Reinforcing Effect of Terrorism and Corruption Nexus on Net Migration from Developing Countries: An Empirical Analysis

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Abstract: *The study intends to investigate the direct and indirect effect of terrorism and corruption on net migration for thirty-eight developing countries, along with other macroeconomic determinants like per capita GDP, globalization, inflation and institutional quality for the time period 1985-2015. Based on the Fixed and Random Effects models, findings show that terrorism and GDP per capita has negative while globalization has positively significant effect on the net migration in selected developing countries. The corruption and terrorism appeared to reinforcing each other in stimulating migration. Particularly, terrorism seeks its ways through corrupt financial activities which distorts the labor market and ultimately results in relatively large out-migration. The study suggests implementation of stiff anti-terrorism policies to improve domestic environment along with promoting globalization in such a way which can offer positive effect of out-migration on the domestic economy in the long run. And that is expected to take place at the onset of return migration of labor with enhanced skills and capabilities.*

Introduction

Migration-movement of people from one location to another-is a multifaceted phenomenon that brings along a range of political and socio-economic consequences in a globally interconnected world. The international migration is defined as immigration (entering a foreign country to live in) and emigration (leaving the home country to live in another) while the difference between the two is known as the net migra-

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tion. International migration provides a larger number of social (family reunification, freedom to live, safety and security) and economic opportunities (provision of employment, technical knowhow and industrial development, possibilities to earn high income and wealth creation) to the migrants for improving their standard of living.

However, not all sort of migration can be regarded a result of positive state of affairs. Large number of people out-migrate because of humiliation of human rights, persecution, political instability and natural disasters. According to Collinson (2009), low income countries are marked with excessive unemployment, hunger, violence and extremism while their governments are unable to disburse sufficient resources among their people. According to World Migration Report, 2010a and 2010b, above two hundred million people have moved from developing countries towards the developed countries because of economic and social turbulence in the country of origin.

The developing countries are suffering particularly from two menaces; terrorism and corruption concurrently. Where, terrorism is defined as "deliberately targeting the citizens with mortal or grievous ferocity for political concerns" (Coady, 2001). According to Global terrorism report, the Asian and African developing countries including Pakistan, Sri Lanka, Thailand, Mali, Niger, Yemen, Democratic Republic of Congo, Myanmar, Nigeria and Iraq are marked with high rate of terrorism. Terrorism has significantly increased because of endemic corruption, religious fundamentalism and ethnic and tribal apprehensions [Asongu and Ssozi, (2016); Wali, Sritharan, Mehes, Abdullah and Raheed (2015)]. Terrorism can inflict costs on affected country by posing threat of economic destabilization by averting foreign direct investment, damaging infrastructure, redirecting public funds to defence and security measures and also limits the international trade. The loss of foreign direct investment-a major source of filling saving-investment gap in developing countries-leads to poor economic growth in turn [Paul and Hoeffler, (2004)]. Besides, it also disrupts the allocation of government budget as it has to spend more on defense sector to provide security as compared to spending on development plans.

The negative outcomes of terrorism are more evident in developing countries as compared to developed nations, as the later possess more divergent economic systems where terrorism diverts the allocation of resources for securing the specified regions of the country whereas the former are largely affected because of concentration of resources to specific sectors (Sandler and Enders, 2008). Moreover, developed countries have more potential to bear the loss of terrorism because of strong institutions and market structure, they can absorb the fallouts of terrorism by allotting monetary and fiscal stimulus, which are found to be limited in developing nations (Sandler and Enders, 2004). Hence, the developing countries case inflicted with terrorism is worth investigating.

Looking at the other menace, corruption which is expected to sabotage the growth and development process of developing countries by discouraging investment, promoting inequalities and disrupting the efficient distribution of resources. This decreases the productive capacity of the systems by reducing tax incomes/revenues

due to its promoting tacit coordination between clients and tax officials. Corrupt bureaucratic system makes it harder for the governments to generate tax revenues due to large underground economy which take place to avoid tax payments (Jhonson, Kaufmann and Lobaton, 1998). Moreover, Corruption exacerbates poverty and income inequality via poor economic growth, biased allocation of resources, tax rebates to the influential group of people, by limiting social spending, and uneven approach to education and inefficient selection of social programs [Tanzi and Davoodi (1997)]. From that context, it is pertinent to mention that terrorist groups finance their illegal activities via illicit means and corruption involved in this system tends to fuel terrorism which further hampers government's ability to control extremism and violence, as argued by Celina (2017).

Migration is embarked as a global phenomenon and plays pivotal role in governing the economies. A range of studies is available that provides number of socio-economic and political factors that promote migration. Generally, people migrate to earn high income and prefer to choose those destinations with maximum benefit of migration [Lewis (1954), Todaro (1969), Sjaastad (1962)]. Similarly, people also migrate to become better off than their counterparts. They imitate their relatives or friends who have already migrated and spending a prosperous life. Evidence also provides that income differential is not the only reason of migration, but this also occurs to circumvent various risks to life [Stark (1984); Stark (1991)]. To avoid the evils of corruption and terrorism, people prefers to move to secure areas where they can live peacefully with an equal access to their rights [Krueger and Maleckova (2003); Parida (2007)]. In this regard, Dimant, Krieger and Meierrieks (2013) found corruption as a propelling force of migration while Dreher, Krieger and Meierrieks (2011) regarded terrorism as a major push factor of migration. However, literature has not investigated the reinforcing role of terrorism and corruption nexus on the net-migration specifically using panel data of developing countries suffering from both the evils, terrorism and corruption. This study is intended to cover the gap by modelling corruption and terrorism simultaneously in the net-migration equation for a panel of thirty eight Asian and African developing countries for the time period 1984 to 2015. The study also incorporates other standard determinants of migration, generally regarded as push and pull factors in the migration theory, namely GDP per capita, globalization, inflation and institutional quality.

Organization of Study

The rest of the study is organized as follows: Section 2 presents trend analysis of terrorism, corruption and net-migration in developing Countries. Section 3 provides the review of literature. Section 4 deals with methodology and section 5 reports the empirical findings with discussion. Section 6 provides conclusions and policy suggestions based on the empirical findings.

Evolution of Terrorism, Corruption and Migration in Asian and African Developing Countries

Developing countries have been bearing the fall outs of terrorism in the form of slow economic growth, internal displacement of people that put a pressure on existing resources and consequent uneven allocation of resources among development and non-development expenditures, poverty, loss of physical and human capital etc. Figure 2.1 provides the trend in terrorism of selected developing countries from 1984 to 2015.[1]

Figure 2.1: Trend of Terrorism in Developing countries
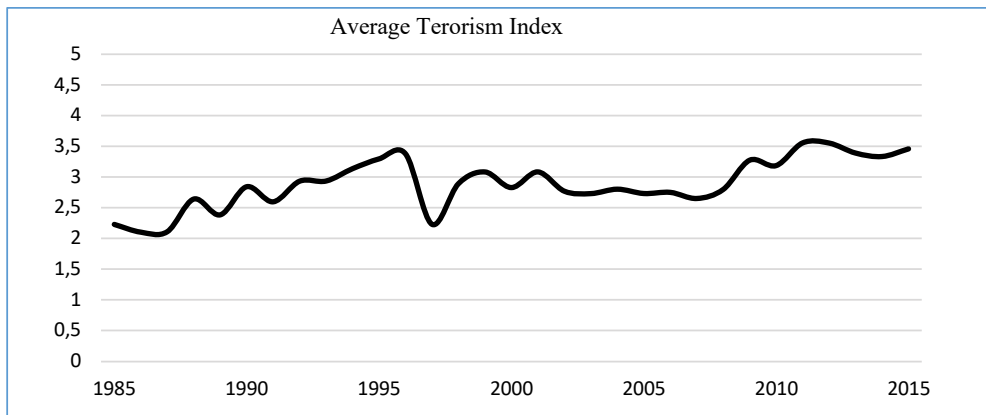
Data Source: Average Terrorism index is author's own calculation from Global Terrorism Database (2017)

An upward trend accompanied by slight variations can be observed from Figure 2.1 which shows that terrorism underwent rise with few bottoms and peaks. As, first movement of terrorism has started in Russia in 80's where they started to revolt against system. Moreover, era of 1920 marked with the second wave of coercion and terror attacks occurred as a result of independence movement by Irish rebels. In addition to this, a 3rd wave appeared in 1960's promoted by Vietnam War. In, 1975 at the end of war Palestine Liberation Organization was formed and their main strategy was hostage taking, to hijack the planes (Rapoport, 2004). Terrorism started expanding when Afghanistan was targeted by Soviet Union followed by an anti-mujahidin war. During the 4th wave of terrorism, also named as a "Religious Wave", the terrorist groups like Taliban and Al-Qaida sharpened their activities and intensified the violence and brutality. According to Gunaratna (2003), Sri-Lanka was affected by Tamil insurgents, Sikh extremists targeted Indian sectarians and Philippines was maltreated by Communist guerrillas. Later, the historic incident of 9/11 added to the severity of terrorism affect-

ing the developing as well as developed countries. A global wave of terrorism has been observed after such incidents (Hashmi, 2007). Global terrorism report (2015) identified Nigeria, Pakistan, Syria, Iraq and Afghanistan as major victims of terrorism. Terrorism widely prevails in developing countries due to prevalence of conflicts, corruption and inequalities which promotes flow of refugees and asylum seekers. As a result of Syrian conflicts nearly four million people left their countries and migrated to secure destinations while seven million were internally displaced (Institute for Economic and Peace, 2015). Evidence shows that corruption enables terrorism as it erodes governance, social order, and economic system and compromises the sustainable development. Anaraki (2012) reported that people involved in terrorist activities are organized criminals that involves in corrupt ventures with governments to get through as they rely on smuggling which needs the collaboration of government officials.

On the other hand, corruption sabotages the development process of a country and weakens its foundations, which is more evident in developing countries. Corruption emerged as a serious threat to the economies of developing countries during 19th century with the beginning of industrial revolution that triggered the demand for investment and funds (Robb, 1992). According to the World Bank development report (2008), nearly 10 trillion dollars (around five percent of world GDP) has been lost due to corruption. The problem of corruption is hazardous to economic growth and is considered as a basic cause of poverty in low income countries as it distorts market structure, discourages foreign direct investment, escalates income inequality and also restrains competition which overall hampers economic growth (Chetwynd et al, 2003).

Figure 2.2 depicts the evolution of corruption for selected Asian and African developing countries over the given time period.

Figure2.2: Trend of Corruption in Developing Countries
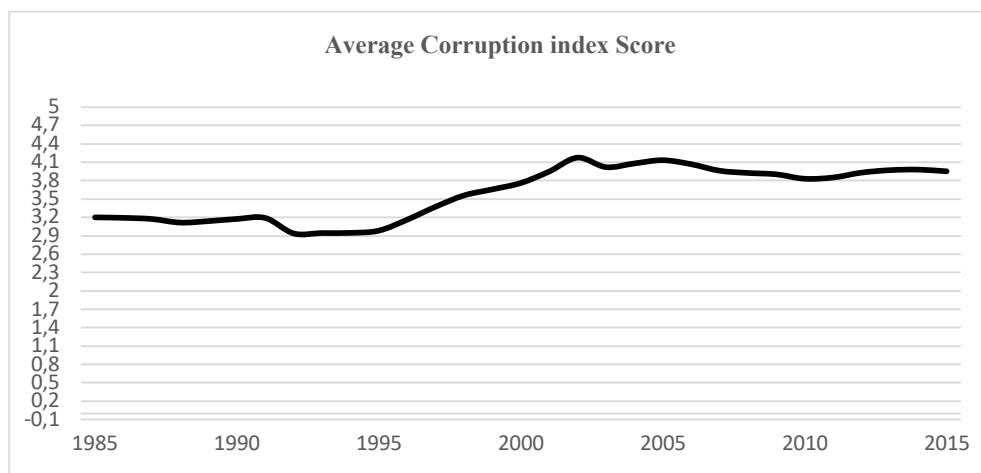
Data Source: International Country Risk Guides (PRS group)

Figure 2.2 shows that during 1985 to 2015, corruption increased rapidly in the selected developing countries. This was relatively low during 1990 to 1995 as compared with the subsequent years. Later, corruption started rising rapidly in the wake of financial crises in 1997, which highlighted the acute corruption and nepotism in Indonesia, Malaysia, Korea and Thailand. Due to deficiency in accountability and judicial system these countries significantly influenced by the Asian financial crises explicitly in banking sector (Bhargava & Blongaita, 2003). In addition, the disclosure of corruption cases of public officials in Thailand, Philippines, China and Indonesia intensified the problem of corruption [Bhargava & Blongaita (2003); Moran (1999)].

In the Asian region, major reasons behind the high corruption are inadequate political commitment, low salaries of civil officials, low risk of punishment and detection of embezzlements and frauds (Quah, 2003). On the other hand, poor leadership, high level of nepotism and fragile judiciary system and insufficient remunerations to the public servants are identified as major reasons of corruption in African region (Ayee, 2002). Hence, corruption and terrorism both remained serious threats by accentuating social and economic insecurities.

Coming towards the migration, movement of people from low-income countries has been increasing at an average rate of 0.41 and has been adding on the population of high-income countries, according to International Migration Report (2017). Figure 2.3 depicts the trend of migration from 1984 to 2015 in selected Asian and African countries.

Figure 2.3: Trend of Migration in Developing Countries
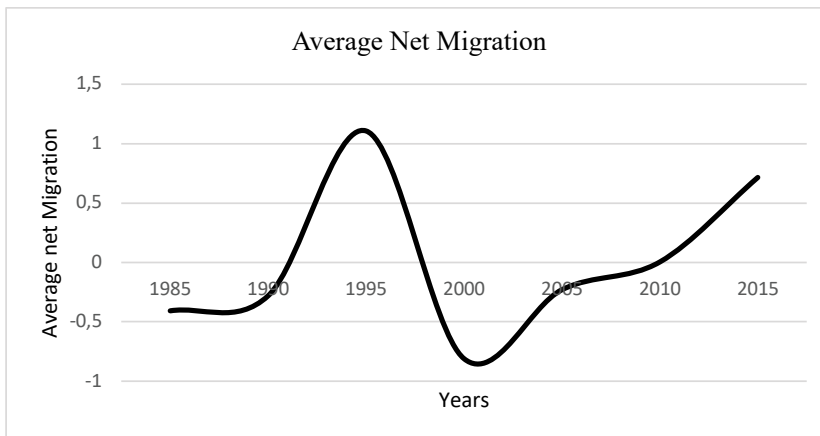
Data Source: United Nation population division (Department of Economic & Social Affairs 2017)

The net-migration remained negative for most of the years for selected countries, showing that people tend to migrate from these countries more than these countries

receives the immigrants, except for the years 1995 and 2015. Initially, the rise in oil prices during 1970s played vital role in paving ways for international migration as capital rich nations sponsored labor migration to fulfill their labor requirements for construction industries. Consequently about 0.14 million people were reported to be migrated from the developing countries till 1985 (Wickramasekara, 2013). However, the construction boom was over by 1990s which resulted in contraction of employment opportunities and large number of unemployed workers returned to their countries of origin. Additionally, most of the developing countries welcome the refugees affected by Syrian conflict that resulted in positive net-migration according to International Migration Report (2017).

According to World Migration Report (2000), net-migration started to decline in the wake of Asian financial crises when huge sum of people migrated to the developed countries in response to massive unemployment. The rate of emigration had increased to 3.2 million till 2005, which further declined to 2.2 million till 2015. This decline in emigration has attributed to the emergence of global financial crises in 2008 and the implementation of strict immigration laws in response to tragic incident of 9/11 at World Trade Center. The developed countries restricted the flow of labor migrants and asylum seekers through counter terrorism measures that lower the emigration trend [Crepeau et al, (2007)].

Review of Literature

A sound theoretical literature is available to back-up the empirical modelling of migration. The pioneer theories of migration introduced the push and pull factors as major drivers of international migration. In this regard, Ravenstein (1885) introduced the 'Laws of International Migration' which explains that people use to migrate to their nearby industrialized places instead of moving over long distances. Later, lee (1966) proposed 'push and pull' model, which identifies several factors responsible for migration. The push factors are those which force people to leave their country to the developed countries and include unemployment, injustice, poverty, inflation etc. Whereas, the pull factors are those prevailing in developed countries and attract people to migrate to those countries like better employment opportunities, good education and health facilities. These are the factors which work well in the hybrid form of the migration model.

The concept of migration regained recognition from the academic sphere in the latter half of 20th century with the development of neoclassical migration models like Lewis (1954) introduced the 'Labor Market Theory' which shows that migration takes place because of difference in wages across different sectors. Similarly, Todaro (1969) explained that migration from one sector to another takes place due to wage differentiation; people continue to migrate from low wage sector towards high

wage sector until wages become equalized in both sectors. Comparatively, Priore, (1979) presented 'Dual labor market' theory which postulates that migration actually takes place due to pull forces (a chronic requirement for foreign workers) in destination countries as compared to push factors (unemployment, low wages at the home country).

Subsequently, Sjaastad (1962) proposed 'Human Capital Theory' which modified two-sector model by adding cost-benefit analysis, which perceived that migration is like investing in human capital. People analyses the pros and cons of migration and prefer to move to the areas where benefits of migration outweighs the cost.

Contrary to the Neoclassical belief that wage differences are the sole reason behind migration, the new Economics of Labor Migration (NELM) introduced by Stark and Bloom (1985) discarded the idea of cost and benefit analysis for income-maximization as major determinant of migration. They provided that the migration decisions are not solely made by individuals rather households collectively decide to migrate to circumvent income risks and market failures. Additionally, they provided that the relative income must be taken into consideration as compared to absolute income while governing migration behavior of people. People migrates to earn higher status in a society as compared to their fellows who have already migrated. Hence, relative deprivation could be another pertinent driver of international migration (Stark and Taylor, 1989). Moreover, the 'World System Theory' by Wallerstein (1974) interpreted migration as an outcome of expansion of global capitalism where capitalists dominates the world economic system and extracts cheap labor from peripheries and semi-peripheries.

The empirical literature provides various factors which determine the migration effectively. GDP per capita is found to be a leading economic indicator which can influence the decision of migration (Sulalmanova and Bostan, 2014). Bertocchi and Strozzi (2008) highlighted the quality of institution playing a pivotal role in decision of migration. Globalization is also found to be the key determinant of migration (Bhagwati, 2011). Besides, the political unrest also promotes insecurities by hurting economic system badly by decreasing investment and raising defense spending and discouraging foreign investment (Ahmed and Zaib, 2015). The studies by Abadie and Gardeazabal (2008) and Schmid (2016) provided the evidence of positive relationship between terrorism and migration. Similarly, Dreher et al. (2011) found that highly skilled people migrate more than semi-skilled or less-skilled workers as a result of terrorism for a panel of 152 countries for the time period 1976 to 2000. William and Pradhan (2009) also observed the pattern of migration as a result of widespread violence, terrorism and political disruption in Nepal. Similarly, Altaf et al. (2015) also concluded that political unrest and widespread violence forces people to migrate.

On the other hand, a stream of new factors including corruption and inadequacy of political and human rights are also identified as potential determinants of migra-

tion in literature. Poprawe (2015) provided that pervasive corruption acts as a push force for migration while Dimant et al. (2013) reinforced it for the skilled group of people. Additionally, Merker et al, (2017) provided the evidence on corruption affecting migration though indirectly. According to the study, corruption disrupts the system which might compel people to migrate. The indirect impact of corruption is realized in terms of insufficient job opportunities which largely affect the decision of migration. However, there is dearth of study which investigates the parallel and reinforcing effect of corruption and terrorism on net migration along with the standard determinants. If two evils are reinforcing each other, one can be restrained through putting efforts on the other. This study is an attempt into highlighting this issue for the selected developing countries.

Methodology

Theoretical Background

As discussed in theoretical review of literature, any factor that influence the migration decision can either be a push or a pull factor where push factors compels the people to migrate from their country of origin like economic development, inflation, political instability and weak institutional system. Whereas the pull factors are the forces prevailing in the destination countries which attract people to the country of destination like easy access to basic necessities, freedom to live, higher per capita income and fair law and order system. People prefer to migrate to those areas where benefits of migration outweighs the cost of migration [Sjastaad (1962); Todaro (1969)]. Hence, certain factors can be conveniently introduced into the baseline theory of migration. This study is based on the Maslow's needs theory (1949, 1970) and Lee (1966), which focuses on the importance of safety, security and socio-economic conditions and explain the influence of violence, terrorism and standard of living on the migration. On an optimist note, Wallerstein (1974) theory stresses that the process of migration from developing countries to developed countries takes place according to world system theory and states that the present world is globally interconnected and make it easier for people to move anywhere.

Empirical Model

The empirical models used for estimating the impact of corruption and terrorism on net-migration for thirty eight [2] selected developing countries from 1984 to 2015 are given as below:

$$NM_{it} = \beta_0 + \beta_1\, corr_{it} + \beta_2\, terror_{it} * corr_{it} + \sum_{j=3}^{n} \beta j X_{jit+}\; v_{it} \tag{1}$$

$$NM_{it} = \gamma_0 + \gamma_1 terror_{it} + \gamma_2\, terror_{it} * corr_{it} + \sum_{j=3}^{n} \gamma j X_{jit+}\; z_{it} \tag{2}$$

$$NM_{it} = \alpha_0 + \alpha_1\, corr_{it} + \alpha_2 terror_{it} + \alpha_3\, terror_{it} * corr_{it} + \sum_{j=4}^{n} \alpha j X_{jit+}\; U_{it} \tag{3}$$

Where, *NM* refers to net migration taken as dependent variable and measured as the difference between immigrants and emigrants. As the data on net migration is available on average at selective frequencies, five years average of other variables is used for data consistency following Dimant et al. (2013). *Terror* stands for the index of terrorism taken from Dreher et al. (2011). *Corr* represents the index of corruption, based on the frequency of additional payments for rectification of different things, impact on businesses, extent of dominance of elites in state affairs and nepotism. *Corr*terror* is the interaction between corruption and terrorism to see their reinforcing effects on net migration. While, presents the vector of other control variables including GDP per capita, institutional quality, inflation, globalization.[3] Table 4.1 presents the summary statistics, data sources and description of the variables.

Table 4.1: Description of Variables and Data Sources

Variables	Description	Data Source	Mean (S.D)
NM	Net Migration rate is measured as the difference between immigrants and emigrants, dividing by individual-years lived by the population of destination country, expressed as net-migration per 1000 population.	World Population Prospects: United Nations Population Division (2017)[4]	-0.41 (5.4)
Corr	Index of Control of Corruption shows "0" as high level of corruption and "6" for low level of corruption. For the ease of interpretation, index is rescaled and "6" indicates totally corrupt while "0" shows no corruption.	International country Risk Guide (Political Risk Service Group, 1984)	3.4 (1.15)
Terror	Index of Terrorism is measured as[5]: $$\text{terrorism index}_{i,t} = \ln\left(e + \frac{attacks_{it}}{pop_{it}} + \frac{victims}{pop_{it}}\right)$$	Global Terrorism Database (2016)	2.93 (1.86)
Inf	Inflation as percentage change in the consumer price index (annual %)	World Development Indicators (2017)	51.3 (417.1)
GDPpc	Origin Country's GDP per capita growth (annual %)	World Development Indicators (2017)	2.03 (3.73)
Glob	Globalization is measured by KOF index of globalization (ranges between 0 and 100) where 0 refers to least globalized while 100 shows highly globalized economy. It consists of three dimensions: Social (information flows, cultural proximity), Political (international treaties signed, international organizations membership) and Economic (trade flows, FDI, portfolio investments) aspects of globalization.	KOF index, Swiss Economic Institute (2017)	46.6 (12.3)
IQ	Institutional Quality is measured by Polity 4, its score ranges from -10 to +10, where -10 to -6 refers to autocracies, -5 to 5 refers to anocracies and 6 till 10 represents democracies	Polity-IV, Centre for Systematic Peace (CSP)	-0.33 (6.10)

Justification of Variables

The expected effect of corruption on net migration is negative. Corruption is expected to promote emigration because it dispenses uncertain economic environment, humiliation and injustice, unequal employment opportunities and unfair allocation of resources at the home country. It is found to be a core driver of migration by Poprawe (2015) and Dimant et.al. (2013).

Similarly, terrorism is expected to have negative influence on net migration by stimulating the emigration from terror prone countries. Terrorism impedes economic development by decreasing investment and tourism and distracting the international flow of capital, goods and services. It also imposes social cost due to limited life satisfaction that force people to move towards secured destinations [Abadie and Gardeazabal (2008); Frey, Luechinge and Stutzr (2009)]. People prefer to move towards the areas where they feel secure and have the right to live independently (Bertocchi and Strozzi, 2008).

The interaction of corruption and terrorism is taken to measure their conjoined impact on net-migration and is expected to reinforce each other in influencing net-migration due to their likely impact through risk of violence, lubricating grievances ad undermining institutional setup of a country which cannot adequately protect their people. This promotes injustice and give rise to humiliation and conflict and also finance terrorist activities via cross border smuggling of insurgents and ammunitions (Boussiga and Ghdamsi, 2016). In addition to this, Bren et al. (2019) also provided that there is a positive relation between corruption and terrorism as the risk of terrorism tends to increase in the presence of corruption.

GDP per capita is expected to have positive impact on the net-migration, keeping in view the nature of data on net-migration, measuring the number of immigrants less emigrants. Higher level of GDP per capita growth at home country can discourages out-migration which means it attracts immigrants and discourages emigrants, due to better living standard at the country of origin. This is the major factor used in literature as the determinants of migration [sulalmanova and Bostan, (2014); Jennissen, (2003)]. On the other hand, inflation is expected to have either positive or negative effect on net-migration because inflation can reduce the purchasing power of people dragging them into poverty which compel them to migrate but this can discourage migration due to unbearable expenses involved in the migration process all the same (Ahad, 2015). Globalization and institutional quality are expected to have positive and negative effect, respectively because the former accelerates the flow of people, trade and investment while the later keeps the people living in their home countries with good institutional set up [Akokpari, (2000); Bhagwati, (2011); Bertocchi and Strozzi (2008)].

Estimation Technique

This study is based on the panel data and employs Fixed Effects (FE) and Random Effects (RE) models to estimate the direct and reinforcing effect of corruption and terrorism on the net-migration with other conventional determinants for 38 developing countries for the time period 1985 to 2015. The panel data estimation technique is preferable as it incorporates the cross-sectional effects and have the advantage of larger degree of freedom. Fixed Effects model posits the movements over different cross-sections as deterministic where cross-section specific term varies but slope is assumed to remain fixed. While, the Random Effects model treats the cross-section specific effects as random. The Hausman specification test helps to choose between the two models on the basis of the hypothesis of no correlation between the cross-section specific effects and the explanatory variables (as assumed by the RE model) where alternative hypothesis support the use of FE for consistent estimates. Now we turn to the results and its discussion.

Results and Discussion

Table 5.1 reports the findings based on empirical model specified as equations 1, 2 and 3, for selected panel of 38 developing countries from Asia and Africa over the time 1984-2015. The results are reported for Common Intercept Model (CIM), Fixed Effects and Random Effects. The Hausman specification test validates the results of RE for equations 1 and 2 while the results of FE model for equation (3). Besides, the results of RE model are validated for the equations without interaction. By and large, the coefficients' signs remain the same across the equations with high sensitivity to the choice of models. Overall results are satisfactory and are robust to various diagnostic tests results. The F-test and Wald test shows overall significance of the respective models. The Lagrange Multiplier test for RE model validates the significance of random effects. The results are robust to the problem of Heteroscedasticity and is verified by the Bresuch-Peagn test for heteroscedasticity. Similarly, Variance Inflation Factor (VIF) shows no signs of multicollinearity as the mean value for all equations is less than 10.

The results are reported both for with and without interactive variables' equations of terrorism and corruption. Particularly, the coefficients of terrorism and GDP per capita are negatively significant. Whereas the globalization has positively significant effect on net migration for the relevant models. The corruption appeared negatively significant in FE model when controlled for the interaction, but it invalidates the effect of interactive variable itself. While, the corruption and its interaction with terrorism appeared as negatively significant in RE model without control of terrorism. The other control variables including inflation and institutional quality appeared insignificant throughout the regressions.

Table 5.1: Panel Data Estimates of Net-Migration Equations

Variables	With interaction									Without Interaction								
	Common Intercept Model			FE Results			RE Results			Common intercept Model			FE Results			RE Results		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
$corr_{it}$	-0.50	-	-2.04*	-0.194	-	-1.547*	-0.21*	-	-1.59*	-0.595	-	-2.04*	-0.428	-	-0.484	-0.419*	-	-0.44
	(0.41)		(0.63)	(0.424)		(0.58)	(0.040)		(0.06)	(0.42)		(0.63)	(0.402)		(0.378)	(0.038)		(0.363)
$teror_{it}$	-	-0.37	-2.38*	-	-0.605	-2.11**	-	-0.575*	-2.14*	-	-0.37	-2.38*	-	-0.57**	-0.585**	-	-0.48**	-0.49**
		(0.49)	(0.86)		(0.41)	(1.09)		(0.05)	(1.20)		(0.45)	(0.86)		(0.284)	(0.31)		(0.23)	(0.258)
$gdppc_{it}$	-0.32*	-0.31**	-0.306**	-0.227	-0.234	0.045	-0.261*	-0.265	-0.26	-0.332**	-0.310**	-0.307**	-0.231	-0.23	-0.229	-0.262	-0.264	-0.258
	(0.16)	(0.16)	(0.16)	(0.174)	(0.17)	(0.028)	(0.018)	(0.086)	(0.18)	(0.157)	(0.162)	(0.165)	(0.07)	(0.170)	(0.173)	(0.188)	(0.18)	(0.185)
iq_{it}	-0.041	0.005	0.015	-.019	-0.003	-.0298	-0.026	-0.003	-0.027	-0.051	-0.0086	-0.15	-.0455	-0.0004	-0.012	-0.048	-0.004	-0.016
	(0.05)	(0.05)	(0.05)	(0.092)	(0.08)	(0.07)	(0.07)	(0.07)	(0.06)	(0.05)	(0.05)	(0.055)	(0.089)	(0.084)	(0.089)	(0.07)	(0.069)	(0.073)
inf_{it}	0.004	0.0002	0.004	0.0006	0.005	0.0008	0.0006	0.0004	0.005	0.051	0.0002	0.0007	0.0007	0.0005	0.0006	.0006	0.0004	0.0005
	(0.00)	(0.000)	(0.007)	(0.004)	(0.00)	(0.006)	(0.000)	(0.000)	(0.00)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)	(0.0004)
$glob_{it}$	0.12*	0.126**	0.107*	0.05**	0.060*	0.719**	0.0842*	0.087*	0.07**	0.122*	0.126**	0.107*	0.040	0.06**	0.059**	0.074**	0.087*	0.084*
	(0.04)	(0.04)	(0.04)	(0.032)	(0.03)	(0.036)	(0.042)	(0.004)	(0.004)	(0.047)	(0.04)	(0.047)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)
$(corr_{i,t-1} * teror_{it})$	-0.026	0.0248	0.547*	-0.1009	0.003	0.3963	-0.080*	0.023	0.427*	-	-	-	-	-	-	-	-	-
	(0.04)	(0.11)	(0.202)	(0.06)	(0.11)	(0.325)	(0.048)	(.0106)	(0.221)									
C	-2.75	-4.42	4.29	-0.209	-1.83	6.1090	-1.37	-1.83	5.06	-2.73	-4.42*	-2.04	0.252	-0.60	1.37	-1.04	-1.84	0.052
	(2.79)	(1.99)	(3.51)	(1.56)	(1.91)	(3.36)	(1.95)	(1.44)	(3.54)	(2.98)	(1.98)	(3.08)	(1.56)	(1.28)	(1.44)	(1.93)	(1.37)	(1.866)
N	236	236	236	236	236	236	236	236	236	236	237	236	236	237	236	236	237	236
Diagnostic Tests																		
F-Test	5.45*	5.96*	5.43*	2.34*	2.66*	3.27*	-	-	-	5.81*	6.33*	5.85*	3.27*	7.39*	5.11*	-	-	-
Wald-test	-	-	-	-	-	-	-	37.94	33.88	-	-	-	-	-	-	18.33	37.41	31.78
Multiplier test	-	-	-	-	-	-	16.48*	19.57*	-	-	-	-	-	-	-	16.00	19.35	17.14
(p-value)							(0.000)	(0.000)								(0.000)	(0.000)	(0.000)
F-test for Fixed	-	-	-	3.53*	-	-	-	-	-	-	-	-	3.6*	1.65*	1.43*	-	-	-
Effects (p-value)				(0.000)	(0.000)	(0.000)							(0.000)	(0.000)	(0.000)			
B-P test for Heteroskedasticity	0.00	0.00	0.000	-	-	-	-	-	-	0.000	0.000	0.000	-	-	-	-	-	-
χ2 Hausman Specification test	-	-	-	-	-	-	9.83	10.32	12.86	-	-	-	-	-	-	0.3574	8.92	8.70
(p-value)							(0.13)	(0.11)	(0.07)							(0.50)	(0.112)	(0.191)
Mean-VIF	1.26	2.81	7.26	1.26	2.86	7.26	1.26	2.86	7.26	1.17	1.19	1.20	1.17	1.19	1.20	1.17	1.19	1.20

Notes 1) Values in parenthesis are standard errors. 2)*, **, ***, shows 1%, 5% and 10% level of significance. 3) Results are robust to Heteroscedasticity.

Terrorism result implies that out-migration tends to dislocate people from terror prone locations to the safe areas and net migration declines because of greater out-flow of migrants.[6] The result is in line with the expectations as terrorism prompts migration by giving rise to humiliation and insecurity among people. Every year large migration takes place from developing countries, which are largely the victim of terrorist attacks, in response to social and economic harms caused by terrorism. People prefers to select secure destinations where they can get better safety and socio-economic opportunities. Hence, terrorism can be considered as a propelling force of migration as also supported by Dreher et al. (2011) and Schmid (2016).

On the other hand, corruption appeared to be significantly negative in two settings while insignificant for the others. This is generally argued that the impact of corruption is limited to the skilled group of people only because they find it hard to gain return to their educational investment in the form of better employment and living standard. While, the impact of corruption on average and low skilled group has remained unclear according to literature [(Dimant et al. (2013); Cooray and Schneider (2014)]. Nonetheless, studies found corruption a driving force of migration in selective models.

The interaction term appears to be negatively significant when RE model is controlled for corruption with other standard factors. This postulates a reinforcing effect of terrorism and corruption on the net migration as negative sign indicates that more people are leaving their home countries. Furthermore, the wave of corruption leads towards the extremist behavior in the society, on the one hand and the materialization of terrorism financing through corruption, on the other. The developing countries have been facing both evils and the net outflow of people from these countries on the account of these factors raise serious concerns.

Coming towards the other control variables, GDP per capita is found to be negatively significant which is in contrast with the expectations but can be justified on the ground provided by Clemens (2014). He argued that there lies an inversed U-shape association between GDP and migration outflow in developing countries.[7] He proved it by summarizing the macro data studies which demonstrated that tendency to out-migrate is higher among those developing countries which are richer in their cross-section. Not a sufficient evidence was found on the emigration tending to fall because of countries becoming developed in terms of higher GDP until they cross a particular threshold.

Globalization appeared to be statistically significant with positive sign in all equations. Globalization can be regarded a sound push factor in determining the migration flow. In case of selected developing countries, globalization has led towards more immigrants then emigrants. The globalized world lubricates the free flow of people and goods from one place to another with advancement in technology that proves beneficial for the developing countries. A huge extent of migration took place during the first phase of globalization that's known as the 'age of mass migration' and was accompanied with large capital flow and free trade (Hatton and Williamson, 1998).

Conclusions and Policy Implications

The developing nations have been prone to the issues of terrorism and corruption which hampers their process of development and poses serious threat to its masses. Many people move from developing countries to the developed world annually to gain access to better socio-economic means of living. This study focuses on the individual and reinforcing effect of these two evils both on the net migration along with other push factors including GPD per capita, inflation, globalization, and institutional quality. The application of Fixed and Random Effects yield terrorism, GDP per capita and globalization as significant determinants of net migration. The results show that terrorism tends to increase the out-migration from developing countries due to sense of insecurity and withdrawal among the people of terror-hit locations. The effect of corruption is as well negative but is significant for few of the regressions. Similarly, the reinforcing effect is found to be negative on the net migration bearing similar justification. GDP per capita has negatively significant effect on migration depicting that emigration from developing countries tend to increase with GDP per capita. This result is supported on the account that the level of GDP per capita in developing countries is behind the threshold level which can keep people motivated to stay in their home country. Globalization found to be positively significant which shows that increase in globalization cause an increase in migration as it eases the means of transportation and communication.

Terrorism tends to create insecurity by causing social and economic unrest. It impedes growth and process of economic development as investors avoid investing in uncertain environment. Which in turn shrinks the employment opportunities and diverts the government budget towards security measures and defense sectors as compared to the development sector. There is a dire need to tackle the issue of terrorism by implementing strong anti-terrorism policies in an effective manner. On the other hand, this is also required to unveil internal and external hidden sources which facilitates the formation of terrorists' organizations and finance their activities those are primarily governed by the implicit corruption. Following this way countries can utilize its resources in an efficient way by providing their people sufficient economic, health and education facilities. Such measures can also reduce the up thrust of corrupt activities in the countries due to its close connection with terrorism. Handling one issue can effectively lead towards improving the situation for the other.

NOTES

[1] The sum of the index of terrorism for selected countries over the given time period is divided by the total number of observations.

[2] The countries are selected on the basis of corruption and terrorism intensity and include Bangladesh, China, India, Cyprus, Iraq, Indonesia, Iran, Kenya, Tunisia, Jordan, South Africa, Malaysia, Uganda, Mali, Myanmar, Syria, Sri Lanka, Philippines, Pakistan, Turkey, Angola, Ethiopia, Sudan, Cote d'Ivore, Congo democratic, Zambia, Egypt, Mozambique, Senegal, Zimbabwe, Thailand, Niger, Nigeria, Morocco, Namibia, Algeria, Azerbaijan, and Lebanon.

[3] This is pertinent to mention that other variables including unemployment, taxes and FDI were also used but appeared insignificant in all regressions hence omitted from the final regression.

[4] Data for net migration is obtained from UN Population division (2017), which is twenty fifth round of UN estimates calculated and prepared by population division Department of Economic and Social Affairs of UN secretariat and data are collated there from various United Nations entities (e.g., UNAIDS, UNFPA, UNICEF, WHO, World Bank). .Furthermore, the estimates are also supported by all available means like censuses, vitals, survey, analytical reports and population registers for given country. Analysts compiled data from each source to provide a consolidated set of data.

[5] According to Global Terrorism database, terrorism index score ranges from 0 to 10 where, 0 for no impact and 10 shows high impact. Hence, our sample countries lies in 4.5-9.2, showing the impact of terrorism in selected countries.

[6] As the net migration refers to the difference between immigration and emigration, a negative value shows higher rate of emigration than immigration. Hence, the negative value of coefficient depicts that it instigates emigration from the country and vice versa.

[7] c.f. Lucas, Robert E. B (2014)

REFERENCES

Abadie, A. and Gardeazabal, J. (2008). Terrorism and the World Economy. European Economic Review, 52(1):1-27.

Ahad M. (2015). The Determinants of International Migration in Pakistan: New Evidence from Combined Co-Integration, Causality and Innovative Accounting Approach. The Economic Research Guardian, 5(2): 159-175.

Ahmed, S. Z., & Zeb, K. (2015). Impacts of Terrorism-Related Violence on Pakistan and its Youth. Journal of People Studies, 1(2):40-49.

Akokperi, J. K. (2000). Globalization and Migration in Africa. African Sociological Review,4(2):72-92.

Altaf, M., Kalsoom, A., & Ali, H. (2015). Two-Fold Aspect of Brain Drain in Pakistan: An Empirical Investigation. Journal of glob & Sciences, 3(3):2307-6275.

Anaraki, K. N. (2012). Corruption and Terrorism: Will They Undermine the Arab Spring? Index of Economic Freedom, The Wall Street Journal and The Heritage Foundation,4: 57-68.

Asongu, S. A., & Ssozi, J. (2016). Sino-African relations: some solutions and strategies to the policy syndromes, Journal of African Business, 17(1), pp. 35-51.

Ayee. J. R. A. (2002). Corruption and the Future of the Public Service in Africa. Law and Politics in Africa, Asia and Latin America, 35(1): 6-22.

Bertocchi, G., Strozzi, C. (2008). International Migration and the Role of Institutions. Public Choice, 137: 81–102.

Bhagwati, J. (2011). "Preface for Symposium on Globalization and the Brain Drain", Journal of development economics, 95(1), 1-3.

Bhargava, V., Bolongita, E. (2003). Challenging Corruption in Asia: Case Studies and a Frame Work for Action. Directions in Development Washington D.C. World Bank.

Boussiga, N. and Ghdamsi, M. (2016). The Corruption-Terrorism Nexus: A Panel Data Approach". International Journal of Economics and Finance, 8 (11): 111-117.

Bren, J., Zeman, T., Urban. R. (2019). Link Between Terrorism and Social, Economic and Security Political Factors. Disaster Management and Human Health Risk, 190(6): 1743-3509.

Celina, B., R. (2015). Following the Money Trail to Combat Terrorism, Crime and Corruption in Americas. Latin American Program Mexico Institute, Washington, D.C: 20004-3027.

Chetwynd, E., Chetwynd, F., & Spector, B. (2003). Corruption and Poverty: A review of Recent Literature. Management System International, Washington, D.C.

Clemens, M. A. (2009). Skill Flow: A Fundamental Reconsideration of Skilled-Worker Mobility and Development. (No. HDRP-2009-08). Human Development Report Office (HDRO), United Nations Development Programme (UNDP).

Coady, C. A. J. (2001). Encyclopedia of Ethics (2nd Ed.). Becker, L.C., Bexker, C. B (Eds.). New York and London: Routledge, pp.1696–99.

Collinson, J. A. (2009). Intimate Intrusions Revisited: A case of Intimate Partner Abuse and Violations of the Territories of the Self, Qualitative Sociology Review, 5 (1): 50-69.

Cooray, A., & Schneider, F. (2015). Does Corruption Promote Emigration? An Empirical Examination. Journal of Population Economics. 29. 10.1007/s00148-015-0563-y.

Crepeau, F., Nakache, D., & Atak, I. (2007). International Migration: Security Concerns and Human Righs Standards. Transcultural Psychiatry, 44 (3): 3-11.

Davoodi, H & Tanzi, Vito. (1997). Corruption, Public Investment, and Growth. IMF Working Papers. 97. 10.5089/9781451929515.001.

Dimant, E., Krieger, T., & Meierrieks, D. (2013). The Effect of Corruption on Migration: 1985-2000, Applied Economics Letters, 20(13): 1270-1274.

Dreher, A., Krieger, T., & Meierrieks, D (2011). Hit and (they will) run: The Impact of Terrorism on Migration. Economics Letters, 113(1): 42-46.

Frey, B.S., Luechinger, S., Stutzer, A., (2009). The Life Satisfaction Approach to Valuing Public Goods: The case of terrorism. Public Choice, 138, 317–345.

Global Terrorism Index. (2015). Measuring and Understanding the Impact of Terrorism, Institute for Economics and Peace. (IEP).

Gunaratuna, R. (2003). Terrorism in the Asia-Pacific: Threat and Response, Singapore: Eastern Universities Press. 222-247.

Hashmi, R. S. (2007). War on Terrorism: Impact on Pakistan's Economy. Downloaded from https://www. pu.edu.pk/images/journal/pols/Current issue-pdf/REHANA.pdf.

Hatton, T. J. and Williamson, J.G (1998). The age of Mass Migration: Causes and economic impact. Oxford University Press.

Jennissen R (2003). Economic determinants of net international migration in Western Europe.

Johnson, S., Kaufmann., D., Lobatón, P. (1998). Regulatory Discretion and the Unofficial Economy, The American Economic Review, 88(2): 387-392.

Krueger, A. B., & Maleckova, J. (2003). Education, Poverty and Terrorism: Is there a Casual Connection? The Journal of Economic Perspectives, 17(4):119-144.

Lee, E. (1966). A Theory of Migration. Demography, 3(1): 47-57.

Lewis, W. A. (1954). Economic Development with Unlimited Supplies of Labor. The Manchester School, 22(2):139-191.

Maslow, A (1943). "A theory of human motivation". Psychological Review, 50(4): 370-396.

Maslow, A (1970). "Motivation and Personality".2nd(ed). New York, Harper &Row.

Merkle, O., Reinold, J., & Siegel, M. (2017). A Study on the Link between Corruption and the Causes of Migration and Forced Displacement. Deutsche Gesellschaft Fur International Zusammenarbiet (GIZ).

Moran, J. (1999). Patterns of Corruption and Development in East Asia.Third World Quarterly, V 20(3):569-587.

Parida, P. K. (2007). Globalization, Relative Deprivation and Terrorism: An Analysis. India Quarterly Journal, 63(4): 122-54.

Paul,C., & Hoeffler, A. (2004). Greed and Grievance in Civil War, Oxford Economic Papers, 56(4), 563-95.

Piore, M. J. (1979). Birds of Passage: Migrants Labor and Industrial Societies (1-6). Cambridge: Cambridge University Press.

Poprawe, M. (2015). On the Relationship between Corruption and Migration: Empirical Evidence from a Gravity Model of Migration. Public choice, 163: 337-354. Public Choice, 137(1/2): 81-102.

Quah, J. S. T. (2003). Causes and Consequences of Corruption in Southeast Asia: A Comparative Analysis of Indonesia, Philippines and Thailand. Asian Journal of Public Administration, 25(2):235-266.

Ravenstein, E. G. (1885). The Laws of Migration. Journal of the Statistical Society of London, 48(2):167–235.

Robb, G. (1992). White-Collar Crime in Modern England: Financial Fraud & Business Mortality 1845–1929. Cambridge University Press: Cambridge.

Rapoport, D.C (2004). The Four Waves of Terrorism. Cronin, A. K and Ludes, J. M In(Eds.) Attacking Terrorism : Elements of a Grand Startegy ,pp. 43-76. George Town University Press, Washington, D.C.

Sandler, T., & Enders, W. (2008). Economic Consequences of Terrorism in Developed and Developing Countries: An Overview of Terrorism, Economic Development and Political Openness, Cambridge University Press: 48:17–47.

Sandler, T., & Enders, Walter. (2004). An Economic Perspective on Transnational Terrorism. European Journal of Political Economy. 20(10):301-316.

Schmid, A. P. (2016). Links between Terrorism and Migration: An Exploration. Centre for Counter-Terrorism – The Hague, 7(4): 10.19165/2016.1.04.

Sjaastad, L. A. (1962). The Costs and Returns of Human Migration. Journal of Political Economy, 70(5): 80-93.

Stark, O. (1984). Rural-to-Urban Migration in LDCs: A Relative Deprivation Approach, Economic Development and Cultural Change, 32:475-486.

Stark, O. (1991). "The Migration of Labor". Cambridge: Basil Blackwell, 23(3): 453-457.

Stark, O., Bloom, D. (1985). The New Economics of Labor Migration, American Economic Review, 75(2): 173-78.

Stark, O., Taylor, E, J. (1989). Relative Deprivation and International Migration, Demography, 26(1): 1-14.

Sulaimanova, B., Bostan, Aziz. (2014). International Migration: A Panel Data Analysis of the Determinants of Emigration from Tajikistan and Kyrgyzstan. Eurasian Journal of Business and Economics, 7(13): 1-9.

Tanzi, V., & H. Davoodi. (1997). Corruption, Public Investment and Growth. International Monetary Fund, Washington, D.C.

Todaro, M. P. (1969). A Model of Labor Migration and Urban Unemployment in Less Developed Countries. The American Economic Review, 59(1):138-48.

Wali, A., Sritharan, M., Mehes, K., Abdullah, M., & Rasheed, S. (2015). Terrorism related trauma in Africa, an increasing problem, Journal of Epidemiology and Global Health, 5(2):201-203.

Wallerstein, I (1974). The Modern World System, Capitalist Agriculture and the Origins of the European World Economy in the Sixteenth Century. New York: Academic Press, 10(1):14:410.

Wickramasekara, P. (2013). Regulation of the Recruitment Process and reduction of Migration cost: Comparative Analysis of South Asia. International Labor Organization.

Williams, N. and Pradhan, S. M. (2009). Political Conflict and Migration: How has Violence and Political Instability Affected Migration Patterns in Nepal? Population Studies Center Research Report: https://digitalrepository.unm.edu/nsc_research.

World Bank Report. (2008). Anti-Corruption Reforms: Challenges, Effects and Limits of World Bank Support .EG Working Paper, 7:78.

World Migration Report. (2010a, 2010b). The Future of Migration: Building Capacities for Change. International Organization for Migration, 295: 1561-5502.

World Migration Report. (2017). The Future of Migration: Building Capacities for Change. International Organization for Migration, IOM.