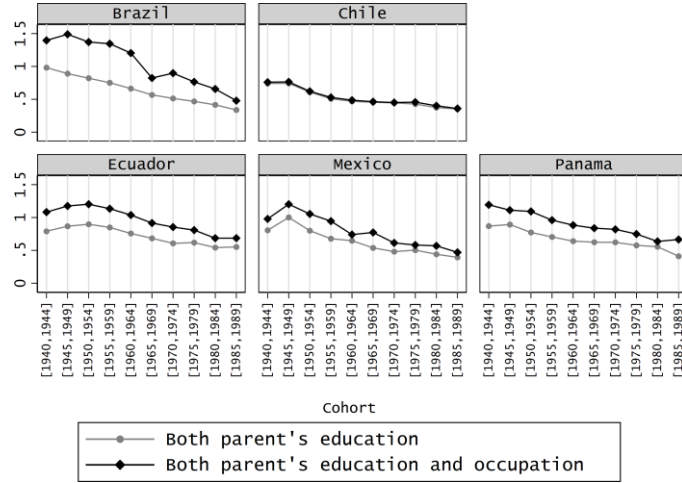
Source: own estimates based on household surveys.

Notes: LW estimated persistence coefficients. The figures show the estimated β from Equation (4) separately estimated for mothers and fathers. In gray, estimates only considering mothers' characteristics; in black, only considering fathers' characteristics.

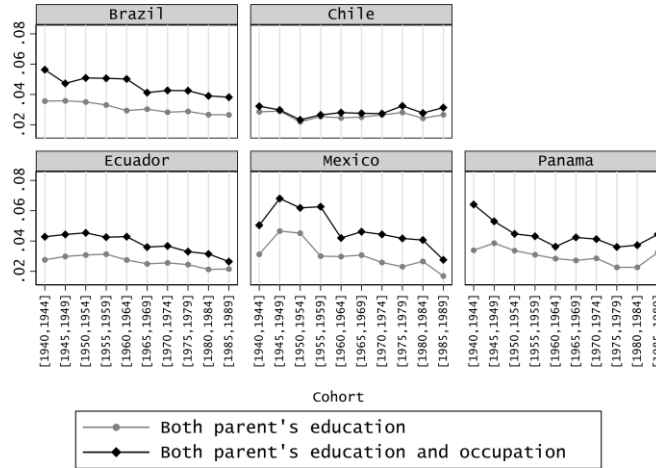
B.2.3 Beta estimates from a model with one latent variable for each parent

Figure A.11: Beta estimates ($\sum_j \rho_j * \varphi_j$) considering a latent variable for each parent.

Panel A – Children's education (in years)



Panel B – Children's income rank

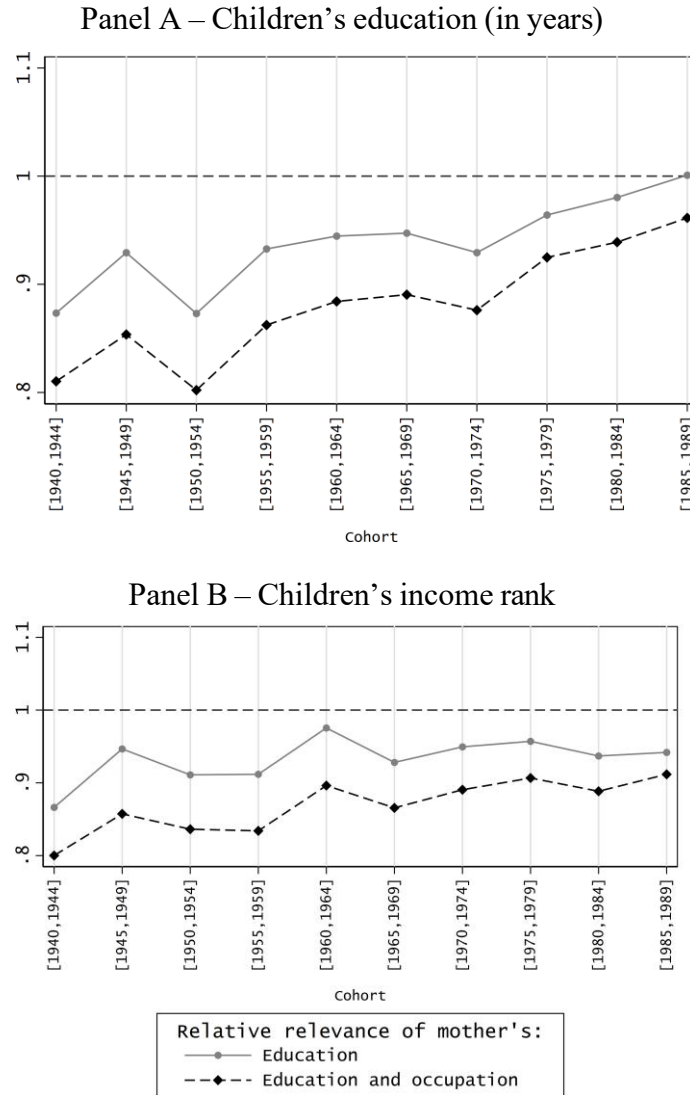


Source: own estimates based on household surveys.

Notes: LW estimated persistence coefficients for a model with two latent variables, one for each parent. The figures show the estimated β from Equation (4). In gray, estimates only considering both parents' education as proxies for parental background; in black, estimates also considering both parents' occupational categories.

B.2.4 Unweighted average

Figure A.12: The relevance of mothers' vs. fathers' characteristics in parental socioeconomic background, by country. Unweighted average

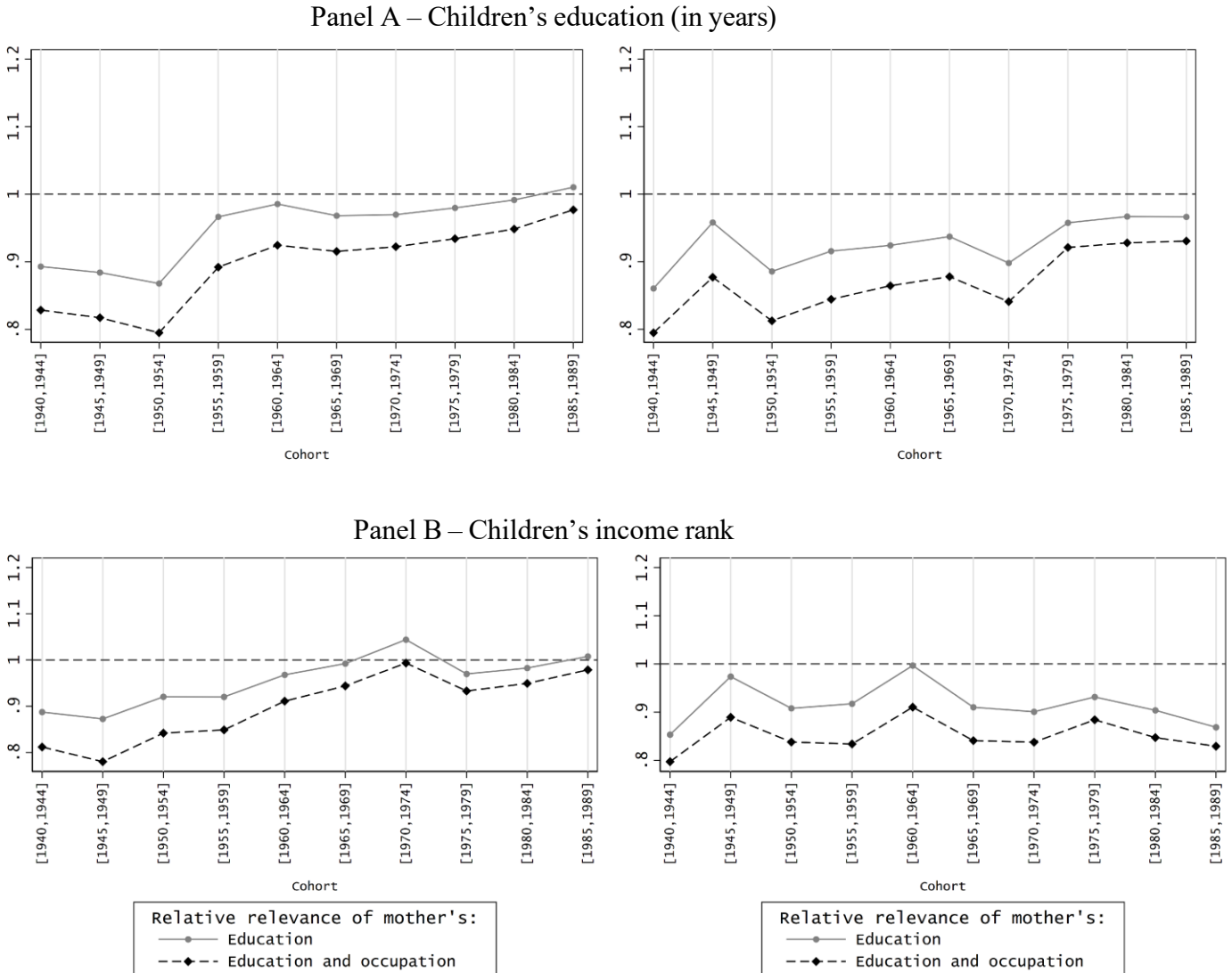


Source: own estimates based on household surveys.

Notes: LW estimated intergenerational relative weight of mothers' characteristics in children's parental background, compared to fathers'. The figures show the ratio of mothers' over fathers' estimated ρ_j from Equation (3). In gray, estimates only comparing both parents' education; in black, estimates also considering both parents' occupational categories.

B.2.5 Sons and daughters

Figure A.13: The relevance of mothers' vs. fathers' characteristics in parental socioeconomic background, by country (unweighted average). Daughters (left) and sons (right)

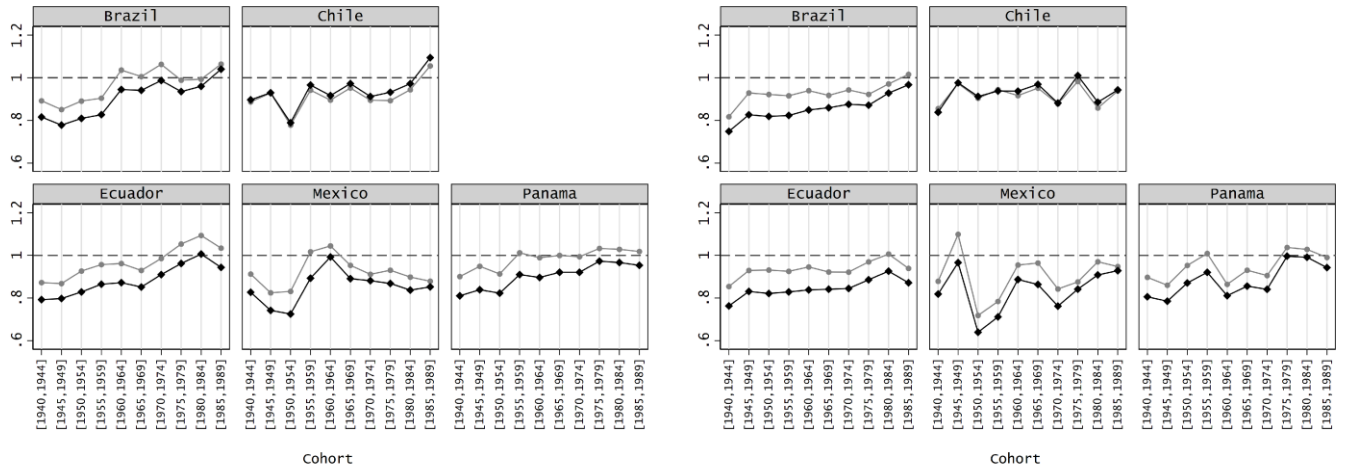


Source: own estimates based on household surveys.

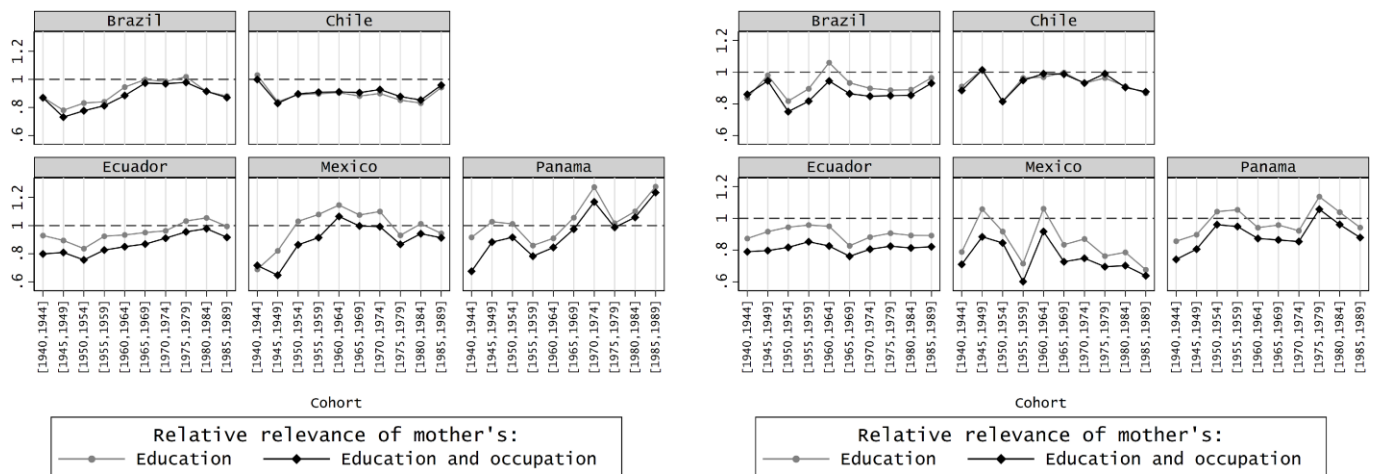
Notes: LW estimated intergenerational relative weight of mothers' characteristics in children's parental background, compared to fathers'. The figures show the ratio of mothers' over fathers' estimated ρ_j from Equation (3). In gray, estimates only comparing both parents' education; in black, estimates also considering both parents' occupational categories.

Figure A.14: The relevance of mothers' vs. fathers' characteristics in parental socioeconomic background, by country. Daughters (left) and sons (right)

Panel A – Children's education (in years)



Panel B – Children's income rank

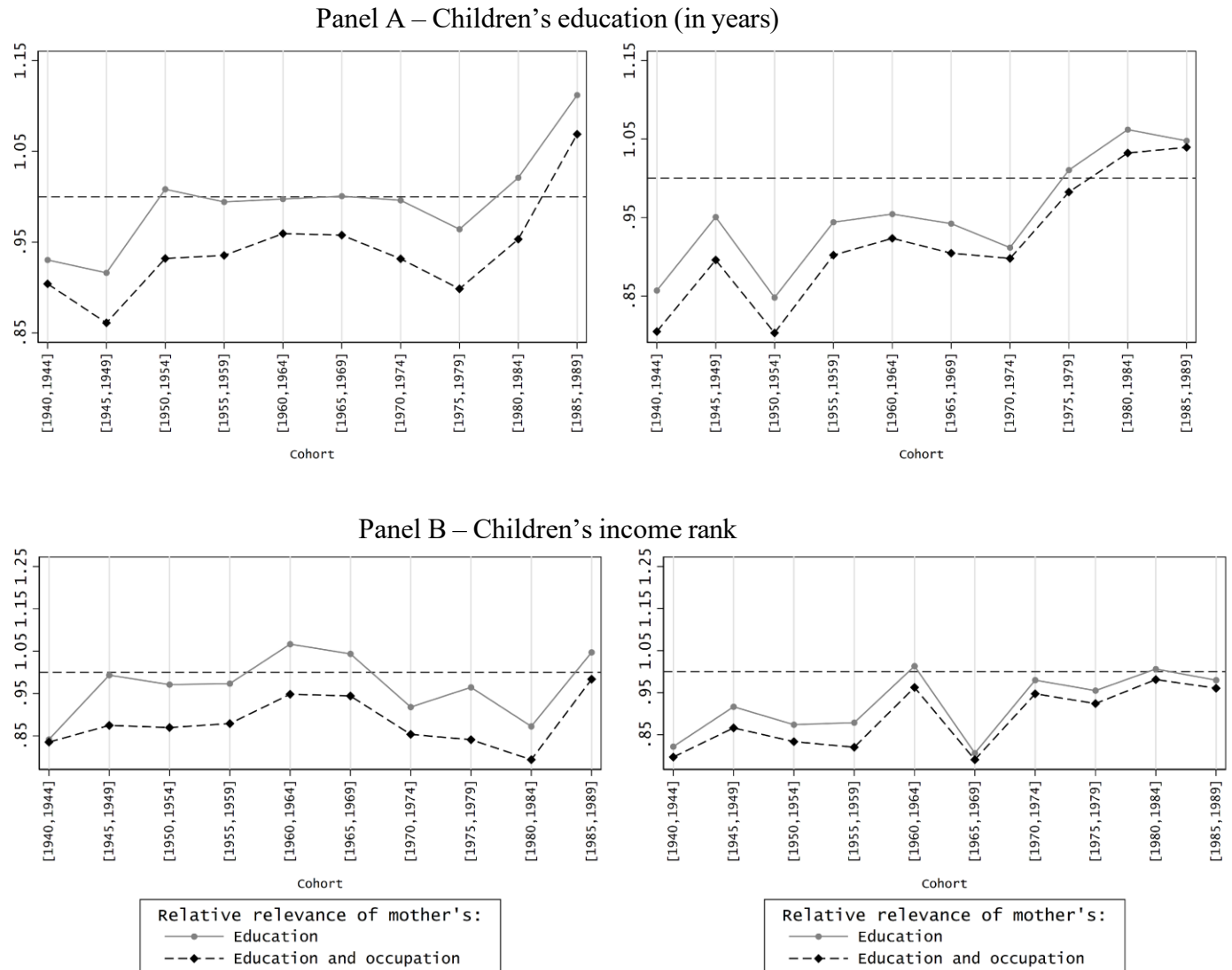


Source: own estimates based on household surveys.

Notes: LW estimated intergenerational relative weight of mothers' characteristics in children's parental background, compared to fathers'. The figures show the ratio of mothers' over fathers' estimated ρ_j from Equation (3). In gray, estimates only comparing both parents' education; in black, estimates also considering both parents' occupational categories.

B.2.6 Urban and rural birth areas

Figure A.15: The relevance of mothers' vs. fathers' characteristics in parental socioeconomic background, by country (unweighted average). Rural (left) and urban (right) birth areas

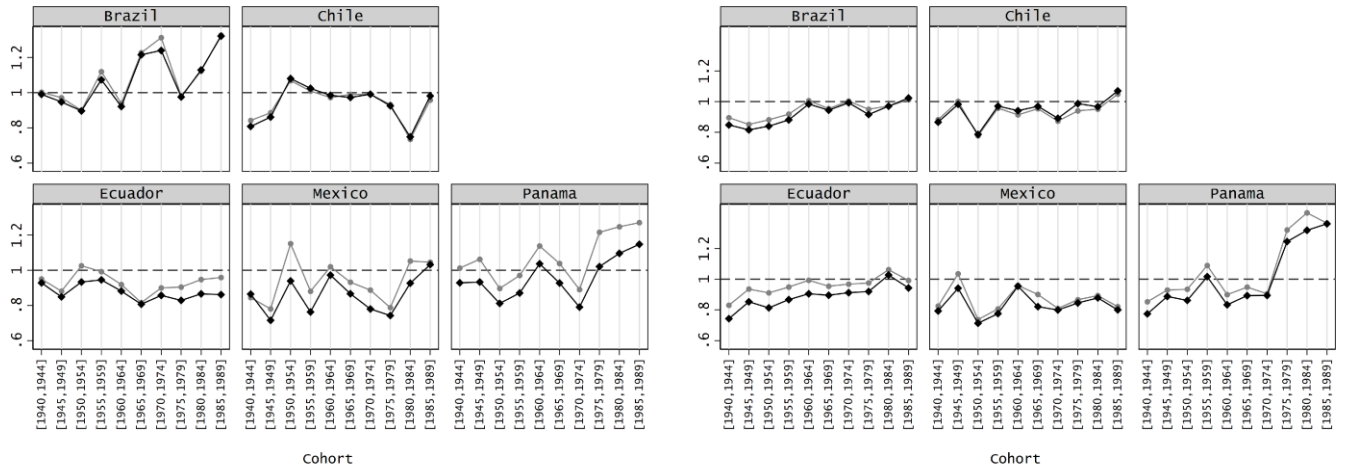


Source: own estimates based on household surveys.

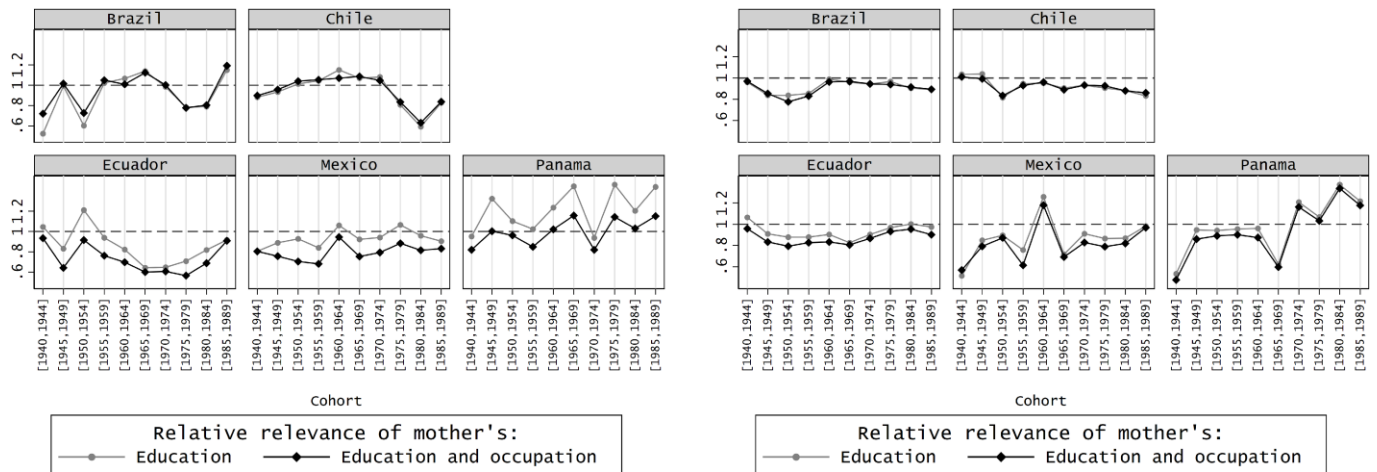
Notes: LW estimated intergenerational relative weight of mothers' characteristics in children's parental background, compared to fathers'. The figures show the ratio of mothers' over fathers' estimated ρ_j from Equation (3). In gray, estimates only comparing both parents' education; in black, estimates also considering both parents' occupational categories.

Figure A.16: The relevance of mothers' vs. fathers' characteristics in parental socioeconomic background, by country. Rural (left) and urban (right) birth areas

Panel A – Children's education (in years)



Panel B – Children's income rank



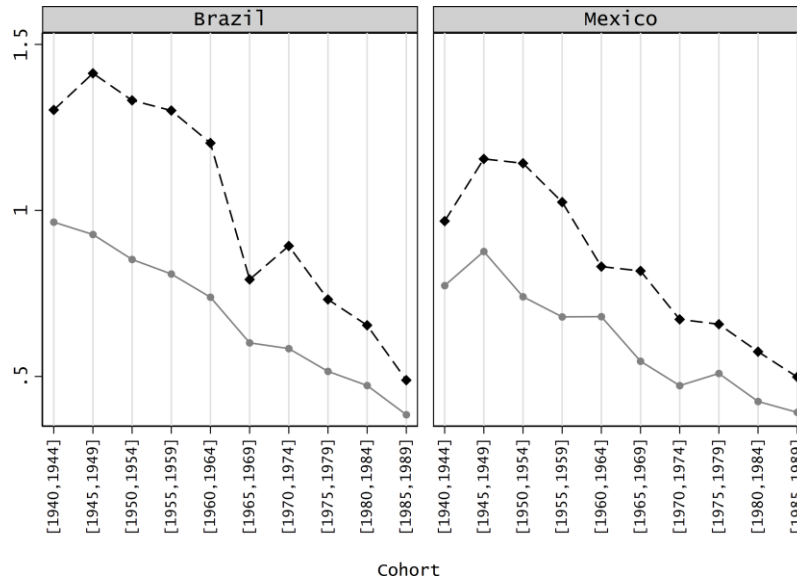
Source: own estimates based on household surveys.

Notes: LW estimated intergenerational relative weight of mothers' characteristics in children's parental background, compared to fathers'. The figures show the ratio of mothers' over fathers' estimated ρ_j from Equation (3). In gray, estimates only comparing both parents' education; in black, estimates also considering both parents' occupational categories.

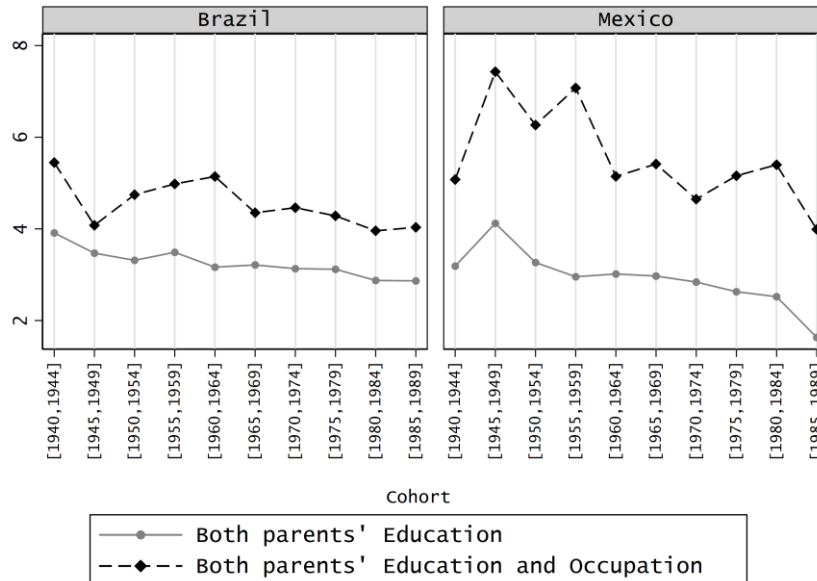
C Broader Occupation definition

Figure A.17: Intergenerational persistence by country. LW estimates using ISCO codification

Panel A – Children's education (in years)



Panel B – Children's income rank

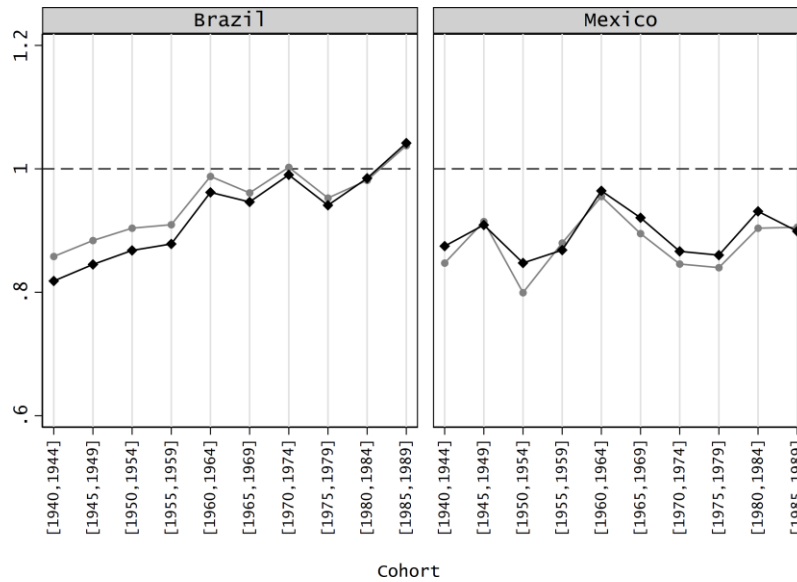


Source: own estimates based on household surveys.

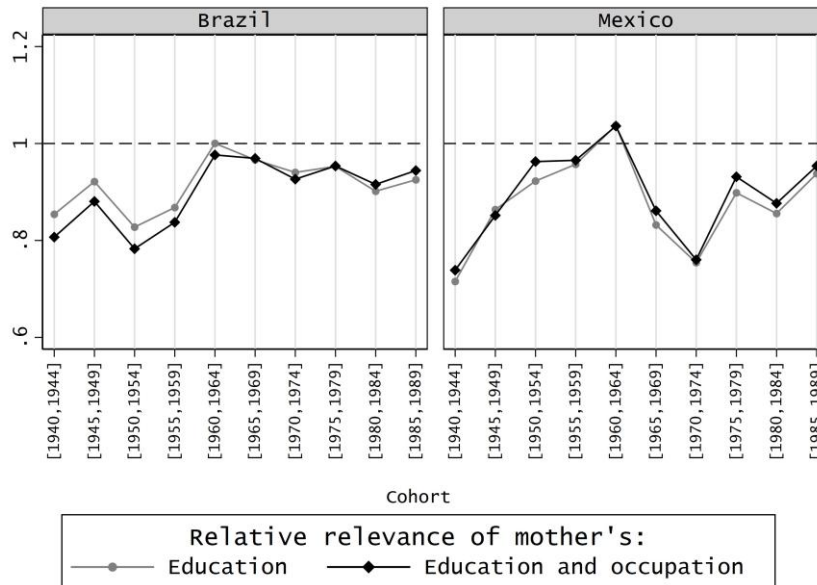
Notes: LW estimated intergenerational persistence coefficients. The figures show the estimated β from Equation (4). In gray, estimates only considering both parents' education as proxies for parental background; in black, estimates also considering both parents' occupational categories. 9 occupational categories were considering following one-digit ISCO (International Standard Classification of Occupations) classification.

Figure A.18: Relevance of mothers' characteristics by country using ISCO codification

Panel A – Children's education (in years)



Panel B – Children's income rank



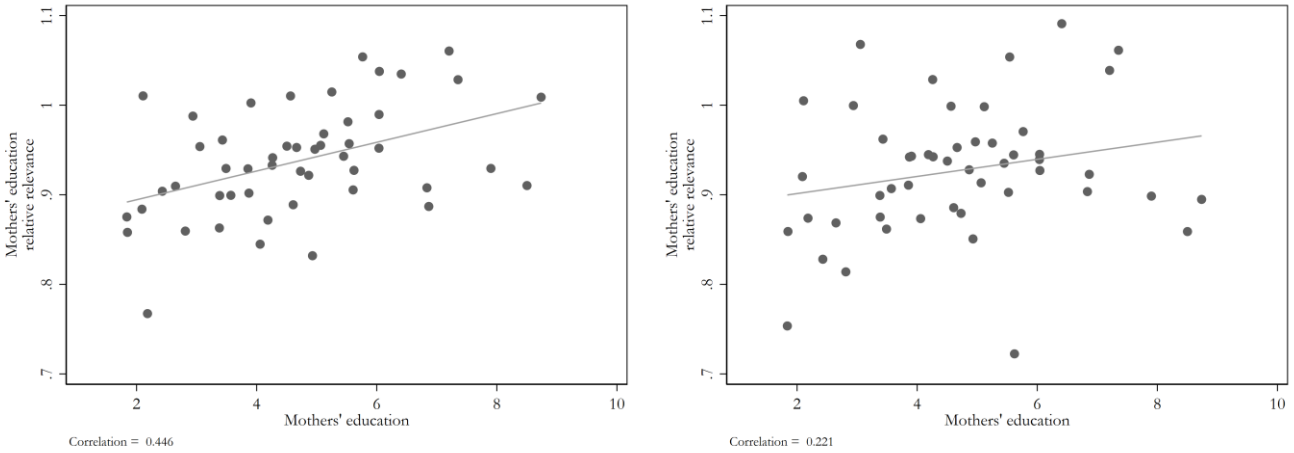
Source: own estimates based on household surveys.

Notes: LW estimated intergenerational relative weight of mothers' characteristics in children's parental background, compared to fathers'. The figures show the ratio of mothers' over fathers' estimated ρ_j from Equation (3). In gray, estimates only comparing both parents' education; in black, estimates also considering both parents' occupational categories. 9 occupational categories were considering following one-digit ISCO (International Standard Classification of Occupations) classification.

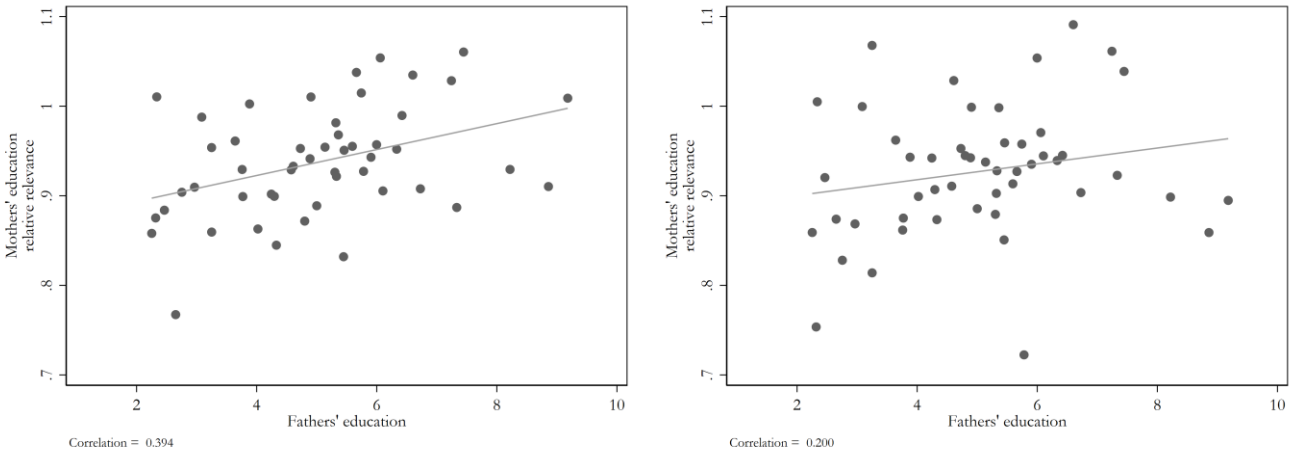
D Mechanisms: complementary results

Figure A.19: Mothers' education relevance and parental education. Children's education (left) and income rank (right)

Panel A – Mothers's education (in years)



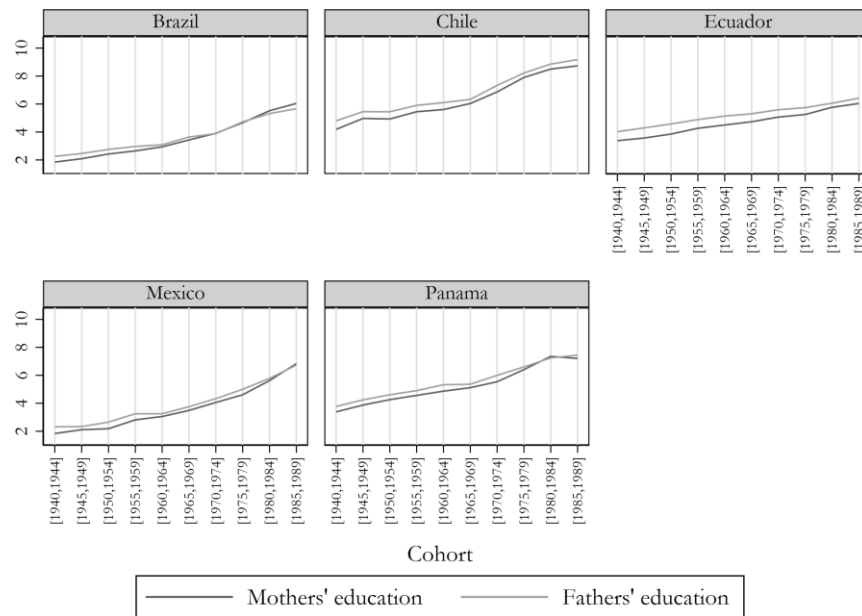
Panel B – Fathers's education (in years)



Source: own estimates based on household surveys.

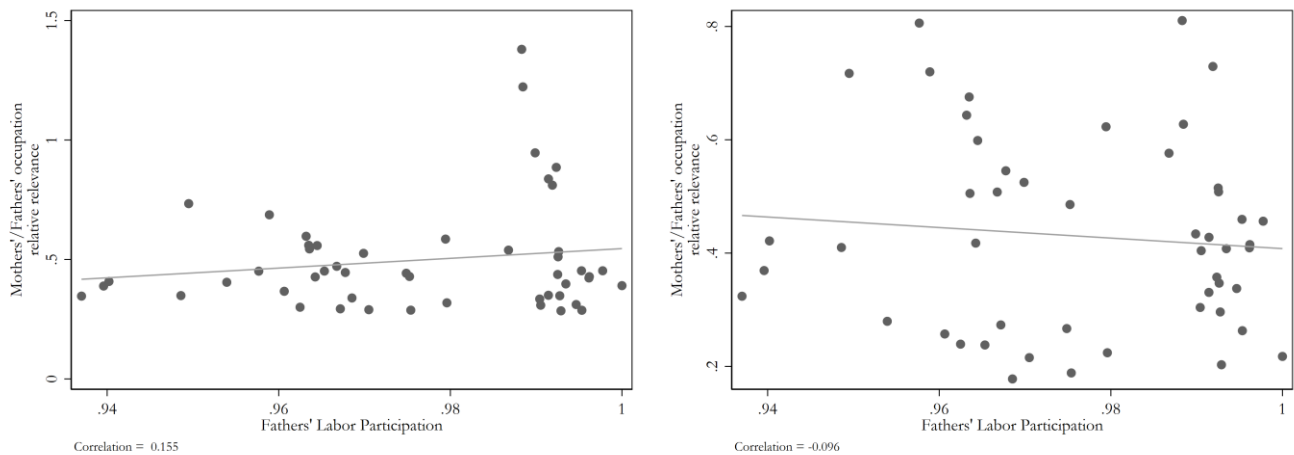
Notes: the variance of parental education was considered as inequality measure. “Mothers' education relative relevance” refers to the percentage difference between the LW-estimated difference between mothers' vs. fathers' education weight.

Figure A.20: Mothers' and fathers' education by children cohort



Source: own estimates based on household surveys.

Figure A.21: Mothers' occupation relevance and father labor participation. Children's education (left) and income rank (right)

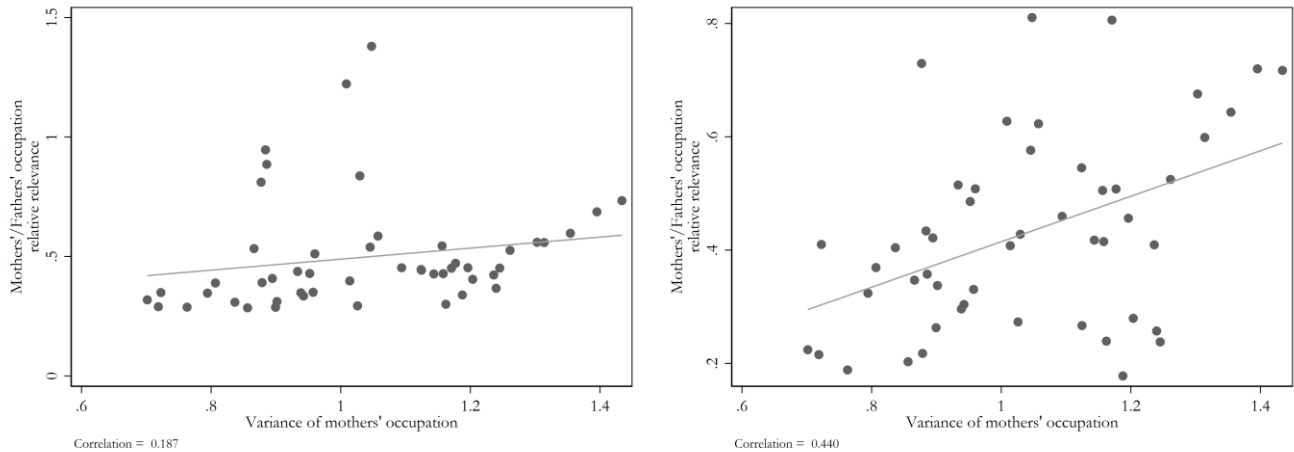


Source: own estimates based on household surveys.

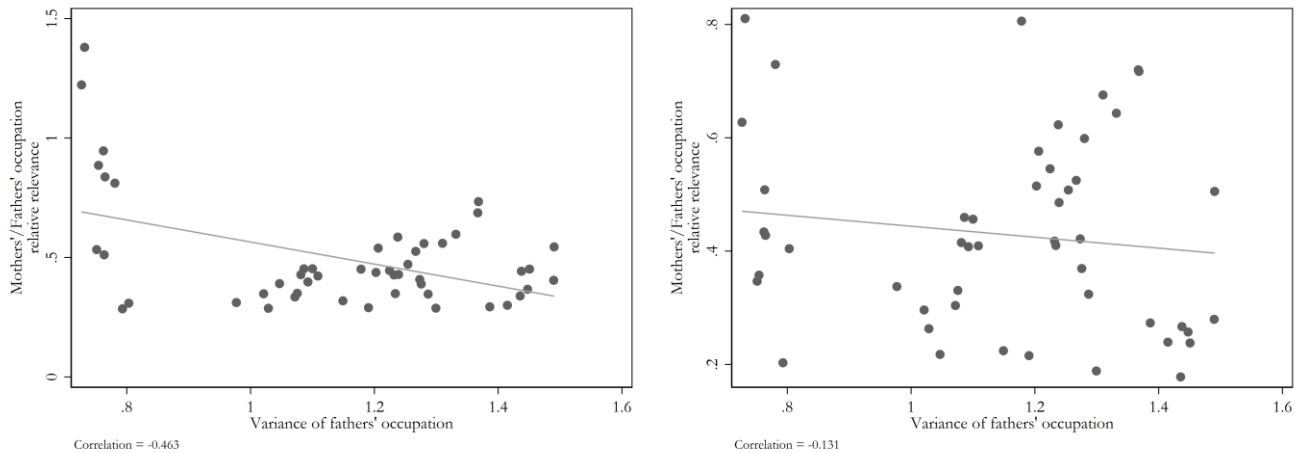
Notes: the variance of parental education was considered as inequality measure. "Mothers' education relative relevance" refers to the percentage difference between the LW-estimated difference between mothers' vs. fathers' education weight.

Figure A.22: Mothers' occupation relevance and parental occupation variance. Children's education (left) and income rank (right)

Panel A – Mothers' occupation variance



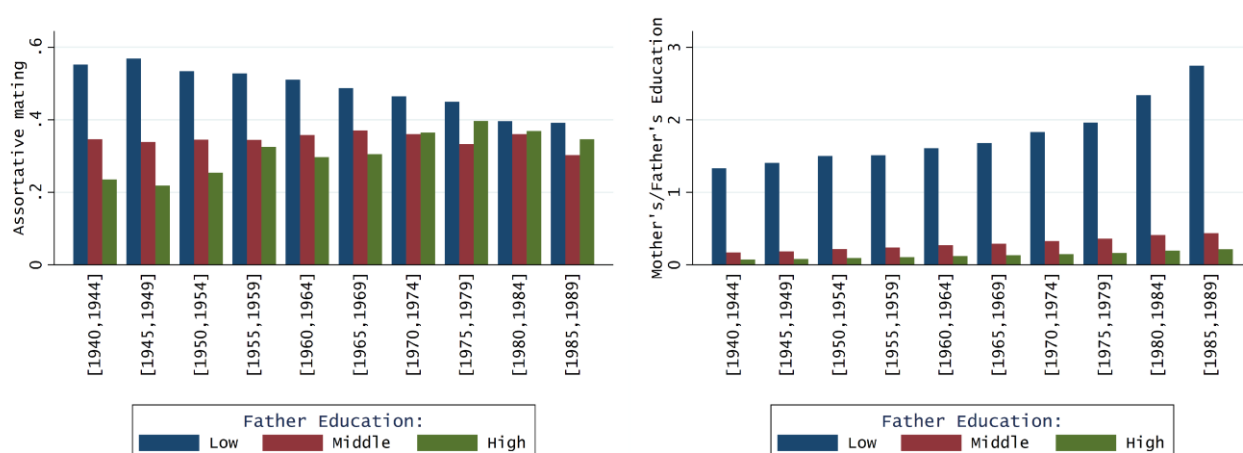
Panel B – Fathers' occupation variance



Source: own estimates based on household surveys.

Notes: the variance of parental education was considered as inequality measure. “Mothers' education relative relevance” refers to the percentage difference between the LW-estimated difference between mothers' vs. fathers' education weight.

Figure A.23: Assortative mating. Mothers' and fathers' education



Source: own estimates based on household surveys.

Notes: assortative mating is measured based on the Spearman correlation coefficient between mothers' and fathers' years of education. The numbers depicted in the figures correspond to the correlation for different samples according to fathers' years of schooling: low (0-3), middle (4-9), and high (10 or more). The Spearman correlation using the entire sample is 0.71.

Conflict of Interest

The authors declare that they have no conflict of interest.