THE IMPACT OF MIGRATION ON THE TRANSMISSION PATTERNS OF COVID-19

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Abstract: The outbreak of the COVID-19 pandemic has caused severe damage to socio-economic activities, leading to a deep recession in the global economy. Most countries have responded quickly and have attempted to support the labour market and socio-economic conditions through unprecedented policy packages since the beginning of the crisis to reduce the economic shock and support workers. The analysis showed that the pandemic had affected all migration forms, including labour and return migration. On the other hand, the return migration accelerated the spread of the virus. The current study aims to assess the relationship between the COVID-19 pandemic and migrant stock in the countries of origin and destination. Econometric modelling was used to test the hypotheses. The study reveals a significant relationship between international migrant stocks (countries of origin) and the confirmed cases of COVID-19.

Keywords: COVID-19 pandemic, migration stock, human mobility.

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Introduction

The COVID-19 pandemic has influenced daily lives from the early stages of the outbreak in March 2020. The pandemic has affected different domains of politics, economy and society, including various forms of human mobility (Baghdasaryan & Sirkeci, 2020; Patrawala and Singh, 2021; Sirkeci and Yucesahin, 2020; Cohen, 2020; Cohen, 2021; Sirkeci and Cohen, 2020; Vatansever et al., 2021). Multiple studies have already explored the transmission mechanism of COVID-19. Some academics have done early studies to estimate and predict the virus' impact channels by applying the dynamic modelling method (Tian *et al.*, 2020; Feng *et al.*, 2020; Samui *et al.*, 2020). Sanyi *et al.* (2020) studied the risk of the spread of the epidemic after returning to regular economic activity. Other authors have assessed the parameters and trends of the pandemic (Xia *et al.*, 2020; Sen-zhong *et al.*, 2020). On the other hand, some studies estimate the effectiveness of some quarantine measures for containing the spread of the coronavirus (Qian *et al.*, 2020; Juping *et al.*, 2020).

Governments applied various measures to contain the spread of the virus, including strict lockdowns (Sardar *et al.*, 2020; Allen, 2022), travel and human mobility restrictions (Devi, 2020; Gursoy & Chi, 2020), social distancing (Qian & Jiang, 2020; Kissler *et al.*, 2020), ceasing of many types of economic activity (Stannard *et al.*, 2020; Keh & Tan, 2021).

The COVID-19 pandemic has impacted migration patterns in various regions as countries have restricted international, cross-border and domestic movements to minimize the spread and impact of the pandemic. Hence, in the early days, the pandemic caused a historical decrease in daily mobility and travel volumes (Bonaccorsi *et al.*, 2020). As of June 2020, 6% of airports, 25% of land border crossings and 9% of maritime border crossings were closed to entry and exit in the European Union (IOM, 2020). Moreover, the number of illegal border crossings decreased by 85% compared to the previous month and amounted to about 900 (Frontex, 2020).

Despite the direct effect on human mobility caused by the restrictions that governments applied to contain the spread of the virus, the pandemic also indirectly impacts migration through economic consequences. Monras (2018) argues that negative economic shocks significantly impact the migration processes.

Regarding the relationship between the COVID-19 pandemic and migration flows, we distinguish the following types of migration: refugee and asylum, labour migration and return (reverse) migration. In general, the measures aimed at curbing the consequences of the pandemic directly impacted the migration policy of countries for all forms of migration. However, the countries' migration policies significantly varied from the complete closure of borders for international migrants to partial ones (Guadagno, 2020; Piccoli *et al.*, 2020).

Refugees and asylum seekers are the most vulnerable migrants affected by the pandemic (Kondilis *et al.*, 2020). The asylum system in developed countries,

including the European Union member-states, has been frozen as registrations were suspended due to social distancing and lockdown measures (UNHCR, 2020a). To overcome the asylum crisis due to the pandemic, UNHCR (2020b) provided practical recommendations to address the issue.

Labour migrants were severely affected by the outbreak of the COVID-19 pandemic due to the strict measures applied to contain the spread of the virus (Pouliakas & Branka, 2020). As a result, many migrants lost their jobs, hence their source of income and had no other choice but to return to their countries of origin (de Haan, 2020). As a result, the return migration was the only form of migration that not only didn't decrease but was significantly activated as most countries' constitutions guarantee unconditional entry for their citizens. Moreover, many governments developed support packages for return migrants during the pandemic to enhance the reverse migration flows (Kumar *et al.*, 2020; Martin & Bergmann, 2021).

Considering that the emigrants were returning to their countries of origin in high numbers, we assume that the number of migrant stocks significantly impacted the spread of the COVID-19 pandemic (see Sirkeci and Yucesahin, 2020). While during the first quarter of 2020, primarily the migrant stock in China mattered, the spread of the virus may have intensified in March. This study aims to assess the relationship between the COVID-19 pandemic and migrant stock in the countries of origin and destination.

Data and Method

The current article aims to explore the influence of migration on the spread of the COVID-19 pandemic in donor and host countries in 2020. The statistical basis of the analysis was the cross-sectional data of 164 countries for the year 2020. Table 1 represents the cross-sectional data series used for the research and their sources.

Table 1. Cross-sectional data for 164 countries, 2020

Variable	Source	Transformation
Migrant Stock - Destination	UN Population Division	% of population
Migrant Stock - Origin	UN Population Division	% of population
Confirmed cases of COVID-19	WHO	Per million, log(e)
Confirmed deaths of COVID-19	WHO	Per million, log(e)
Population density	World Bank	-

Human Development Index	UNDP Human Development Report	-

The study covers 164 countries as presented in Appendix. To build and estimate the econometric models testing the impact of selected independent variables on the infection rate (confirmed cases) and death rate (confirmed death), the econometric package EViews 10 was applied. Following the review of empirical studies on similar topics, the cross-sectional data approach was chosen to test the primary hypothesis from a regional perspective (see Franc et al., 2019; Istudor et al., 2020). The data was adjusted considering the presence of outliers and was checked against normal distribution and heteroscedasticity. Table 2 presents the correlation matrix for all the indicators used for estimation. As is evident from the results, a significant correlation is found between migration stock and the spread of coronavirus.

Table 2. Correlation matrix for the selected indicators (Authors' own calculation)

	DR	**HDI**	**IR**	**MSD**	**MSO**	**PD**
DR	*1*	*0.62127**	*0.91837**	*0.21938**	*0.21881**	*-0.01577*
HDI	*0.62127*	*1*	*0.69235**	*0.46271**	*0.113712*	*0.132836*
IR	*0.91837*	*0.6924*	*1*	*0.3735**	*0.17303**	*0.044649*
MSD	*0.219385*	*0.462715*	*0.373452*	*1*	*-0.02703*	*0.17597**
MSO	*0.218818*	*0.113712*	*0.17303*	*-0.02703*	*1*	*0.025854*
PD	*-0.01577*	*0.132836*	*0.044649*	*0.175968*	*0.025854*	*1*

*Correlation is significant at the 0.05 level

The following hypotheses were formulated:
- A higher percentage of migrant stock abroad has contributed to a higher infection and death rate in the country.
- The presence of immigrant stock in the country did not significantly influence the spread of coronavirus.

The following models have been developed to test these hypotheses:

$$IR_i = C + \alpha\, MSD_i + \beta\, MSO_i + \gamma\, PD_i + \delta\, HDI_i + \varepsilon_i,\qquad (1)$$

$$DR_i = C + \alpha\, MSD_i + \beta\, MSO_i + \gamma\, PD_i + \delta\, HDI_i + \varepsilon_i,\qquad (2)$$

Where i = 1, …, N represents the countries included in the model; MSD_i represents a vector of explanatory variables for immigrant stock across 164 countries; MSO_i represents a vector of explanatory variables for emigrant stock across 164 countries; PD_i represents a vector of explanatory variables for population density in the selected countries; HDI_i represents a vector of explanatory variables for the human development index in the selected countries; ε_i is the error term. The models have 164 observations.

Findings and Discussion

Table 3 represents the estimation results for the impact of migration processes on the spread of coronavirus confirmed cases, while Table 4 represents the estimation results for the impact of migration processes on the spread of coronavirus confirmed deaths.

In model 1, the probability values of two regressors – migrant stock_origin and human development index are significant. We take the 10% and 5% significance levels, and at these levels, we have strong evidence to reject the null hypothesis of coefficients being equal to 0. Hence both MSO (at a 10% significance) and HDI (at a 5% significance) are considered significant factors influencing the infection rate of COVID-19. On the other hand, the p-value of the variable of migrant stock_destination is high enough to accept the null hypothesis of the coefficient being equal to 0 and consider this indicator as not significant. The adjusted R-square equals 0.48, indicating that the regressors can explain 48% of changes in COVID-19 confirmed cases. However, we aimed to test the significance of the regressors. The probability of F-statistic for the model used to estimate equation (1) is less than 0.05 indicating that the data used for the model estimation provides sufficient evidence that model (1) fits the data better than would a model without MSD, MSO, PD and HDI as independent variables.

Table 3. Results for Model 1 for the impact on COVID-19 infection rate (IR) (Authors' own calculation)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MSD	*0.010964*	*0.008134*	*1.347838*	*0.1796*
MSO	*1.748545*	*0.964107*	*1.813642*	*0.0716**
PD	*-0.07989*	*0.077041*	*-1.037*	*0.3013*
HDI	*8.039739*	*0.7964*	*10.0951*	*0.000****
C	*2.769859*	*0.621364*	*4.457704*	*0.000****

R-squared	0.496487	Mean dependent var	8.578844
Adjusted R-squared	0.48382	SD dependent var	1.934475
SE of regression	1.389836	Akaike info criterion	3.526263
Sum squared resid	307.1316	Schwarz criterion	3.620771
Log-likelihood	-284.154	Hannan-Quinn criter.	3.564629
F-statistic	39.19535	Durbin-Watson stat	2.080178
Prob(F-statistic)	0		

***$p < 0.01$; **$p < 0.05$; *$p < 0.1$

In model 2, the probability values of the same two regressors – migrant stock_origin and human development index are significant at a 5% confidence level. Hence we have enough evidence to reject the null hypothesis of the estimated coefficients being equal to 0 and consider both MSO and HDI significant factors influencing the death rate of COVID-19. On the other hand, the p-value of the variable of migrant stock_destination is high enough to accept the null hypothesis of the coefficient being equal to 0 and consider this indicator insignificant. The adjusted R-square equals 0.4, indicating that the regressors can explain 40% of changes in COVID-19 confirmed deaths. The probability of F-statistic for the model used to estimate equation (2) is less than 0.05, indicating that the data used for the model estimation provides sufficient evidence that model (2) fits the data better than would a model without MSD, MSO, PD and HDI as independent variables.

Table 4. Results for Model 2 for the impact on COVID-19 death rate (IR)
(Authors' own calculation)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MSD	-0.00729	0.008667	-0.84064	0.4018
MSO	2.466118	1.027184	2.400855	0.0175**
PD	-0.12682	0.082081	-1.54502	0.1243
HDI	7.933904	0.848504	9.350461	0.000***
C	-0.91064	0.662017	-1.37555	0.1709
R-squared	0.420958	Mean dependent var		4.500857
Adjusted R-squared	0.406391	SD dependent var		1.921924

SE of regression	1.480766	Akaike info criterion	3.65301
Sum squared resid	348.6343	Schwarz criterion	3.747518
Log-likelihood	-294.547	Hannan-Quinn criter.	3.691377
F-statistic	28.89789	Durbin-Watson stat	2.382686
Prob(F-statistic)	0		

***p < 0.001; **p < 0.01; *p < 0.05.

Equations (3) and (4) show the estimated models for infection rate and death rate, respectively.

$$IR_i = 2.78 + 0.01\,MSD_i + 1.75 * MSO_i - 0.08 * PD_i + 8.04\,HDI_i ,$$
$$(3)$$

$$DR_i = -0.91 - 0.007 * MSD_i + 2.47 * MSO_i - 0.13 * PD_i + 7.93\,HDI_i$$
$$(4)$$

As our dependent variables are log-transformed, we have transformed the estimated coefficients to show the results in percentages. Thus, the estimation results show that a one percent increase in migrant stock (origin) as a percentage of the population leads to an increase in the infection rate by 4.75 per million and in the death rate by 10.8 per million. On the other hand, the variables MSD and PD do not show to be significant due to high p-values.

The estimation results of model 1 and model 2 provide enough evidence for accepting our initial hypotheses about migration stock of origin significantly impacting the transmission channels of COVID-19. In contrast, the migration stock of the destination is not statistically significant.

Conclusions

The COVID-19 pandemic has had a disruptive effect on all domains of life. Economies shrunk, projects were halted, lengthy lockdowns caused severe delays and troubles in transportation and health services were overburdened. Migration, travel patterns, and labour markets have been adversely affected by these and by the measures implemented to prevent the spread of the coronavirus. Many countries have responded quickly to mitigate the economic impact of the pandemic, introducing unprecedented policy packages since the beginning of the crisis to reduce the financial shock and to support workers and businesses. Our analysis here showed that the pandemic had adversely affected all migration forms,

including labour and return migration, i.e. reducing the volumes and frequencies. On the other hand, return migration has been accelerated by the spread of the virus. There is a significantly positive relationship between the migrant stocks in receiving counties and the spread of COVID-19. In contrast, the immigrant stocks in the destination countries were found not to be significant. Hence we can argue that not those migrants visiting their home countries or returnees were critical but those settled migrants in destination countries were found to have some relation with the spread of the coronavirus. This line of research, once expanded and deepened, can be useful in policy formulation against the spread of pandemics.

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Appendix

Table A1. Selected indicators by countries (n=164) [27.05.2022] (UN Population Division – International Migrant Stock 2020, UNDP Human Development Report, WHO, WB)

	Migration stock - destination	Migration stock - origin	Cases per million	Deaths per million	Population density	Human dev. index
Afghanistan	0.4	0.1S50375	1313.655	54.951	54.422	0.511
Albania	1.7	0.440633	20298.41	411.078	104.871	0.795
Algeria	0.6	0.046118	2232.576	61.771	17.348	0.748
Andorra	59.0	0.144076	104054.1	1085.917	163.755	0.868
Angola	2.0	0.020327	517.275	11.935	23.89	0.581
Antigua and Barbuda	30.0	0.679693	1610.485	50.644	231.845	0.778
Argentina	5.0	0.023716	35642.69	948.234	16.177	0.845
Armenia	6.4	0.32336	53706.92	951.105	102.931	0.776
Australia	30.1	0.023304	1102.248	35.249	3.202	0.944
Austria	19.3	0.067371	39374.12	827.816	106.749	0.922
Azerbaijan	2.5	0.115318	21392.22	258.33	119.309	0.756
Bahamas	16.2	0.136792	19830.49	428.304	39.497	0.814
Bahrain	55.0	0.034245	53008.79	201.339	1935.907	0.852
Bangladesh	1.3	0.044944	3087.788	45.453	1265.036	0.632
Barbados	12.1	0.346629	1331.211	24.33	664.463	0.814
Belarus	11.3	0.15817	20574.68	150.802	46.858	0.823
Belgium	17.3	0.050022	55577.5	1678.769	375.564	0.931
Belize	15.6	0.132679	26612.99	612.474	16.426	0.716
Benin	3.3	0.056242	261.103	3.534	99.11	0.545
Bolivia (Plurinational State of)	1.4	0.079435	13532.06	774.533	10.202	0.718
Bosnia and Herzegovina	1.1	0.514396	34008.39	1241.015	68.496	0.78
Botswana	4.7	0.027029	6175.852	17.52	4.044	0.735
Brazil	0.5	0.008925	35893.77	911.579	25.04	0.765
Brunei Darussalam	25.6	0.103638	355.58	6.795	81.347	0.838
Bulgaria	2.7	0.242727	29328.13	1098.504	65.18	0.816
Burkina Faso	3.5	0.076512	311.996	3.954	70.151	0.452

	Migration stock - destination	Migration stock - origin	Cases per million	Deaths per million	Population density	Human dev. index
Burundi	2.9	0.046347	66.746	0.163	423.062	0.433
Cabo Verde	2.8	0.337342	21071.33	201.103	135.58	0.665
Cameroon	2.2	0.016613	965.205	16.456	50.885	0.563
Canada	21.3	0.033975	15505.16	438.296	4.037	0.929
Central African Republic	1.8	0.169091	1008.743	12.805	7.479	0.397
Chad	3.3	0.013534	124.919	6.148	11.833	0.398
Chile	8.6	0.033678	31696.94	864.443	24.282	0.851
China	0.1	0.007413	64.865	3.209	147.674	0.761
China, Hong Kong SAR	39.5	0.134713	1171.221	19.595	7039.714	0.949
Colombia	3.7	0.059436	32044.24	842.92	44.223	0.767
Comoros	1.4	0.173441	926.326	11.255	437.352	0.554
Congo	7.0	0.020456	1256.316	19.091	15.405	0.574
Costa Rica	10.2	0.029493	32947.9	425.176	96.079	0.81
Côte d'Ivoire	9.7	0.04357	831.312	5.064	76.399	0.538
Croatia	12.9	0.25682	51654.76	960.394	73.726	0.851
Cuba	0.0	0.155148	1048.2	12.9	110.408	0.783
Cyprus	15.8	0.143462	24939.59	133.928	127.657	0.887
Czechia	5.1	0.095917	67010.81	1079.765	137.176	0.9
Dem. People's Republic of Korea	0.2	0.004282	1203.952	17.873	527.967	0.916
Democratic Republic of the Congo	1.1	0.040552	191.149	6.398	35.879	0.48
Denmark	12.4	0.044076	28121.54	223.281	136.52	0.94
Djibouti	12.1	0.018588	5818.217	60.866	41.285	0.524
Dominican Republic	5.6	0.148284	15591.52	220.382	222.873	0.756
Ecuador	4.4	0.063928	11879.83	784.528	66.939	0.759
Egypt	0.5	0.035281	1324.23	73.193	97.999	0.707
El Salvador	0.7	0.246532	7093.963	203.574	307.811	0.673
Equatorial Guinea	16.4	0.091786	3639.584	59.315	45.194	0.592
Estonia	15.0	0.155423	21121.53	172.806	31.033	0.892

	Migration stock - destination	Migration stock - origin	Cases per million	Deaths per million	Population density	Human dev. index
Eswatini	2.8	0.043131	7982.128	174.86	79.492	0.611
Ethiopia	0.9	0.00823	1054.191	16.314	104.957	0.485
Finland	7.0	0.056404	6564.461	106.698	18.136	0.938
France	13.1	0.034757	39463.02	958.797	122.578	0.901
Gabon	18.7	0.021742	4199.964	28.085	7.859	0.703
Gambia	8.9	0.057604	1526.778	49.861	207.566	0.496
Georgia	2.0	0.231303	57143.96	629.433	65.032	0.812
Germany	18.8	0.046359	20497.35	394.169	237.016	0.947
Ghana	1.5	0.032321	1726.042	10.557	126.719	0.611
Greece	12.9	0.101724	13388.62	466.504	83.479	0.888
Guatemala	0.5	0.081172	7562.356	263.728	157.834	0.663
Guinea	0.9	0.04194	1016.653	6.001	51.755	0.477
Guinea-Bissau	0.9	0.056804	1216.578	22.327	66.191	0.48
Guyana	4.0	0.557381	8011.853	207.509	3.952	0.682
Haiti	0.2	0.1552	866.338	20.448	398.448	0.51
Hungary	6.1	0.073273	33476.08	989.915	108.043	0.854
Iceland	19.2	0.118023	15602.29	78.635	3.404	0.949
India	0.4	0.012949	7382.404	106.928	450.419	0.645
Indonesia	0.1	0.016823	2689.221	80.105	145.725	0.718
Iran (Islamic Republic of)	3.3	0.015776	14408.56	649.463	49.831	0.783
Iraq	0.9	0.051662	14456.06	311.151	88.125	0.674
Ireland	17.6	0.147285	18418.78	448.935	69.874	0.955
Israel	22.6	0.038924	45556.13	357.873	402.606	0.919
Italy	10.6	0.054817	34905.65	1228.46	205.859	0.892
Jamaica	0.8	0.377869	4313.827	101.565	266.879	0.734
Japan	2.2	0.006406	1870.27	27.703	347.778	0.919
Jordan	33.9	0.079868	28677.9	373.356	109.285	0.729
Kazakhstan	19.9	0.22414	10592.07	144.723	6.681	0.825
Kenya	2.0	0.009956	1754.238	30.372	87.324	0.601
Kuwait	72.8	0.049706	34788.53	215.776	232.128	0.806
Kyrgyzstan	3.1	0.117688	12225.37	204.425	32.333	0.697
Latvia	12.7	0.199958	21909.72	340.13	31.212	0.866
Lebanon	25.1	0.125532	26813.26	216.866	594.561	0.744

	Migration stock - destination	Migration stock - origin	Cases per million	Deaths per million	Population density	Human dev. index
Lesotho	0.6	0.09437	1433.026	23.621	73.562	0.527
Liberia	1.7	0.04618	347.476	16.023	49.127	0.48
Libya	12.0	0.026999	14410.64	212.401	3.623	0.724
Liechtenstein	67.9	0.097176	58059.29	1150.207	237.012	0.919
Lithuania	5.3	0.23545	53925.44	669.179	45.135	0.882
Luxembourg	47.6	0.129687	73115.91	779.756	231.447	0.916
Madagascar	0.1	0.006989	623.133	9.181	43.951	0.528
Malawi	1.0	0.01626	335.052	9.619	197.519	0.483
Malaysia	10.7	0.057469	3447.929	14.37	96.254	0.81
Maldives	13.0	0.006873	25306.28	88.297	1454.433	0.74
Mali	2.4	0.064368	339.955	12.898	15.196	0.434
Malta	26.0	0.199469	24751.02	424.336	1454.037	0.895
Mauritania	3.9	0.028008	3008.098	72.668	4.289	0.546
Mauritius	2.3	0.144558	413.844	7.853	622.962	0.804
Mexico	0.9	0.086756	10947.87	965.798	66.444	0.779
Mongolia	0.7	0.025043	358.936	0.3	1.98	0.737
Montenegro	11.3	0.214009	76820.2	1085.899	46.28	0.829
Morocco	0.3	0.088382	11760.49	197.832	80.08	0.686
Mozambique	1.1	0.020482	579.609	5.161	37.728	0.456
Myanmar	0.1	0.068218	2274.021	48.936	81.721	0.583
Namibia	4.3	0.0188	9253.118	79.232	3.078	0.646
Nepal	1.7	0.089224	8781.591	62.544	204.43	0.602
Netherlands	13.8	0.055638	46969.99	667.265	508.544	0.944
New Zealand	28.7	0.158375	421.747	4.877	18.206	0.931
Nicaragua	0.6	0.108408	720.49	24.618	51.667	0.66
Niger	1.4	0.016512	132.228	4.138	16.955	0.394
Nigeria	0.6	0.008104	414.412	6.097	209.588	0.539
North Macedonia	6.3	0.334806	40010.83	1201.828	82.6	0.774
Norway	15.7	0.035578	9068.856	79.771	14.462	0.957
Oman	46.5	0.004915	24671.21	286.979	14.98	0.813
Pakistan	1.5	0.028649	2141.111	45.187	255.573	0.557
Panama	7.3	0.032335	56324.39	917.933	55.133	0.815
Papua New Guinea	0.3	0.000538	85.536	0.987	18.22	0.555

	Migration stock - destination	Migration stock - origin	Cases per million	Deaths per million	Population density	Human dev. index
Paraguay	2.4	0.125689	14949.77	313.312	17.144	0.728
Peru	3.7	0.046089	30430.3	2789.917	25.129	0.777
Philippines	0.2	0.055615	4269.043	83.244	351.873	0.718
Poland	2.2	0.127314	34258.75	755.457	124.027	0.88
Portugal	9.8	0.202137	40684.61	679.195	112.371	0.864
Qatar	77.3	0.008922	49081.33	83.603	227.322	0.848
Romania	3.7	0.207041	33054.71	824.299	85.129	0.828
Russian Federation	8.0	0.074661	21433.1	385.65	8.823	0.824
Rwanda	4.0	0.038024	631.416	6.93	494.869	0.543
Sao Tome and Principe	1.0	0.180726	4539.675	76.109	212.841	0.625
Saudi Arabia	38.6	0.008596	10264.12	176.086	15.322	0.854
Senegal	1.6	0.041434	1113.03	23.842	82.328	0.512
Serbia	9.4	0.14552	49177.14	467.289	80.291	0.806
Sierra Leone	0.7	0.019116	320.709	9.335	104.7	0.452
Singapore	43.1	0.061287	10745.01	5.318	7915.731	0.938
Slovakia	3.6	0.076876	50392.62	392.346	113.128	0.86
Slovenia	13.4	0.076197	58763	1297.431	102.619	0.917
South Africa	4.8	0.015426	17607.03	474.151	46.754	0.709
South Sudan	7.9	0.230117	312.616	5.535	19	0.433
Spain	14.6	0.031455	41250.54	1087.534	93.105	0.904
Sri Lanka	0.2	0.089421	2014.159	9.49	341.955	0.782
Sudan	3.1	0.048003	567.81	32.688	23.258	0.51
Suriname	8.1	0.465723	10493.45	206.151	3.612	0.738
Sweden	19.8	0.03164	43048.44	858.943	24.718	0.945
Switzerland	28.8	0.082628	51895.62	903.334	214.243	0.955
Syrian Arab Republic	5.0	0.483251	625.639	38.904	105	0.567
Tajikistan	2.9	0.06153	1401.592	9.231	64.281	0.668
Thailand	5.2	0.015573	98.412	0.872	135.132	0.777
Togo	3.4	0.065881	428.509	8.021	143.366	0.515
Trinidad and Tobago	5.6	0.236171	5094.864	90.496	266.886	0.796
Tunisia	0.5	0.076343	11657.4	391.764	74.228	0.74

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	Migration stock - destination	Migration stock - origin	Cases per million	Deaths per million	Population density	Human dev. index
Turkey	7.2	0.040449	25971.08	245.535	104.914	0.82
Uganda	3.8	0.017084	747.312	5.326	213.759	0.544
Ukraine	11.4	0.139109	25007.51	443.58	77.39	0.779
United Arab Emirates	88.1	0.020547	20800.75	66.96	112.442	0.89
United Kingdom	13.8	0.070549	36532.7	1078.612	272.898	0.932
United States of America	15.3	0.009038	60650.01	1054.44	35.608	0.926
Uruguay	3.1	0.105667	5485.844	51.935	19.751	0.817
Uzbekistan	3.5	0.059238	2270.761	18.093	76.134	0.72
Venezuela (Bolivarian Republic of)	4.7	0.19044	3956.043	35.813	36.253	0.711
Viet Nam	0.1	0.034848	14.923	0.357	308.127	0.704
Yemen	1.3	0.043625	68.841	20.006	53.508	0.47
Zambia	1.0	0.010917	1095.364	20.507	22.995	0.584
Zimbabwe	2.8	0.083652	918.821	24.052	42.729	0.571