Have ICT changed the game for mobility and migration?

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11 November 2015

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5.2 Emperical Strategy

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Descriptive Statistics

Dependent Variable

Figure 1 below shows the distribution of the dependent variable. Since the statistics accounts for the number of emigrants, it can be considered as count variable. In order to account for population differences between countries, emigration is expressed in per capita terms. The shape of the distribution is very rightly skewed, which means that emigration is quite low in a large number of countries.

Figure 2. Histogram for Emigrants per capita

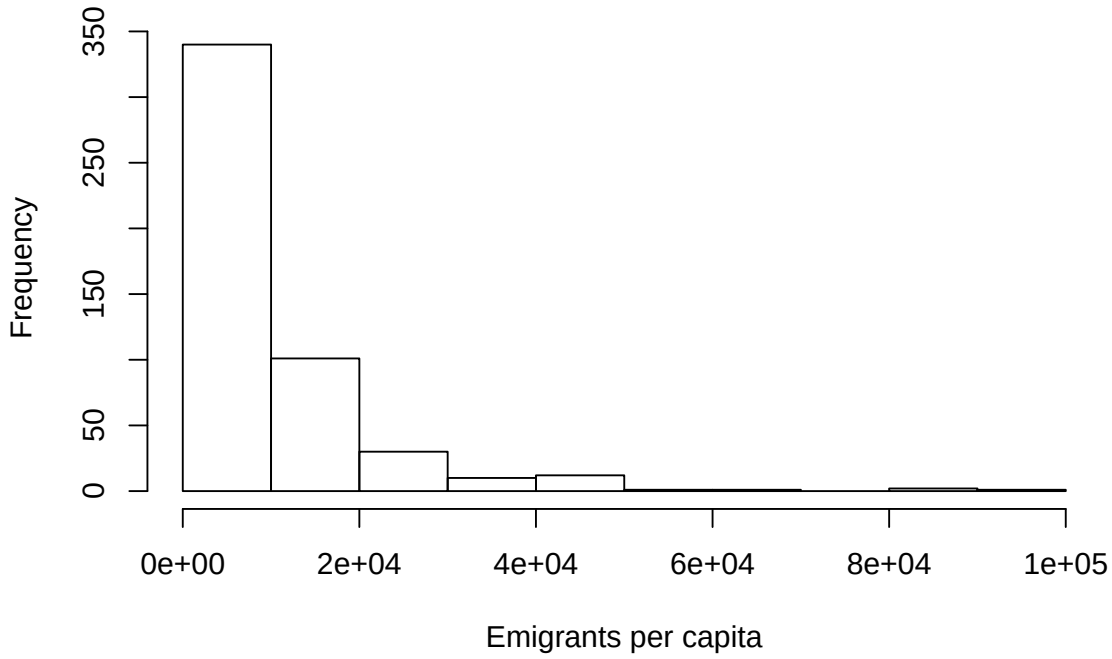
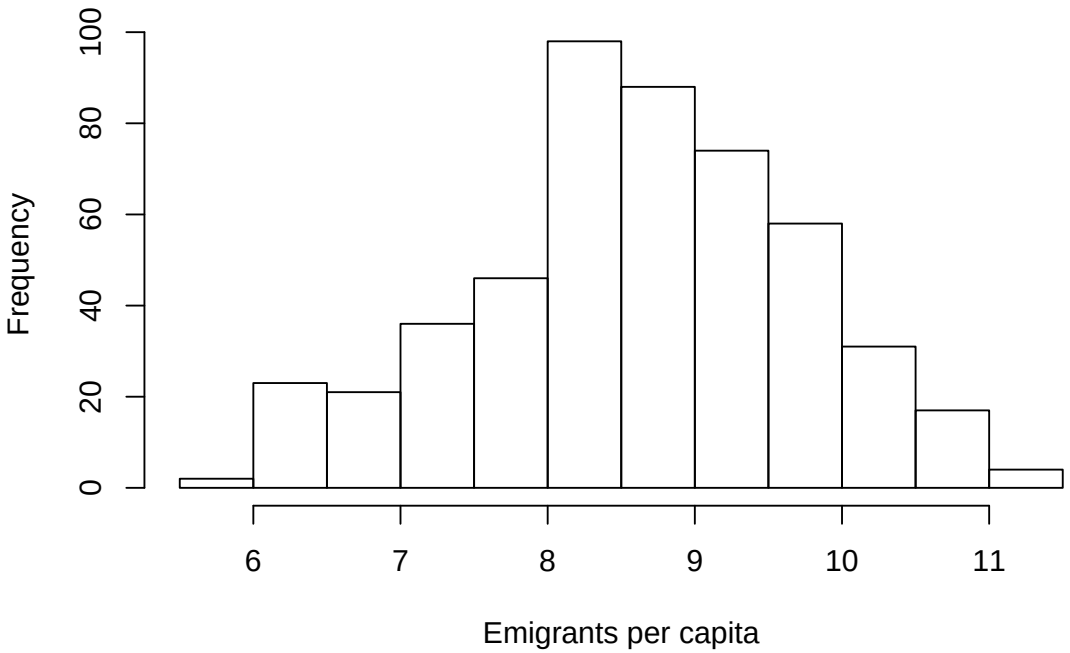


Figure 2. Histogram for Emigrants per capita



Among all the years, the country with the largest emigration per capita is the West Bank and Gaza. One can infer that the conflict in this region over time has affected the population movements drastically. The country with the lowest emigration per capita is Western Sahara. Even though there is a strong conflict in the region, free mobility in and out of the country is heavily guarded and limited by a 2,700 kilometer sand wall, also known as the Moroccan Wall. This can account for the lack of emigration throughout the region.

Moreover, in oder to

Summary

Patterns of Emmigration

Figure 4 Emigrantion per capita 2000

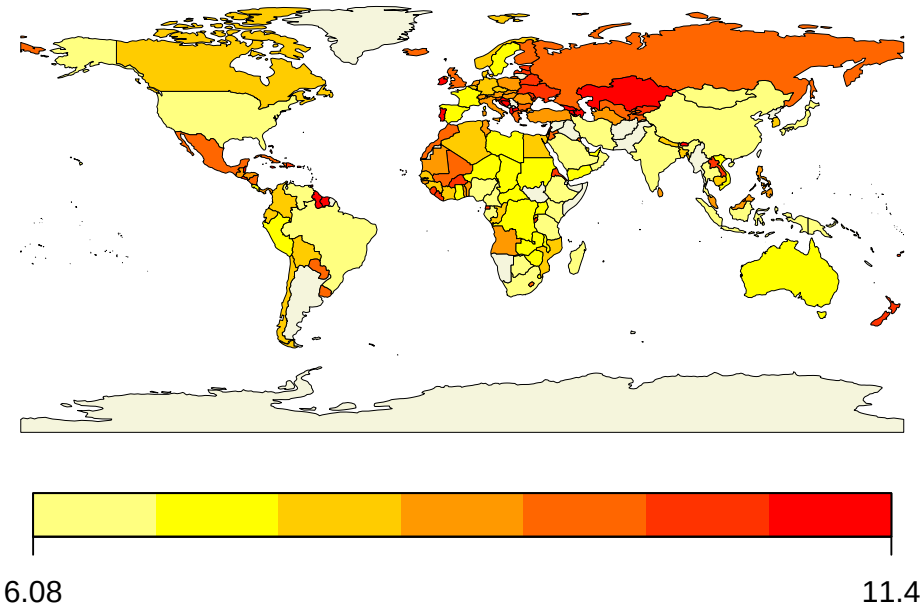


Figure 5. Emigrantion per capita 2010

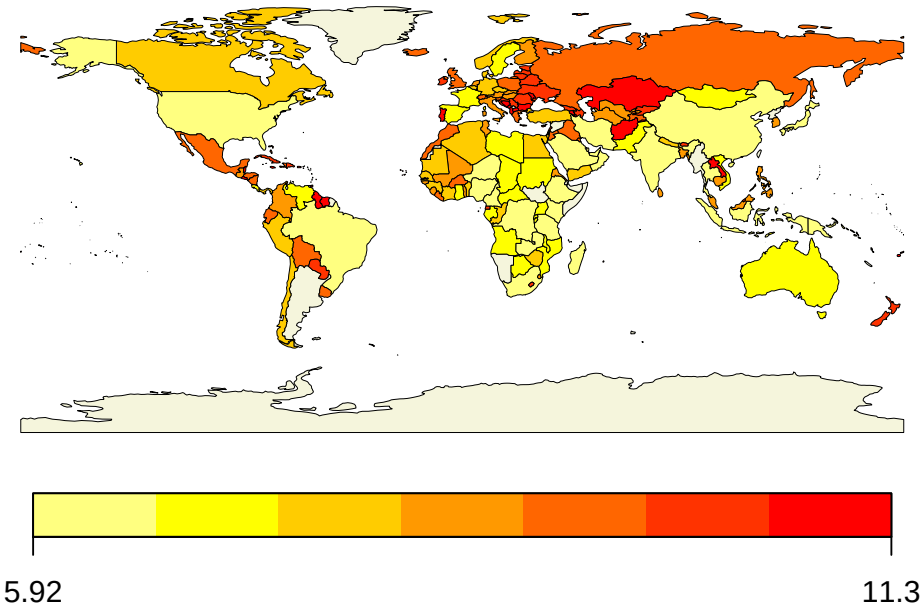
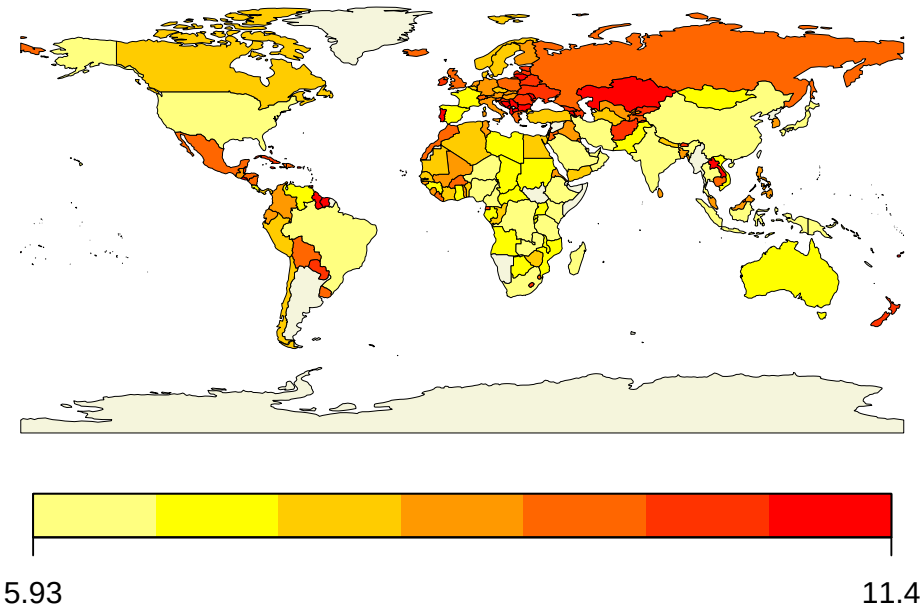


Figure 6. Emigrantion per capita 2013



Independent Variables

Table 1: Summary Statistics

Statistic	N	Mean	St. Dev.	Min	Max
Cellphone Subscriptions (per 100 ha)	498	72.07	53.30	0.00	304.08
Internet Users (per 100 ha)	498	28.08	28.37	0.01	96.55
Fertility Rate (percentage)	498	2.99	1.59	0.94	7.72
Political Stability	498	−0.15	0.95	−2.67	1.67
Employment probability	498	0.91	0.06	0.63	1.00
GDP percapita t-1 (log)	497	8.94	1.28	6.09	11.82

Results

Table 2: Table 1 Panel Regression of emigration rate using Cellphone Users

	Emigration rate per cap (log)					
	logemigrationpercap					
	(1)	(2)	(3)	(4)	(5)	(6)
CellphoneUsers	0.0012***	0.0011***	0.0011***	0.0012***	0.0010**	0.0042**
	(0.0002)	(0.0002)	(0.0002)	(0.0002)	(0.0004)	(0.0019)
logGDPpp-1					0.0484	0.0415
					(0.0542)	(0.0542)
Fertility Rate				0.0395	0.0261	0.0517
				(0.0325)	(0.0318)	(0.0351)
Political Stability			−0.0615**	−0.0591**	−0.0641**	−0.0669**
			(0.0288)	(0.0288)	(0.0288)	(0.0287)
Employment prob		1.3560***	1.5410***	1.4784***	1.4613***	1.3823***
		(0.4640)	(0.4696)	(0.4721)	(0.4576)	(0.4586)
CellphoneUsersXlogGDPpp-1						−0.0003*
						(0.0002)
Observations	498	498	498	498	497	497
R^2	0.0989	0.1219	0.1339	0.1379	0.1580	0.1655
Adjusted R^2	0.0652	0.0800	0.0877	0.0900	0.1027	0.1072
Note:						*p<0.1; **p<0.05; ***p<0.01

Table 3: Table 2 Panel Regression of emigration rate using Internet Users

	Emigration rate per cap (log)					
	logemigrationpercap					
	(1)	(2)	(3)	(4)	(5)	(6)
InternetUsers	0.0022***	0.0022***	0.0021***	0.0020***	0.0010	0.0180***
	(0.0005)	(0.0005)	(0.0005)	(0.0005)	(0.0008)	(0.0064)
logGDPpp-1					0.1106**	0.0764
					(0.0502)	(0.0514)
Fertility Rate				−0.0102	0.0039	0.0243
				(0.0300)	(0.0319)	(0.0325)
Political Stability			−0.0610**	−0.0615**	−0.0733**	−0.0775***
			(0.0293)	(0.0294)	(0.0289)	(0.0287)
Employment prob		1.8370***	2.0092***	2.0091***	1.7093***	1.6528***
		(0.4620)	(0.4670)	(0.4676)	(0.4703)	(0.4664)
InternetUsersXlogGDPpp-1						−0.0016***
						(0.0006)
Observations	498	498	498	498	497	497
R^2	0.0521	0.0959	0.1077	0.1081	0.1458	0.1643
Adjusted R^2	0.0343	0.0629	0.0705	0.0705	0.0948	0.1064
Note:						*p<0.1; **p<0.05; ***p<0.01

Table 3. Yearly regressions

Table 4: Yearly OLS Regression of emigration

	Emigration rate per cap (log)					
	logemigrationpercap					
	2000	2010	2013	2000	2010	2013
	(1)	(2)	(3)	(4)	(5)	(6)
CellphoneUsers	0.0108	0.0263	0.0111			
	(0.0857)	(0.0166)	(0.0138)			
InternetUsers				0.1528	0.1069**	0.0758**
				(0.1750)	(0.0424)	(0.0331)
logGDPpp-1	−0.1305	−0.0817	−0.1820	−0.0572	−0.0917	−0.1253
	(0.1415)	(0.1838)	(0.1815)	(0.1320)	(0.1465)	(0.1626)
Fertility Rate	−0.2215***	−0.2732***	−0.3447***	−0.2016***	−0.2029**	−0.2489**
	(0.0783)	(0.0875)	(0.0910)	(0.0771)	(0.0944)	(0.1000)
Political Stability	0.0569	0.1687	0.1619	0.0936	0.2044*	0.2035*
	(0.1272)	(0.1047)	(0.1057)	(0.1286)	(0.1085)	(0.1098)
Employment prob	−1.3258	−3.3622**	−3.8563***	−0.7432	−2.6571*	−3.0844**
	(1.4697)	(1.3842)	(1.3247)	(1.4475)	(1.4255)	(1.3515)
CellphoneUsersXlogGDPpp-1	−0.0012	−0.0026	−0.0010			
	(0.0084)	(0.0017)	(0.0014)			
InternetUsersXlogGDPpp-1				−0.0163	−0.0102**	−0.0071**
				(0.0172)	(0.0041)	(0.0032)
Constant	11.6176***	13.1017***	14.7094***	10.4509***	12.3324***	13.1255***
	(2.0009)	(2.3398)	(2.3239)	(1.9072)	(2.1692)	(2.1946)
Observations	159	169	169	159	169	169
R^2	0.0886	0.1905	0.2020	0.1033	0.2082	0.2239
Adjusted R^2	0.0526	0.1605	0.1725	0.0679	0.1789	0.1952
Note:						*p<0.1; **p<0.05; ***p<0.01

Limitations and Further Research

References

Appendix

Table 5: Panel Regressions fro cellphoneUsers using all models

	Emigration rate per cap (log)			
	logemigrationpercap			
	Pool OLS	Within	Between	Random
	(1)	(2)	(3)	(4)
CellphoneUsers	0.0077	0.0042**	0.0168	0.0023
	(0.0070)	(0.0019)	(0.0216)	(0.0018)
logGDPpp-1	−0.1978**	0.0415	−0.1453	0.0633
	(0.0848)	(0.0542)	(0.1876)	(0.0478)
Fertility Rate	−0.2758***	0.0517	−0.2901***	−0.0203
	(0.0464)	(0.0351)	(0.0864)	(0.0313)
Political Stability	0.1261**	−0.0669**	0.1517	−0.0475*
	(0.0626)	(0.0287)	(0.1161)	(0.0288)
Employment prob	−3.1126***	1.3823***	−3.5194**	0.8665*
	(0.7718)	(0.4586)	(1.4376)	(0.4497)
CellphoneUsersXlogGDPpp-1	−0.0006	−0.0003*	−0.0017	−0.0002
	(0.0007)	(0.0002)	(0.0022)	(0.0002)
Constant	13.9529***		13.9941***	7.2606***
	(1.1045)		(2.4097)	(0.5935)
Observations	497	497	169	497
R^2	0.1492	0.1655	0.1672	0.1333
Adjusted R^2	0.1471	0.1072	0.1603	0.1314
Note:				*p<0.1; **p<0.05; ***p<0.01

Table 6: Panel Regressions for InternetUSers using all models

	Emigration rate per cap (log)			
	logemigrationpercap			
	Pool OLS	Within	Between	Random
	(1)	(2)	(3)	(4)
InternetUsers	0.0703***	0.0180***	0.1097**	0.0177***
	(0.0208)	(0.0064)	(0.0534)	(0.0062)
logGDPpp-1	−0.1503*	0.0764	−0.1167	0.0712
	(0.0779)	(0.0514)	(0.1571)	(0.0474)
Fertility Rate	−0.2289***	0.0243	−0.2070**	−0.0282
	(0.0480)	(0.0325)	(0.0956)	(0.0305)
Political Stability	0.1454**	−0.0775***	0.1812	−0.0553*
	(0.0627)	(0.0287)	(0.1219)	(0.0285)
Employment prob	−2.6678***	1.6528***	−2.7368*	1.0451**
	(0.7789)	(0.4664)	(1.4841)	(0.4520)
CellphoneUsersXlogGDPpp-1	−0.0066***	−0.0016***	−0.0104**	−0.0016***
	(0.0020)	(0.0006)	(0.0051)	(0.0006)
Constant	12.9597***		12.6221***	7.0581***
	(1.0889)		(2.2885)	(0.5415)
Observations	497	497	169	497
R^2	0.1645	0.1643	0.1852	0.1392
Adjusted R^2	0.1622	0.1064	0.1775	0.1373
Note:				*p<0.1; **p<0.05; ***p<0.01

Correlation plots