

## **Online Appendix**

Hendriks, Burger, Ray, and Esipova (2018) - Do international migrants increase their happiness and that of their families by migrating?

**Table A1** Descriptive statistics of the GWP 2009-2016 analysis sample: Means (standard deviations)

	<b>Group 1 (N=36,574)</b>	<b>Group 2 (N=36,574)</b>	<b>Group 3 (N=36,574)</b>	<b>Group 4 (N=36,574)</b>
Life evaluation (0-10)	5.84 (2.27)	5.37 (1.14)	5.67 (1.25)	5.73 (1.10)
Positive affect (0-10)	6.78 (3.90)	6.67 (1.62)	6.96 (1.72)	7.13 (1.39)
Negative affect (0-10)	2.74 (3.25)	3.05 (1.32)	2.40 (1.23)	2.32 (0.90)
Age (years)	45.79 (17.68)	40.78 (16.78)	45.66 (17.25)	40.96 (16.31)

**Table A2** Descriptive statistics of the GWP 2009-2016 migrant sample

	<b>Immigrants (N=36,574)</b>	<b>Newcomers (N=6,499)</b>	<b>Long-timers (N=30,075)</b>
	<i>Mean (SD) / %</i>	<i>Mean (SD) / %</i>	<i>Mean (SD) / %</i>
Life evaluation (0-10)	5.84 (2.27)	5.76 (2.34)	5.86 (2.25)
Positive affect (0-1)	6.78 (3.90)	7.24 (3.65)	6.68 (3.94)
Negative affect (0-1)	2.74 (3.25)	2.72 (3.27)	2.75 (3.25)
Age (years)	45.79 (17.68)	34.85 (14.08)	48.17 (17.58)
Female (%)	57	52	58
Education level (%)			
Primary school or less	20	24	20
Secondary school or some tertiary education	54	52	54
4-year university degree or higher	26	24	26
Origin region (%)			
Commonwealth of Independent States	21	10	23
Western Europe	19	13	20
Central & Eastern Europe	15	11	16
Sub-Saharan Africa	13	25	11
Middle East and North Africa	10	11	10
Latin America & the Caribbean	8	13	7
East Asia	4	3	4
South Asia	4	7	3
Southeast Asia	3	4	3
Northern America & ANZ	3	3	3
Destination region (%)			
Western Europe	21	20	21
Central & Eastern Europe	19	10	20
Sub-Saharan Africa	13	25	10
Commonwealth of Independent States	12	8	13
Middle East and North Africa	11	9	12
Northern America & ANZ	10	8	10
Latin America & the Caribbean	6	10	5
East Asia	3	2	4
Southeast Asia	3	4	3
South Asia	2	4	2

**Table A3 Countries/territories by region**

<b>Region</b>	<b>Country</b>
Latin America & the Caribbean	Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Suriname, Trinidad & Tobago, Uruguay, Venezuela
Sub-Saharan Africa	Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Comoros, Congo (Kinshasa), Congo Brazzaville, Djibouti, Ethiopia, Gabon, Ghana, Guinea, Ivory Coast, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, Somaliland region, South Africa, South Sudan, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe
MENA	Algeria, Egypt, Iran, Iraq, Israel, Jordan, Lebanon, Libya, Morocco, Palestinian Territories, Syria, Tunisia, Turkey, Yemen
South Asia	Afghanistan, Bangladesh, Bhutan, Pakistan, India, Nepal, Sri Lanka, the Maldives
Southeast Asia	Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, Vietnam
East Asia	China, Hong Kong S.A.R., Japan, Macau, Mongolia, South Korea, Taiwan Province of China
Commonwealth of Independent States	Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Nagorno-Karabakh Republic, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan
Central and Eastern Europe	Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Estonia, Hungary, Kosovo, Latvia, Lithuania, Macedonia, Malta, Montenegro, Northern Cyprus, Poland, Romania, Serbia, Slovakia, Slovenia
Western Europe	Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom
Northern America & ANZ	Australia, Canada, New Zealand, United States

**Table A4** Happiness gains of migrants and origin-destination happiness differential by migration flow

<i>Migration flow</i>	<b>Life evaluations</b>		<b>Positive affect</b>		<b>Negative affect</b>	
	<i>Migrant gain/loss</i>	<i>Origin-destination differential</i>	<i>Migrant gain/loss</i>	<i>Origin-destination differential</i>	<i>Migrant gain/loss</i>	<i>Origin-destination differential</i>
<b>Within regions</b>						
CIS	0.39	0.09	0.43	-0.02	-0.51	-0.13
Sub-Saharan Africa	0.21	0.05	0.18	0.05	-0.18	0.14
MENA	0.44	0.60	0.57	0.40	-0.95	-0.41
Western Europe	0.45	0.22	0.36	0.20	-0.31	-0.14
South Asia	-0.28	0.04	-0.27	-0.06	0.25	0.03
Southeast Asia	1.08	1.01	0.34	-0.29	-0.84	-0.44
LAC	0.45	0.47	-0.17	0.25	-0.2	-0.27
East Asia	0.54	0.64	0.85	-0.55	0.02	0.36
Central & Eastern Europe	0.39	0.18	0.51	0.13	-0.49	-0.03
Northern America & ANZ	-0.01	-0.07	-0.84	-0.12	-0.55	0.07
<b>Between regions</b>						
MENA to Western Europe	0.90	1.67	0.86	1.82	-0.04	-0.9
LAC to Western Europe	0.36	0.37	-0.37	-0.68	0.19	-0.07
CIS to MENA	1.11	1.58	0.24	0.70	0.57	1.36
CIS to Western Europe	0.59	1.28	0.47	1.49	0.38	0.08
Central & Eastern Europe to Western Europe	0.78	1.16	0.50	1.08	-0.14	-0.58
Western Europe to Northern America & ANZ	0.84	0.47	0.73	0.34	-0.13	0.33
Sub-Saharan Africa to Western Europe	1.44	2.29	0.87	1.04	0.22	-0.21
CIS to Central & Eastern Europe	0.57	0.32	0.69	0.82	0.13	0.55
South Asia to Southeast Asia	0.80	1.71	-0.26	0.32	-0.37	-1.01
Western Europe to Central & Eastern Europe	0.27	-1.10	-0.01	-1.05	-0.65	0.88

**Table A5** Descriptive statistics of the GSOEP analysis sample by immigrant group

	<b>Refugees (N=607)</b>	<b>Voluntary migrants (N=4,607)</b>
	<i>Mean (SD) / %</i>	<i>Mean (SD) / %</i>
Age (years)	41 (12.6)	38 (11.4)
Years since migration	13 (7.9)	11 (8.4)
Female (%)	43	55
Region of origin (%)		
Middle East and North Africa	48	12
Central & Eastern Europe	27	42
Commonwealth of Independent States	16	28
Sub-Saharan Africa	5	2
South Asia	3	1
Latin America & the Caribbean	1	2
Western Europe	0	10
Northern America & ANZ	0	1
East Asia	0	1
Southeast Asia	0	1

*Note:* The migrant categorization is based on the following question: How did you move to Germany? (a) As an employed person who already had a job offer in Germany, (b) As an ethnic German (Aussiedler) from an Eastern European country, (c) As a spouse, child, or other family member, (d) As an asylum-seeker or refugee, (e) As a student or vocational trainee, (f) As a job-seeker, (g) In a different way. Respondents who answered option (d) were classified as refugees; all other respondents were classified as voluntary migrants. We computed years since migration by subtracting the year that the respondents entered Germany from the survey year.

**Table A6** OLS regression: Life satisfaction in Germany by immigrant type

Dependent variable: Life satisfaction

Type of migrant	<i>Ref.</i>
<i>Refugee</i>	
Expat with job offer	0.55** (0.10)
Ethnic German (Aussiedler)	0.62** (0.09)
Co-moving family member	0.33** (0.09)
Student	0.31** (0.12)
Job seeker	0.21* (0.10)
Other	0.35** (0.12)
Years since migration	-0.01** (0.00)
Age	-0.02 (0.01)
Age <sup>2</sup> /100	0.00 (0.00)
Female	0.05 (0.05)
Observations	5,214
R <sup>2</sup>	0.03

*Notes:* Regression coefficients are displayed with robust standard errors in parentheses. \* p<0.05, \*\* p<0.01.

**Table A7** Descriptive statistics of the GWP 2006-2016 analysis sample

	<b>All individuals with a household member abroad<sup>a</sup></b>	<b>Individuals with a household member abroad for temporary work<sup>b</sup></b>	<b>Individuals with a household member living permanently abroad<sup>b</sup></b>	<b>Individuals receiving remittances from relatives abroad<sup>c</sup></b>
	<i>Mean (SD) / %</i>	<i>Mean (SD) / %</i>	<i>Mean (SD) / %</i>	<i>Mean (SD) / %</i>
Age (years)	39	39	42	36
Female (%)	54	58	55	56
Education level				
Primary school or less	29	30	26	33
Secondary school or some tertiary education	56	57	53	60
4-year university degree or higher	15	13	21	7
Origin region (%)				
Latin America & the Caribbean	26	56	30	100
Sub-Saharan Africa	23	0	0	0
Central & Eastern Europe	12	3	4	0
Commonwealth of Independent States	11	41	66	0
Middle East and North Africa	9	0	0	0
South Asia	6	0	0	0
Western Europe	5	0	0	0
Northern America & ANZ	1	0	0	0
East Asia	3	0	0	0
Southeast Asia	4	0	0	0

*Notes:* The destination country is known for only a small part of the sample.

<sup>a</sup> Migrant- and non-migrant households are identified based on the following question: Have any members of your household gone to live in a foreign country permanently or temporarily in the past five years? (a) Yes, still there, (b) No.

<sup>b</sup> These groups are identified based on the following question: What was the primary reason for this person to go abroad? (a) To study, (b) For temporary work, (c) To live permanently, (d) Other.

<sup>c</sup> This group is identified based on the following question: Does this household receive remittances from relatives living outside of the country on a regular basis? Yes/No.

**Table A8** Survey mode by world region

In percentages	Phone	Face-to-face (no CAPI)	Face-to-face (CAPI)
World region			
Western Europe	100	0	0
Northern America & ANZ	100	0	0
East Asia	75	25	0
Middle East and North Africa	17	81	2
Central & Eastern Europe	11	73	16
Southeast Asia	3	79	18
Commonwealth of Independent States	0	93	7
South Asia	0	85	15
Latin America & the Caribbean	0	65	35
Sub-Saharan Africa	0	62	38

To assess how the survey mode affects happiness self-reports, we estimate an ordinary least squares (OLS) model with robust standard errors clustered at the country-level using the 2006-2016 GWP data. This model has the following specification:

$$H_{ijt} = \beta_1 SM_{jt} + \theta X_{ijt} + \varepsilon_j + \tau_t + GDP_{jt} + \mu_{ijt}$$

In this model,  $H_{ijt}$  denotes the overall happiness of immigrant  $i$  in country  $j$  in year  $t$ . Vector  $SM_{jt}$  represents the categorical survey mode variable.  $X_{ijt}$  is a vector of individual-level controls, including age, age squared, gender, migrant status, and education level; vector  $\varepsilon_j$  is a set of country-of-residence dummies; vector  $\tau_t$  contains the year dummies;  $GDP_{jt}$  represents GDP per capita at Purchasing Power Parity (PPP); and  $\mu_{ijt}$  is a residual error. The survey mode changed from face-to-face without CAPI to face-to-face with CAPI in a wide range of countries throughout the years. The survey mode changed from face-to-face to telephone in Greece (2007), Qatar (2010), Iran (2011), Bahrain, Kuwait, Malaysia, Saudi Arabia, the United Arab Emirates (all 2013), and in Turkey (2014). A change from face-to-face to telephone was also made in Iraq and Libya, but these countries are excluded from analysis because major conflicts erupted concurrently within these countries.

**Table A9** OLS regression: Survey mode

Dependent variable	Life evaluation	Positive affect	Negative affect
<i>Country-level</i>			
<b>Phone</b>	<b>Ref.</b>	<b>Ref.</b>	<b>Ref.</b>
<b>Face-to-Face (no CAPI)</b>	<b>0.19</b> <b>(0.12)</b>	<b>0.38</b> <b>(0.28)</b>	<b>-0.60**</b> <b>(0.21)</b>
<b>Face-to-Face (CAPI)</b>	<b>0.09</b> <b>(0.13)</b>	<b>0.26</b> <b>(0.32)</b>	<b>-0.29</b> <b>(0.23)</b>
GDP per capita (x1000)	0.02* (0.01)	0.00 (0.00)	-0.01** (0.00)
<i>Individual level</i>			
Age	-0.03** (0.01)	-0.01** (0.00)	0.01** (0.00)
Age <sup>2</sup> /100	0.03** (0.01)	0.00** (0.00)	-0.00** (0.00)
Female	0.09** (0.01)	0.00 (0.00)	0.03** (0.00)
Education level			
Primary school or less	Ref.	Ref.	Ref.
Secondary school or some tertiary education	0.54** (0.02)	0.05** (0.00)	-0.04** (0.00)
4-year university degree or higher	1.06** (0.03)	0.09** (0.01)	-0.07** (0.01)
Immigrant	-0.18** (0.04)	-0.02** (0.01)	0.02** (0.00)
Year dummies	Yes	Yes	Yes
Country Dummies	Yes	Yes	Yes
N individuals	1,246,560	1,246,560	1,246,560
N countries	153	153	153
R <sup>2</sup>	0.24	0.09	0.06

*Notes:* Regression coefficients are displayed with cluster-robust standard errors in parentheses. \* p<0.05, \*\* p<0.01.