

ONLINE SUPPLEMENTARY MATERIAL

The gender wage gap opens long before motherhood. Panel evidence on early careers in Switzerland

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Table W.1: Results of the ebalance optimization for the matching weight in model 1.4 (only selected variables)

	Before reweighting						After reweighting		
	Women			Men			Men adjusted to women		
	Mean	Variance	Skewness	Mean	Variance	Skewness	Mean	Variance	Skewness
Age in months	185.942	44.934	0.535	186.986	59.152	0.485	185.954	44.935	0.529
Years of residence	15.063	2.753	-3.844	14.852	5.285	-3.231	15.064	2.753	-3.845
ISEI parents	50.168	227.984	0.198	50.597	252.218	0.232	50.172	228.005	0.197
PISA score	539.710	5878.092	-0.205	522.433	6325.725	-0.114	539.742	5878.329	-0.206
First certificate gained secondary level									
Federal VET	0.506			0.600			0.506		
Specialised Middle school	0.077			0.011			0.077		
Professional Matura	0.105			0.162			0.105		
Academic Matura	0.293			0.207			0.293		
First certificate gained at tertiary level									
Tertiary B Certificate	0.044			0.036			0.044		
Diploma Applied Science	0.072			0.056			0.072		
Bachelor University	0.143			0.113			0.143		
Licentiate, Master University	0.066			0.077			0.066		

The matching was done for individuals (and not for observations) on the final sample.
 Descriptive statistics of the matching weight: Mean: 1.16, Std. Dev.: 1.72, Min: 0, Max: 44.06

Table W.2: Descriptive statistics

		Metric variables			Categorical variables (per cent reported)				
		male	female	Further information		male	female	Further information	
Main variables									
	Gross monthly salary	Mean:	4887	4596	Sex	observations	37.64 (1326)	62.37 (2198)	
		SD _{between} :	1495	1420		individuals	39.42 (702)	60.58 (1079)	
		SD _{within} :	907	778		(case number in brackets)			
		Min:	2175	2083		0 = male, 1 = female			
		Max:	19460	18166					
Matching variables									
General background	Age in months in PISA	Mean:	187.30	186.37	Country of birth	0 = abroad	9.20	5.73	Between group statistics
		SD _{between} :	7.69	6.70		1 = Switzerland	90.80	94.27	
		SD _{within} :	0.00	0.00					
		Min:	171.00	165.00					
		Max:	214.00	219.00					
	Years of residence in Switzerland	Mean:	14.83	15.15	Structure of family	1 = single	8.22	11.19	Between group statistics
		SD _{between} :	2.30	1.66		2 = nuclear	86.05	82.35	
		SD _{within} :	0.00	0.00		3 = mixed	3.85	4.19	
		Min:	1.00	1.00		4 = other	1.89	2.27	
		Max:	17.00	17.00					
Highest ISEI of parents	Mean:	49.19	48.84						
	SD _{between} :	15.88	15.10						
	SD _{within} :	0.00	0.00						
	Min:	20.00	16.00						
	Max:	90.00	90.00						
Cultural Capital	Mean:	-0.11	0.01	Index built from the following variables: how many times a year do your parents do with you the following things? - visit galleries - visit classic concerts - visit theaters Cronbachs Alpha = 0.62					
	SD _{between} :	0.64	0.72						
	SD _{within} :	0.00	0.00						
	Min:	-0.96	-0.90						
	Max:	2.66	4.87						
Ability	PISA test score in reading literacy	Mean:	518.94	535.24	Type of ability track in 2000	1 = pre-gymnasial	27.83	33.12	Between group statistics
		SD _{between} :	79.53	76.67		2 = extended academic requirements	40.95	42.27	
		SD _{within} :	0.00	0.00		3 = basic academic requirements	26.02	19.52	
		Min:	252.75	196.61		4 = no formal tracking	5.20	5.10	
		Max:	790.88	790.88					
	Mean:	1.47	1.50		0 = no further education	2.11	1.46		

Education prior to labour market entry	Number of educational certificates attained pre-labour market	SD _{between} :	0.80	0.75				
		SD _{within} :	0.00	0.00				
		Min:	0.00	0.00				
		Max:	5.00	5.00				
	Certificate gained secondary level, number 1	1 = Basic Federal VET	0.00	0.36			Between group statistics	
		2 = Federal VET without professional Matura	66.37	59.92				
		3 = Specialised Middle School, Haute école comm.	0.68	5.55				
		4 = Professional Matura, specialised Matura	16.82	12.97				
		5 = Academic Matura, Teacher diploma	14.03	19.75				
	Certificate gained secondary level, number 2	1 = Basic Federal VET	74.51	75.02			Between group statistics	
		2 = Federal VET without professional Matura	0.00	0.00				
		3 = Specialised Middle School, Haute école comm.	19.91	18.38				
		4 = Professional Matura, specialised Matura	0.00	0.00				
		5 = Academic Matura, Teacher diploma	5.43	6.05				
	Certificate gained tertiary level, number 1	0 = no further schooling	80.62	78.57			Between group statistics	
		6 = Tertiary B certification	2.94	3.00				
		7 = Diploma Applied University	4.07	5.23				
		8 = Bachelor University	7.47	9.14				
		9 = Licentiate, Master University	4.90	3.82				
		10 = Postgraduate diploma	0.00	0.23				
		11 = PhD						
	Certificate gained tertiary level, number 2	0 = no further schooling	96.30	95.95			Between group statistics	
		6 = Tertiary B certification	0.00	0.14				
		7 = Diploma Applied University	0.00	0.32				
		8 = Bachelor University	0.45	0.18				
		9 = Licentiate, Master University	2.79	2.78				
		10 = Postgraduate diploma	0.38	0.50				
		11 = PhD	0.08	0.14				
	Field of Certificates gained, secondary level, Number 1	0 = nothing	2.11	1.46			Categories adapted from berufsbildung.ch	
		1 = Nature, Animals	2.71	3.91				
		2 = Food production	2.56	2.18				
		3 = Gastronomy, Tourism	2.56	3.69				
		4 = Textile, Beauty	0.15	2.64			Between group statistics	
		5 = Various arts (music, graphic, acting)	0.45	1.23				
		6 = Print, Building Industry, Wood, Vehicles, Machines, Metal	33.63	1.27				
		7 = Natural Science, Environment	1.81	0.68				
		8 = Planning (Building, Machines), IT	10.33	1.87				
		9 = Sales	5.28	12.10				
		10 = Transportation, Traffic	0.30	0.27				
		11 = Health, Social Welfare	0.23	7.23				
		12 = Cleaning, Logistics	1.81	0.05				
		13 = Administration	21.34	37.35				
		14 = General education	14.71	24.07				
	Field of Certificates gained, tertiary level, Number 1	0 = no tertiary education	80.62	78.57			Categories adapted from berufsbildung.ch	
		1 = Food production, Gastronomy, Tourism	0.75	1.00				
		2 = STEM (Nature, Animals, Natural Science, Environment, Planning) Building, Machines), IT)	7.77	2.18				
		3 = Economy, Law, Business	0.08	0.27			Between group statistics	
		4 = Health	3.54	3.09				
		5 = Education, Social Welfare	1.28	3.59				
		6 = Social Sciences, Journalism	2.79	7.10				
		7 = Language, Translation	1.06	2.64				
		8 = Cultural Studies	0.60	0.82				

9 = Security

0.45 0.64

Independent variables

Channel 1: Job related human capital									
Experience in years	Mean:	2.76	2.90	Variable transformed to years by dividing months by 12 (hence the non-integer values)	Highest educational certificate achieved up to a specific wave	0 = no further schooling	0.90	0.36	Equal to highest educational certificate achieved pre-labour market entry if respondents achieved no new certificates after entering the labour market
	SD _{between} :	1.67	1.72			1 = Basic Federal VET	0.00	0.18	
	SD _{within} :	2.00	2.06			2 = Federal VET without professional Matura	52.64	50.41	
	Min:	0.08	0.08			3 = Specialised Middle School, Haute école com.	0.30	1.18	
Experience before labour market entry (e.g. student jobs)	Mean:	9.35	13.24	In months	4 = Professional Matura, specialised Matura	15.23	16.20		
	SD _{between} :	21.58	28.27		5 = Academic Matura, Teacher diploma	3.17	5.00		
	SD _{within} :	0.00	0.00		6 = Tertiary B certification	9.05	6.37		
	Min:	0.00	0.00		7 = Diploma Applied University	3.62	4.41		
Number of jobs	Mean:	2.72	3.14	Running sum over waves	8 = Bachelor University	6.03	7.32		
	SD _{between} :	1.85	2.43		9 = Licentiate, Master University	7.47	6.32		
	SD _{within} :	0.74	0.84		10 = Postgraduate diploma	1.43	2.00		
	Min:	1.00	1.00		11 = PhD	0.15	0.23		
Number of educational certificates after labour market entry	Mean:	1.62	1.61	Running sum over waves					
	SD _{between} :	0.80	0.76						
	SD _{within} :	0.30	0.25						
	Min:	0.00	0.00						
Working hours	Mean:	41.21	39.70	main job	Sector	1 = Agriculture	0.90	1.00	Coding according to the Swiss Federal Statistical Office Classification NOGA 08
	SD _{between} :	6.64	6.71			2 = Mining	0.30	0.14	
	SD _{within} :	3.53	3.52			3 = Processing crafts	19.38	9.37	
	Min:	8.00	8.00			4 = Energy	0.38	0.77	
Number of subordinates	Mean:	1.60	0.86	main job	5 = (Waste)water, environmental pollution	0.00	0.32		
	SD _{between} :	11.29	3.83		6 = Building industry	10.86	1.50		
	SD _{within} :	4.64	2.83		7 = Sales, Motor vehicle	16.29	18.88		
	Min:	0.00	0.00		8 = Traffic, logistics	4.00	3.14		
Strain with regard to the work environment	Mean:	2.26	2.04	main job	9 = Hotel and restaurant industry	3.54	5.23	main job	
	SD _{between} :	0.90	0.83		10 = Information, communication	5.35	1.91		
	SD _{within} :	0.50	0.54		11 = Finance, insurance	6.94	9.24		
	Min:	1.00	1.00		12 = Real estate	0.60	1.27		
Variety of tasks	Mean:	3.81	3.84	main job	13 = Freelance scientific / technical services	9.80	9.24		
	SD _{between} :	0.72	0.74		14 = other scientific services	4.52	2.96		
	SD _{within} :	0.39	0.43		15 = Administration, defence, social insurance	6.03	5.55		
	Min:	1.00	1.00		16 = Education, instruction	5.28	9.05		
Freedom of action	Mean:	3.65	3.73	main job	17 = Health, welfare	3.39	16.06		
	SD _{between} :	0.79	0.81		18 = Art, entertainment, recreation	1.06	1.00		
	SD _{within} :	0.79	0.81		19 = other services	1.36	3.37		
	Min:	1.00	1.00		ISCO-88, first digit	0 = Armed forces occupation	0.38		0.00
					1 = Managers	3.02	2.55	main job	
					2 = Professionals	20.89	15.01		
					3 = Technicians and associate professionals	20.51	33.03		
					4 = Clerical support workers	11.54	26.11		
					5 = Service and sales workers	9.80	16.11		

χ^2 Cronbach's Alpha = 0.76,

χ^2 Cronbach's Alpha = 0.61,

		SD _{within} :	0.42	0.46	Prümper, Hartmannsgruber & Frese (1995), Dunkel (1999)		6 = Skilled agricult., forestry and fishery workers	2.19	2.59	
		Min:	1.00	1.00			7 = Craft and related trades workers	28.21	3.82	
		Max:	5.00	5.00	\bar{X} Cronbach's Alpha = 0.76,		8 = Plant and machine operators and assemblers	2.71	0.55	
							9 = Elementary occupations	0.75	0.23	
						Temporary position	0 = no temporary position	86.43	87.12	main job
							1 = temporary position	13.57	12.88	
						Work situation	1 = no evening, no weekend	77.53	66.52	main job
							2 = no evening, weekend	8.22	17.20	
							3 = evening, no weekend	3.85	2.18	
							4 = evening / weekend work	10.41	14.10	
						Number of employees in firm	0 = none	13.73	15.38	main job
							1 = 1	0.75	1.23	
							2 = 2	2.64	1.77	
							3 = 3-4	5.13	6.23	
							4 = 5-9	9.13	14.74	
							5 = 10-19	15.16	13.88	
							6 = 20-49	16.37	17.56	
							7 = 50-99	10.63	8.69	
							8 = 100-199	10.03	7.23	
							9 = 200-249	2.64	1.64	
							10 = 240-499	6.56	5.78	
							11 = 400-999	4.60	3.05	
							12 = >=1000	2.64	2.82	
Channel 3: Parenthood Anticipation	Value orientation: partnership / family	Mean:	2.94	3.05	Index, adapted after Watermann 2000	Marriage situation	0 = not married	96.53	94.86	
		SD _{between} :	0.69	0.71	\bar{X} Cronbach's Alpha = 0.87		1 = married	3.47	5.14	
		SD _{within} :	0.00	0.00	Mean over pre-labour market waves					
		Min:	1.00	1.00						
		Max:	4.00	4.00						
	Value orientation: work, intrinsic	Mean:	3.26	3.48	Index, adapted after Watermann 2000					
		SD _{between} :	0.39	0.33	\bar{X} Cronbach's Alpha = 0.71					
		SD _{within} :	0.00	0.00	Mean over pre-labour market waves					
		Min:	1.33	2.20						
	Max:	4.00	4.00							
	Value orientation: work, intrinsic	Mean:	3.28	3.23	Index, adapted after Watermann 2000					
		SD _{between} :	0.44	0.44	\bar{X} Cronbach's Alpha = 0.69					
		SD _{within} :	0.00	0.00	Mean over pre-labour market waves					
		Min:	1.22	1.50						
		Max:	4.00	4.00						
Control variables										
						How salary was reported	0 = hourly	10.71	4.82	In which unit respondents indicated their salary
							1 = monthly	89.29	95.18	
							0 = gross	76.24	73.16	
							1 = net	23.76	26.84	

Descriptive statistics of final sample (model 4), not weighted. Not reported are the descriptives for canton of workplace, month and year of labour market entry

Table W.3: The effect of work experience on (log) monthly earnings for men and women (random-effects model with matching), weighted (full model of Table 1)

Model	Baseline Model		Channel 1: Initial potential					Channel 2: Labour market			Channel 3: Parenthood Anticipation			Final model
	0.1	0.2	1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	3.1	3.2	3.3	4
Matched on	-	-	social background and ability		education prior to labour market	field of study / field of VET	all	all	all	all	all	all	all	all
Female	-0.054*** (0.012)	-0.047*** (0.014)	-0.072** (0.023)	-0.088*** (0.024)	-0.088*** (0.026)	-0.045 (0.026)	-0.040 (0.026)	-0.046* (0.018)	-0.044* (0.019)	-0.048** (0.015)	-0.040 (0.026)	-0.032 (0.028)	-0.032 (0.028)	-0.036* (0.015)
Experience (in years)		0.052*** (0.002)	0.050*** (0.003)	0.051*** (0.003)	0.052*** (0.003)	0.043*** (0.006)	0.043*** (0.006)	0.035*** (0.004)	0.038*** (0.004)	0.030*** (0.003)	0.044*** (0.006)	0.045*** (0.005)	0.046*** (0.005)	0.032*** (0.003)
Experience X Female		-0.004 (0.003)	0.003 (0.004)	0.001 (0.004)	0.001 (0.004)	0.010 (0.006)	0.009 (0.007)	0.006 (0.005)	0.005 (0.005)	0.006 (0.004)	0.009 (0.007)	0.007 (0.006)	0.006 (0.006)	0.005 (0.004)
Highest education certificate after labour market entry (Ref: Basic Fed. VET)														
Federal VET								-0.116 (0.093)		-0.094 (0.068)				-0.066 (0.065)
Specialised Middle School								0.127* (0.063)		0.048 (0.048)				0.042 (0.044)
Professional Matura								0.062 (0.089)		0.009 (0.075)				0.023 (0.069)
Academic Matura								0.210** (0.071)		0.082 (0.054)				0.080 (0.050)

Tertiary B certification		0.189*	0.112	0.103
		(0.075)	(0.061)	(0.057)
Diploma Applied University		0.325***	0.204***	0.200***
		(0.075)	(0.057)	(0.054)
Bachelor University		0.431***	0.310***	0.300***
		(0.086)	(0.071)	(0.068)
Master / Licentiate University		0.468***	0.335***	0.323***
		(0.077)	(0.062)	(0.060)
Postgraduate diploma		0.457***	0.294***	0.285***
		(0.078)	(0.065)	(0.062)
PhD		0.478***	0.366***	0.368***
		(0.090)	(0.077)	(0.075)
Nr educational credentials		0.488***	0.534**	0.529**
		(0.126)	(0.166)	(0.165)
Number of jobs		0.009	0.008	0.005
		(0.016)	(0.014)	(0.014)
Number of jobs ²		0.030**	0.035***	0.036***
		(0.009)	(0.008)	(0.008)
Experience before labour market entry (in months)		-0.002**	-0.003***	-0.003***
		(0.001)	(0.001)	(0.001)
Sector				

(Ref: Agriculture)					
Mining			0.181** (0.058)	0.139* (0.057)	0.163** (0.060)
Processing crafts			0.100 (0.052)	0.093 (0.048)	0.094* (0.046)
Water / Pollution			0.178* (0.071)	0.103 (0.075)	0.092 (0.071)
Building industry			0.069 (0.087)	0.032 (0.067)	0.048 (0.065)
Sales, Motor vehicle			0.068 (0.058)	0.024 (0.052)	0.037 (0.049)
Traffic / Logistics			0.038 (0.050)	0.037 (0.046)	0.044 (0.045)
Hotel and restaurant industry			0.022 (0.056)	0.038 (0.052)	0.047 (0.051)
Information / communication			-0.022 (0.054)	-0.031 (0.048)	-0.025 (0.047)
Finance / Insurance			0.096 (0.065)	0.089 (0.057)	0.100 (0.055)
Real estate			0.142** (0.054)	0.123* (0.050)	0.126** (0.048)
Freelance scientific / technical services			0.106 (0.060)	0.060 (0.048)	0.060 (0.048)

Other scientific services		0.081 (0.055)	0.037 (0.050)	0.044 (0.048)
Administration / Defense / Social Insurance		0.004 (0.050)	-0.009 (0.048)	-0.000 (0.045)
Education / Instruction		0.099 (0.055)	0.062 (0.050)	0.068 (0.048)
Health / Welfare		0.103 (0.066)	-0.005 (0.061)	0.016 (0.059)
Art / Entertainment / Recreation		0.039 (0.052)	-0.014 (0.050)	0.002 (0.048)
Other services		0.094 (0.098)	0.030 (0.067)	0.033 (0.065)
Private households		-0.003 (0.066)	-0.056 (0.058)	-0.043 (0.057)
Working hours		-0.010*** (0.002)	-0.009*** (0.002)	-0.009*** (0.002)
ISCO-88, first digit (Ref: 1 = Managers)				
0 = Armed forces		0.037 (0.076)	0.197** (0.073)	0.192** (0.068)
2 = Professionals		0.031 (0.052)	0.002 (0.037)	-0.002 (0.038)
3 = Technicians and associate professionals		-0.124* (0.051)	-0.057 (0.036)	-0.051 (0.038)

4 = Clerical support workers			-0.180*** (0.050)	-0.070 (0.036)	-0.066 (0.037)
5 = Service and sales workers			-0.219*** (0.053)	-0.115** (0.038)	-0.112** (0.039)
6 = Skilled agricultural, forestry and fishery workers			-0.226*** (0.065)	-0.109* (0.043)	-0.110* (0.046)
7 = Craft and related trades workers			-0.207*** (0.051)	-0.084* (0.037)	-0.082* (0.038)
8 = Plant and machine operators			-0.255*** (0.054)	-0.152*** (0.044)	-0.153*** (0.044)
9 = Elementary occupations			-0.249*** (0.069)	-0.160* (0.069)	-0.143 (0.073)
Temporary position			-0.007 (0.022)	-0.032 (0.017)	-0.031 (0.017)
Work situation (Ref: no evening, no weekend work)					
No evening, weekend work			-0.086** (0.026)	-0.050** (0.018)	-0.050** (0.018)
Evening work, no weekend			-0.039 (0.032)	-0.016 (0.029)	-0.009 (0.027)
Evening and weekend work			0.028 (0.024)	0.019 (0.018)	0.019 (0.017)

Number of subordinates										0.002 (0.001)	0.002* (0.001)			0.002* (0.001)
Strain with regard to the work environment										-0.003 (0.007)	-0.005 (0.006)			-0.006 (0.006)
Variety of tasks										0.028** (0.009)	0.026*** (0.007)			0.029*** (0.007)
Freedom of action										0.026** (0.009)	0.031*** (0.007)			0.033*** (0.007)
Married										0.004* (0.002)	0.004* (0.002)			0.004* (0.002)
Married X Female												-0.029 (0.051)	-0.043 (0.048)	-0.073 (0.059)
Value orientation: family/partnership												0.006 (0.066)	0.018 (0.065)	0.014 (0.068)
Value orientation: work, intrinsic												-0.016 (0.017)	-0.016 (0.018)	-0.022** (0.008)
Value orientation: work, extrinsic												-0.029 (0.034)	-0.031 (0.035)	-0.036* (0.017)
Constant	8.457*** (0.010)	8.334*** (0.011)	8.315*** (0.020)	8.330*** (0.022)	8.330*** (0.025)	8.294*** (0.021)	8.290*** (0.022)	7.963*** (0.011)	8.561*** (0.122)	8.433*** (0.139)	8.290*** (0.022)	8.589*** (0.117)	8.598*** (0.118)	8.510*** (0.145)
Sd (constant)	-1.688***	-1.539***	-1.691***	-1.656***	-1.626***	-1.692***	-1.795***	-2.411***	-2.234***	-2.709***	-1.787***			

	(0.038)	(0.025)	(0.086)	(0.082)	(0.089)	(0.126)	(0.131)	(0.201)	(0.178)	(0.252)	(0.135)			
Sd (residual)	-1.489*** (0.018)	-1.795*** (0.018)	-1.746*** (0.095)	-1.743*** (0.096)	-1.753*** (0.098)	-1.727*** (0.093)	-1.715*** (0.095)	-1.788*** (0.097)	-1.836*** (0.075)	-1.906*** (0.082)	-1.719*** (0.098)	-1.719*** (0.096)	-1.725*** (0.099)	-1.919*** (0.083)

Standard error in parentheses, * p<0.05, ** p<0.01, *** p<0.001; N_{observations} = 3524, N_{individuals} = 1781

Models 2.1., 2.3 and 4 contain additional controls for canton in which firm resides and number of employees in firm.

All models control for the way in which salary was reported (gross/net).

Table W.4: Blinder-Oaxaca decomposition for the first year in the labour market

overall		
men	8.268*** (0.015)	
women	8.218*** (0.014)	
difference	0.049* (0.021)	
explained	0.014 (0.022)	
unexplained	0.035* (0.014)	
Contributions of variable groups	explained	unexplained
Experience	0.003 (0.003)	-0.001 (0.038)
Social and migrant background	0.001 (0.004)	-0.375 (0.324)
Ability	-0.001 (0.002)	0.161 (0.108)
Education prior to labour market entry	-0.005 (0.032)	1.062 (0.741)
Fields of study/VET before labour market entry	-0.008 (0.020)	-0.043 (1.428)
Job characteristics	0.040* (0.020)	0.169 (0.269)
Job related human capital	-0.018 (0.028)	-0.417 (1.207)
Parenthood anticipation	0.002 (0.004)	-0.209 (0.114)

Standard error in parentheses, * p<0.05, ** p<0.01, *** p<0.001; N_{observations} = 1004, N_{individuals} = 1004