

Multidimensional Integration of Refugees and their Children in Germany

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Extended Abstract
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*Note: This paper presents preliminary results.
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Keywords: Refugee Integration, Labor Market Outcomes

This study investigates how integration outcomes evolve for refugees and immigrants in Germany across economic, educational, health, and sociocultural dimensions, and to what extent these patterns differ between men and women. In doing so, we provide, to our knowledge, the first comprehensive long-run descriptive evidence on refugee integration compared to other immigrants across five dimensions and two generations, including first-time evidence on second-generation outcomes. Drawing on data from the German Socio-Economic Panel (GSOEP) from 1984 to 2023, we build on and extend the framework of Brell et al. (2020) to cover a broader set of integration outcomes and a longer observation window up to 10 years after arrival. We find that employment rates of refugees converge toward those of native Germans over time, rising from approximately 3 percent at arrival to 58 percent after ten years. Yet this convergence masks a persistent wage gap. After eight years, refugees earn only 75 percent of native wages. Several descriptive patterns help explain this divergence. Refugees are underrepresented in white-collar employment, and 37 to 40 percent hold no formal educational degree. Weak German language skills further limit access to better-paying jobs: among full-time employed refugees, 61 percent speak German well, compared to only 26 percent among the unemployed. Gender disparities are particularly pronounced. After nine years, only 33 percent of refugee women are employed. High fertility rates (36 percent have three to six children) and persistently low language proficiency (only 22 percent speak German well in unemployment) among others might explain the lower labor market participation of refugee women. However, a more optimistic picture emerges for the second generation, as refugees' children demonstrate educational outcomes similar to those of native-born and other immigrant children. Our findings give insight into which groups require targeted support and why general integration programs may fall short.

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Appendix

Appendix A: Descriptive Statistics

Table 1: Descriptive statistics by migration status, Adult sample

	Mean	SD	Min	Max	N
Native					
Age in years	42.61	12.71	20.00	64.00	401648
Female	0.50	0.50	0.00	1.00	401636
Employment rate	0.67	0.47	0.00	1.00	400636
Wage	502.78	448.87	0.21	47552.05	65943
Age at arrival	.	.	.	.	0
Year of arrival	.	.	.	.	0
Years since arrival	.	.	.	.	0
Refugee					
Age in years	32.88	9.82	20.00	64.00	30859
Female	0.32	0.47	0.00	1.00	30851
Employment rate	0.32	0.46	0.00	1.00	30686
Wage	318.20	151.88	0.22	2921.76	4474
Age at arrival	28.53	9.82	11.00	64.00	30859
Year of arrival	2015.40	1.50	2007.00	2023.00	30859
Years since arrival	4.35	2.27	0.00	10.00	30859
Other immigrant					
Age in years	35.28	10.25	20.00	64.00	21644
Female	0.52	0.50	0.00	1.00	21639
Employment rate	0.60	0.49	0.00	1.00	21614
Wage	434.73	269.09	0.21	13982.71	8102
Age at arrival	29.14	10.19	10.00	63.00	21644
Year of arrival	2000.84	12.55	1974.00	2023.00	21644
Years since arrival	6.15	2.61	0.00	10.00	21644
Total					
Age in years	42.45	12.71	20.00	64.00	454151
Female	0.49	0.50	0.00	1.00	454126
Employment rate	0.67	0.47	0.00	1.00	452936
Wage	499.56	443.39	0.21	47552.05	78519
Age at arrival	29.03	10.13	10.00	64.00	52503
Year of arrival	2003.38	12.69	1974.00	2023.00	52503
Years since arrival	5.83	2.65	0.00	10.00	52503

Note: The table shows person-year observations. N varies by variable due to missing values. Statistics are weighted using individual survey weights.

Table 2: Countries of origin, Refugees

Country of Origin	Freq.	Percent	Cum.
Syria	16,082	51.84	51.84
Iraq	3,696	11.91	63.75
Afghanistan	3,033	9.78	73.53
Eritrea	1,250	4.03	77.56
Iran	1,024	3.30	80.86
Ukraine	989	3.19	84.05
Turkey	562	1.81	85.86
Nigeria	511	1.65	87.51
Somalia	480	1.55	89.06
Russia	410	1.32	90.38
Other	2,985	9.62	100.00
Total	31,022	100.00	

Note: Frequencies and percentages are based on un-weighted person-year observations from 2016 to 2023 of all refugee adults. The samples used are refugees from Southern Europe, M3–M6, and M9.

Table 3: Countries of origin, Other immigrants

Country of Origin	Freq.	Percent	Cum.
Turkey	3,116	13.66	13.66
Poland	2,625	11.50	25.16
Romania	1,947	8.53	33.69
Russia	1,389	6.09	39.78
Bulgaria	998	4.37	44.16
Italy	986	4.32	48.48
India	959	4.20	52.68
Kazakhstan	854	3.74	56.42
Bosnia & Herz.	688	3.02	59.44
Greece	598	2.62	62.06
Ukraine	445	1.95	64.01
Serbia	409	1.79	65.80
Other	7,803	34.20	100.00
Total	22,817	100.00	

Note: Frequencies and percentages are based on un-weighted person-year observations from 1984 to 2023 of all immigrant adults. The samples used are immigrants from Southern Europe, D1–D2, M1–M2, and M7–M8.

Table 4: Descriptive statistics by migration status, Children sample

	Mean	SD	Min	Max	N
Native					
Age in years	5.02	3.30	0.00	11.00	13416
Female	0.49	0.50	0.00	1.00	5248
(Very) Good health status	0.95	0.23	0.00	1.00	3963
High probability of certificate from a Hauptschule	0.35	0.48	0.00	1.00	4367
High probability of certificate from Gymnasium	0.67	0.47	0.00	1.00	4432
(Very) Good mark in last certificate: German	0.69	0.46	0.00	1.00	2052
(Very) Good mark in last certificate: Math	0.72	0.45	0.00	1.00	2050
Child likes going to school	0.92	0.27	0.00	1.00	2628
Child (refugee) currently visits school	.	.	.	.	0
Refugee					
Age in years	5.28	3.50	0.00	11.00	7091
Female	0.48	0.50	0.00	1.00	7101
(Very) Good health status	0.95	0.21	0.00	1.00	2580
High probability of certificate from a Hauptschule	0.83	0.38	0.00	1.00	2565
High probability of certificate from Gymnasium	0.85	0.36	0.00	1.00	2558
(Very) Good mark in last certificate: German	0.55	0.50	0.00	1.00	1153
(Very) Good mark in last certificate: Math	0.62	0.49	0.00	1.00	1182
Child likes going to school	0.96	0.19	0.00	1.00	1878
Child (refugee) currently visits school	0.85	0.36	0.00	1.00	2772
Other immigrant					
Age in years	4.58	3.17	0.00	11.00	1934
Female	0.50	0.50	0.00	1.00	1148
(Very) Good health status	0.96	0.21	0.00	1.00	603
High probability of certificate from a Hauptschule	0.56	0.50	0.00	1.00	500
High probability of certificate from Gymnasium	0.79	0.41	0.00	1.00	522
(Very) Good mark in last certificate: German	0.59	0.49	0.00	1.00	207
(Very) Good mark in last certificate: Math	0.68	0.47	0.00	1.00	211
Child likes going to school	0.97	0.18	0.00	1.00	311
Child (refugee) currently visits school	.	.	.	.	0

Note: The table shows person-year observations. N varies by variable due to missing values. Statistics are weighted using individual survey weights.

Table 5: Descriptive statistics by migration status, Youth sample

	Mean	SD	Min	Max	N
Native					
Age	12.87	0.99	12.00	14.00	2102
Female	0.49	0.50	0.00	1.00	1818
Teen speaks German well	0.91	0.30	0.00	1.00	11
Presence of own desk	0.92	0.27	0.00	1.00	1617
Presence of own room	0.90	0.30	0.00	1.00	1614
Presence of own books	0.96	0.20	0.00	1.00	1432
(Very) Good grade: German	0.37	0.48	0.00	1.00	6519
(Very) Good grade: Math	0.39	0.49	0.00	1.00	6514
(High) Interest in politics	0.23	0.42	0.00	1.00	4099
Feeling very welcome in Germany	.	.	.	.	0
(Very) High attachment to country of origin	.	.	.	.	0
Refugee					
Age	13.00	1.00	12.00	14.00	1085
Female	0.48	0.50	0.00	1.00	749
Teen speaks German well	0.93	0.25	0.00	1.00	1475
Presence of own desk	0.74	0.44	0.00	1.00	1559
Presence of own room	0.40	0.49	0.00	1.00	1845
Presence of own books	0.67	0.47	0.00	1.00	1843
(Very) Good grade: German	0.34	0.48	0.00	1.00	1303
(Very) Good grade: Math	0.42	0.49	0.00	1.00	1329
(High) Interest in politics	0.16	0.37	0.00	1.00	973
Feeling very welcome in Germany	0.64	0.48	0.00	1.00	697
(Very) High attachment to country of origin	0.52	0.50	0.00	1.00	1217
Other immigrant					
Age	12.84	0.99	12.00	14.00	172
Female	0.56	0.50	0.00	1.00	89
Teen speaks German well	0.72	0.45	0.00	1.00	43
Presence of own desk	0.85	0.36	0.00	1.00	149
Presence of own room	0.65	0.48	0.00	1.00	150
Presence of own books	0.90	0.30	0.00	1.00	139
(Very) Good grade: German	0.31	0.46	0.00	1.00	300
(Very) Good grade: Math	0.40	0.49	0.00	1.00	300
(High) Interest in politics	0.20	0.40	0.00	1.00	175
Feeling very welcome in Germany	.	.	.	.	0
(Very) High attachment to country of origin	.	.	.	.	0

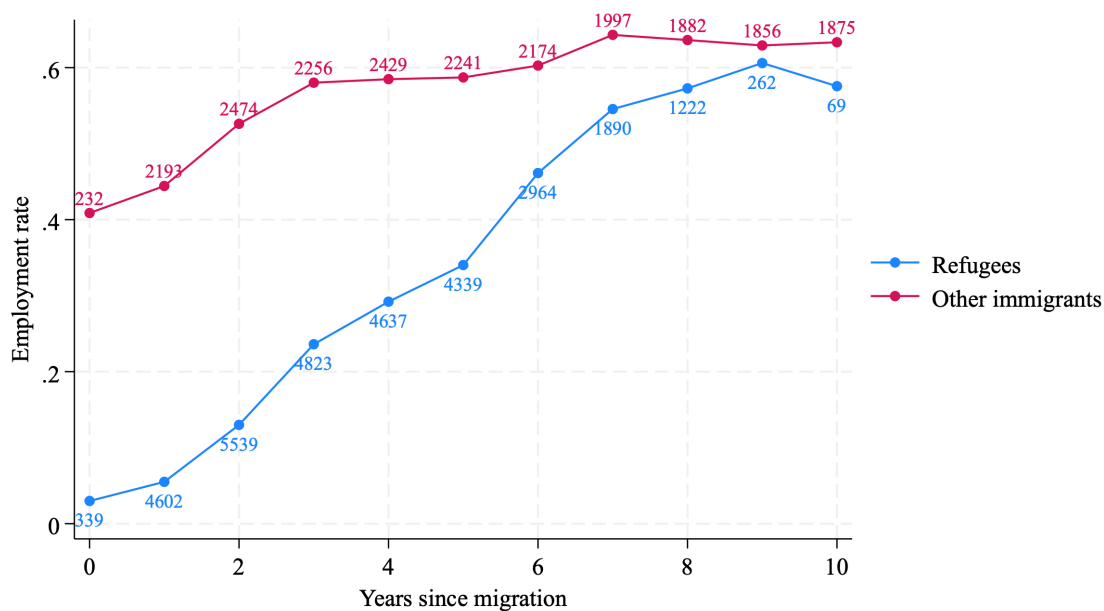
Note: The table shows person-year observations. N varies by variable due to missing values. Statistics are weighted using individual survey weights.

Appendix B: Labor Market Outcomes

Table 6: Employment rates and gaps

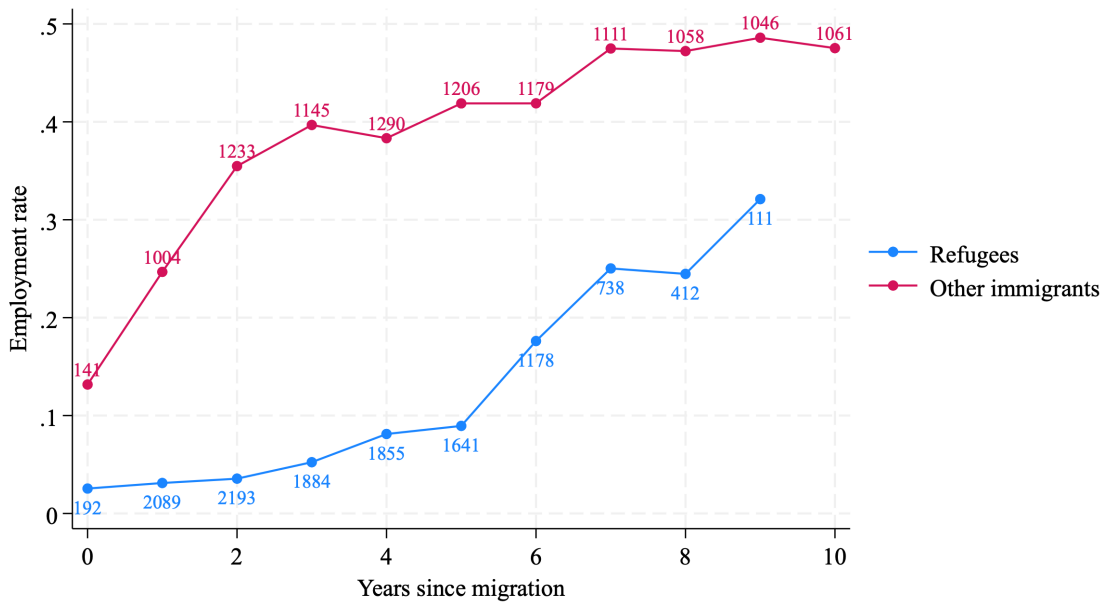
Years since arrival	Employment rate refugees	Gap: Refugees to Immigrants	Gap: Refugees to Natives
Men and Women			
2	0.130	0.396	0.538
5	0.340	0.247	0.328
10	0.576	0.058	0.092
Men			
2	0.174	0.536	0.588
5	0.458	0.317	0.305
10	0.789	0.031	-0.026
Women			
2	0.036	0.319	0.537
5	0.089	0.329	0.483
10	0.307	0.168	0.265

Note: The table shows employment rates and gaps for men and women. Employment rates are computed as weighted means using survey weights. For year 10, we only have 38 observations for men only and 31 observations for women only.



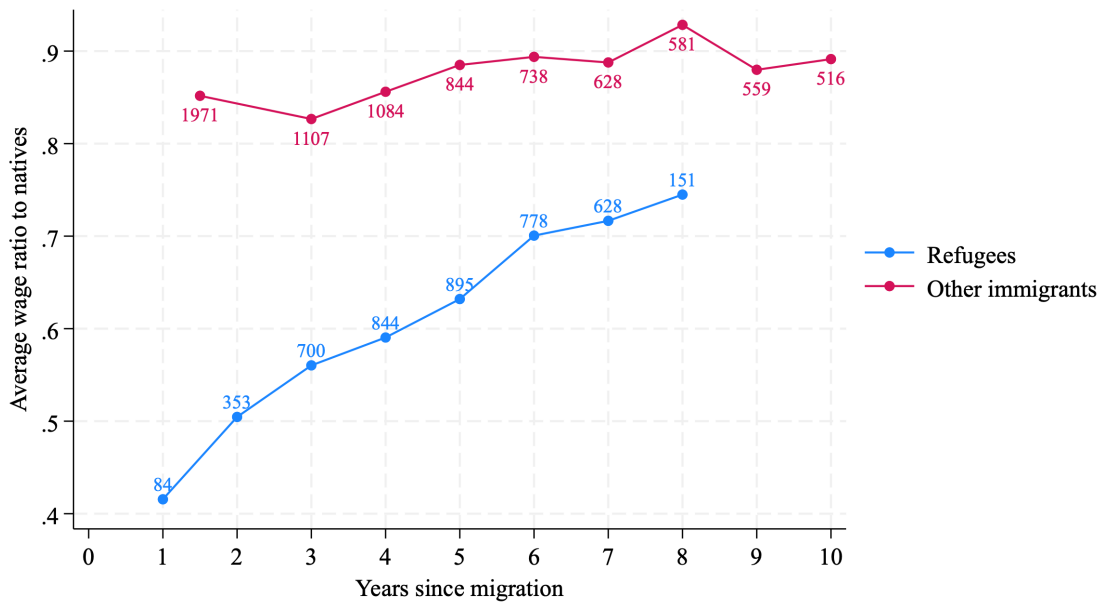
The numbers at data points represent the number of observations used for calculating the employment rate. The full sample is used for this graph (men and women).

Figure 1: Employment rate by years since migration



The numbers at data points represent the number of observations used for calculating the employment rate. Employment rates are shown only for women.

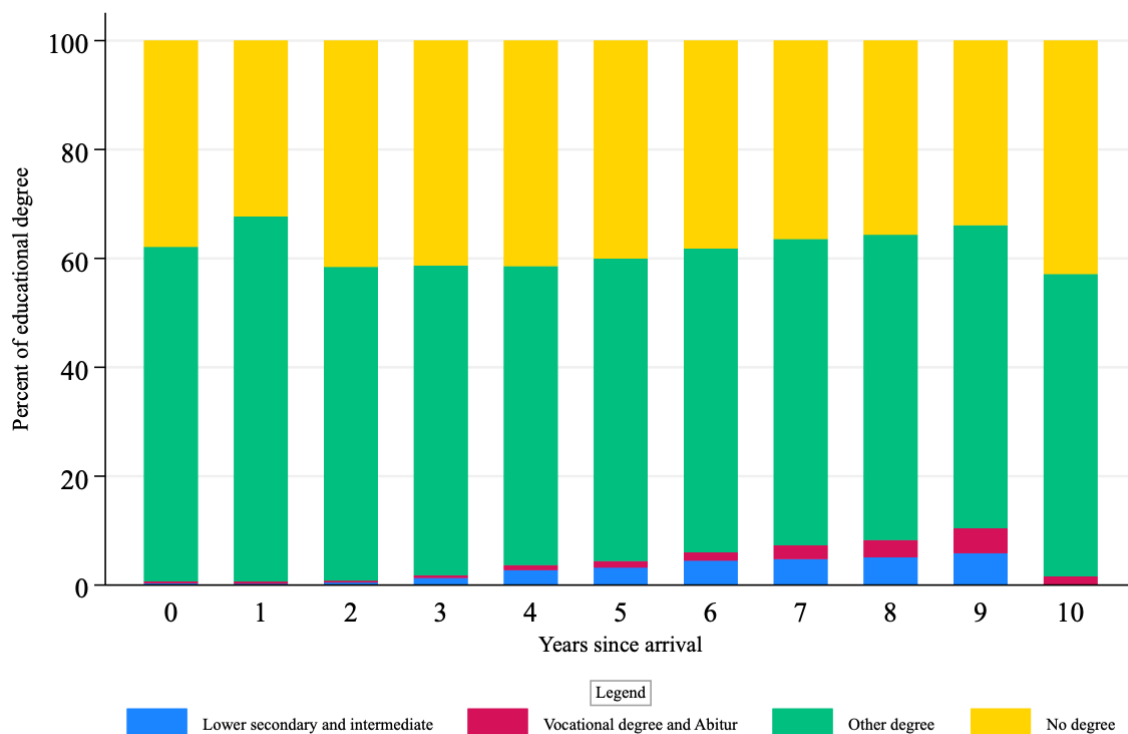
Figure 2: Employment rates of women by years since migration



The numbers at data points represent the number of observations used for calculating the wage ratio. Years 1 and 2 are pooled for other immigrants. The full sample is used for this graph (men and women).

Figure 3: Wage ratio by years since migration

Appendix C: Education, Family, and Social Networks



The graph includes the full sample of refugees.

Figure 4: Educational degrees of refugees by years since migration

Table 7: Employment type by gender and migrant type

Type	Natives		Refugees		Immigrants	
	M	F	M	F	M	F
Apprentice/Trainee	0.024	0.022	0.080	0.035	0.027	0.023
Blue-collar	0.285	0.120	0.202	0.049	0.462	0.183
Self-employed	0.084	0.046	0.014	0.005	0.031	0.026
White-collar	0.341	0.430	0.207	0.067	0.309	0.271
Civil servant	0.071	0.036	0.005	0.002	0.004	0.005

Note: The table shows person-year observations for men (M) and women (F).

Table 8: Employment status by gender and migrant type

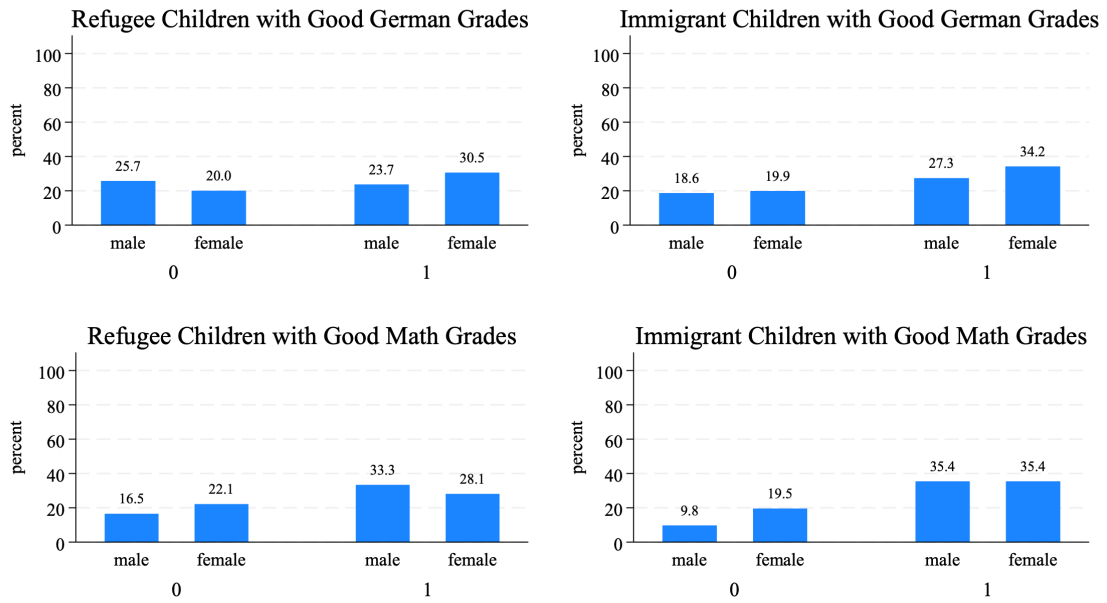
Status	Natives		Refugees		Immigrants	
	M	F	M	F	M	F
Full-time	0.730	0.351	0.341	0.052	0.739	0.269
Part-time	0.031	0.222	0.070	0.059	0.049	0.162
Training	0.022	0.019	0.070	0.029	0.024	0.020
Irregular	0.021	0.062	0.028	0.020	0.019	0.056
Unemployed	0.194	0.344	0.481	0.832	0.167	0.490

Note: The table shows person-year observations for men (M) and women (F).

Table 9: Language skills by employment status

Employment status	Weak skills (%)	Good skills (%)
Men and Women		
Full-time employment	38.90	61.10
Part-time employment	47.53	52.47
Unemployment	74.12	25.88
Men		
Full-time employment	39.28	60.72
Part-time employment	47.33	52.67
Unemployment	70.47	29.53
Women		
Full-time employment	33.56	66.44
Part-time employment	47.98	52.02
Unemployment	77.94	22.06

Note: Row percentages of refugees by employment status and self-reported German speaking proficiency.



The children are 6 to 11 years old.

Figure 5: Math and German grades by gender and migrant status

Table 10: Number of children by migrant type

	Mean	SD	Min	Max	N
Native					
No children	0.37	0.48	0.00	1.00	208726
1 to 2 children	0.53	0.50	0.00	1.00	208726
3 to 6 children	0.10	0.30	0.00	1.00	208726
7 or more children	0.00	0.02	0.00	1.00	208726
Refugee					
No children	0.21	0.40	0.00	1.00	12402
1 to 2 children	0.43	0.49	0.00	1.00	12402
3 to 6 children	0.36	0.48	0.00	1.00	12402
7 or more children	0.01	0.09	0.00	1.00	12402
Other immigrant					
No children	0.31	0.46	0.00	1.00	11484
1 to 2 children	0.52	0.50	0.00	1.00	11484
3 to 6 children	0.16	0.37	0.00	1.00	11484
7 or more children	0.00	0.06	0.00	1.00	11484
Total					
No children	0.37	0.48	0.00	1.00	232612
1 to 2 children	0.53	0.50	0.00	1.00	232612
3 to 6 children	0.10	0.30	0.00	1.00	232612
7 or more children	0.00	0.02	0.00	1.00	232612

Note: The table shows person-year observations based on mothers only.

References

Brell, C., Dustmann, C., & Preston, I. (2020). The labor market integration of refugee migrants in high-income countries. *Journal of Economic Perspectives*, *34*(1), 94–121. <https://doi.org/10.1257/jep.34.1.94>