IMPACT OF TERRORISM ON BILATERAL MIGRATION PATTERN IN PAKISTAN: A GRAVITY MODEL APPROACH

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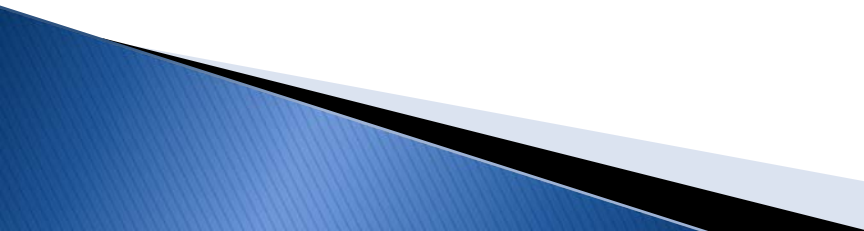*Co- Author: Dr. Shaista Alam*
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INTRODUCTION

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Background of the study

▸ Number of international migrants worldwide rose by 50 percent during 1990 -2013.

▸ Currently, there are 244 million international migrants worldwide that forms 3.3% of world's total population. (International migration report 2015).
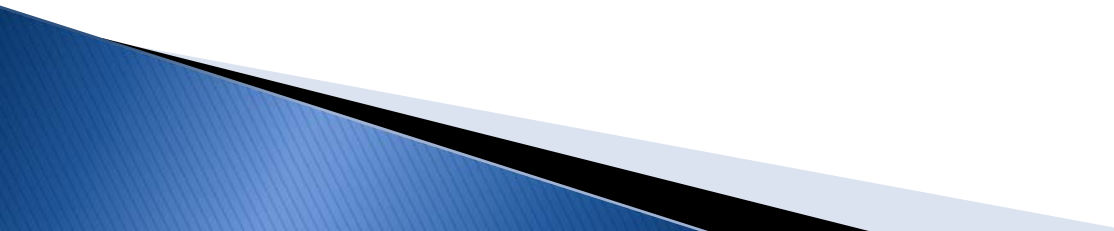
▸ People migrate for various socio-economic reasons:

Economic factors:

◦ For better employment opportunities (Maurizio, 2011)

◦ For better earnings (Sulaimanova and Bostan, 2014)

◦ Due to differences in demographic structure (Oh and Jung, 2013)

◦ Due to currency differences (Bostan, 2014)

Social factors:

◦ For better education and health facilities (Cain et al., 2014)

◦ For religious and cultural differences (Ullah, 2012)

◦ For security reasons (Hussain and Hyder, 2008)

◦ In case of natural disasters (Parsons et al., 2012)

Rational of the Study

- Pakistan is a labor abundant country, International migration serves Pakistan in two ways, it reduces unemployment and provide a means of foreign exchange earnings to the country.

- About 6 million Pakistanis are living abroad (International Migration Report, 2015).

- Remittance inflow in Pakistan is about $14969.7 million in 2014-15 (PES 2014-15).

- The country is facing serious challenge of terrorism activities.

- Increasing terrorism activities have badly affected investment levels and economic growth in recent decade. As a result, Pakistan is presently realizing increasing rates of international migration.

Background of the study

▸ Terrorism activities destroy the socio – economic structure and leave profound psychological effects on masses (Daraz et al., 2012).

▸ Terrorism affects economic conditions and employment opportunities of a country that may compel individuals to migrate. Terrorism activities may also cause internal displacement of the individuals but in case the chosen places fail to provide enough economic opportunities individuals may decide to move abroad (Hyder and Hussain, 2011).

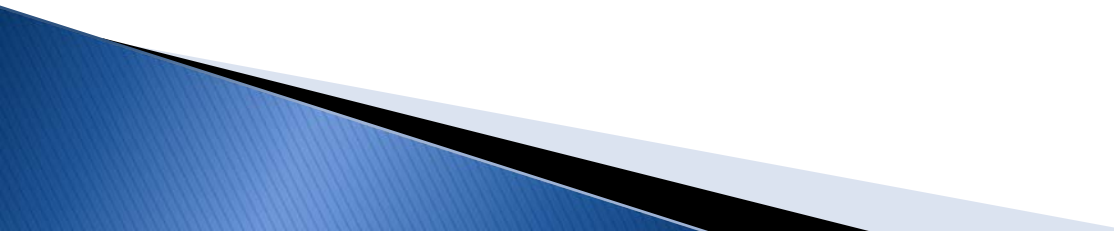Frequency of Terrorism Incidents, Pakistan (1970–2013)
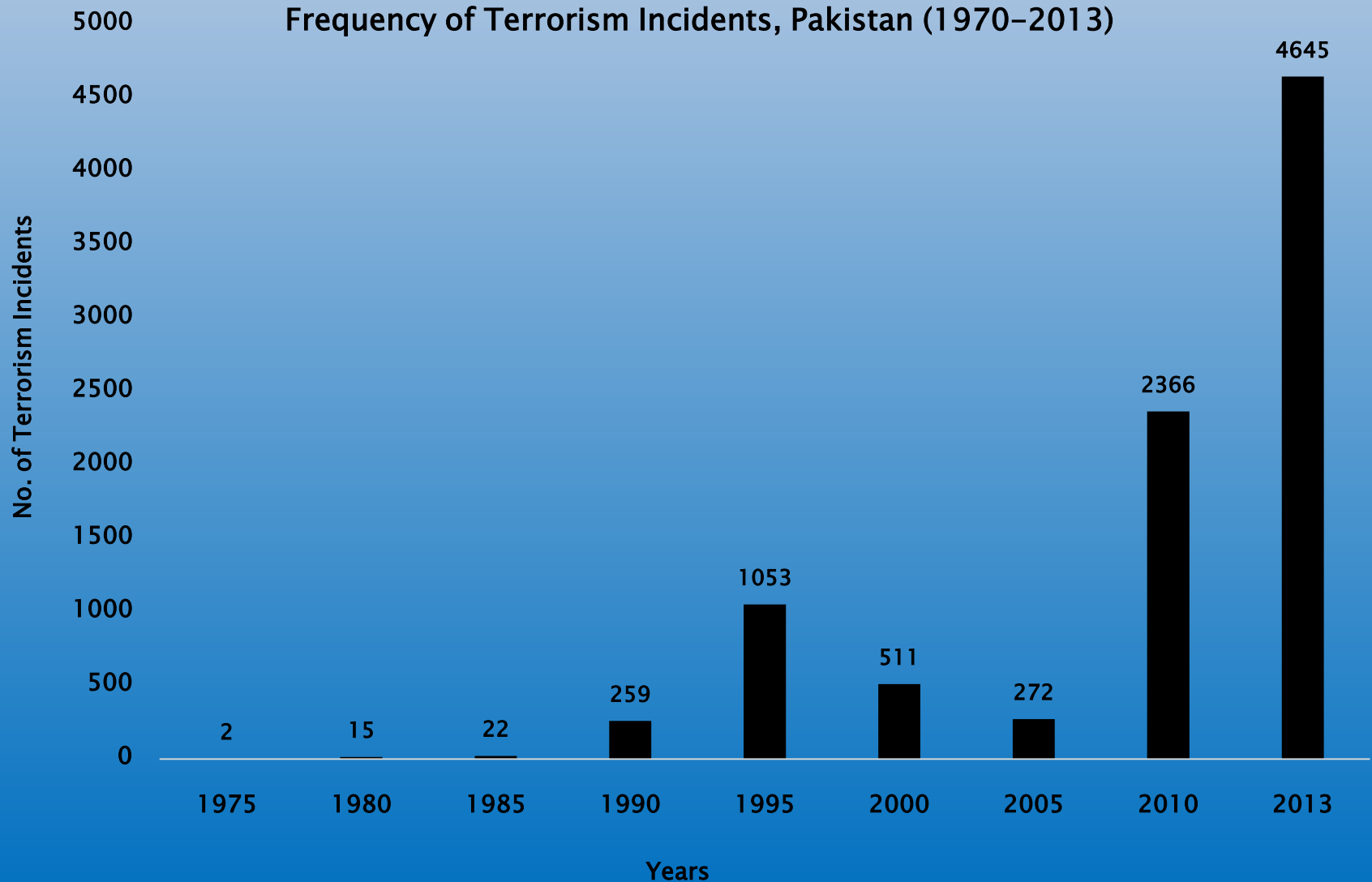
Terrorism and Migration in Pakistan (1980–2013)
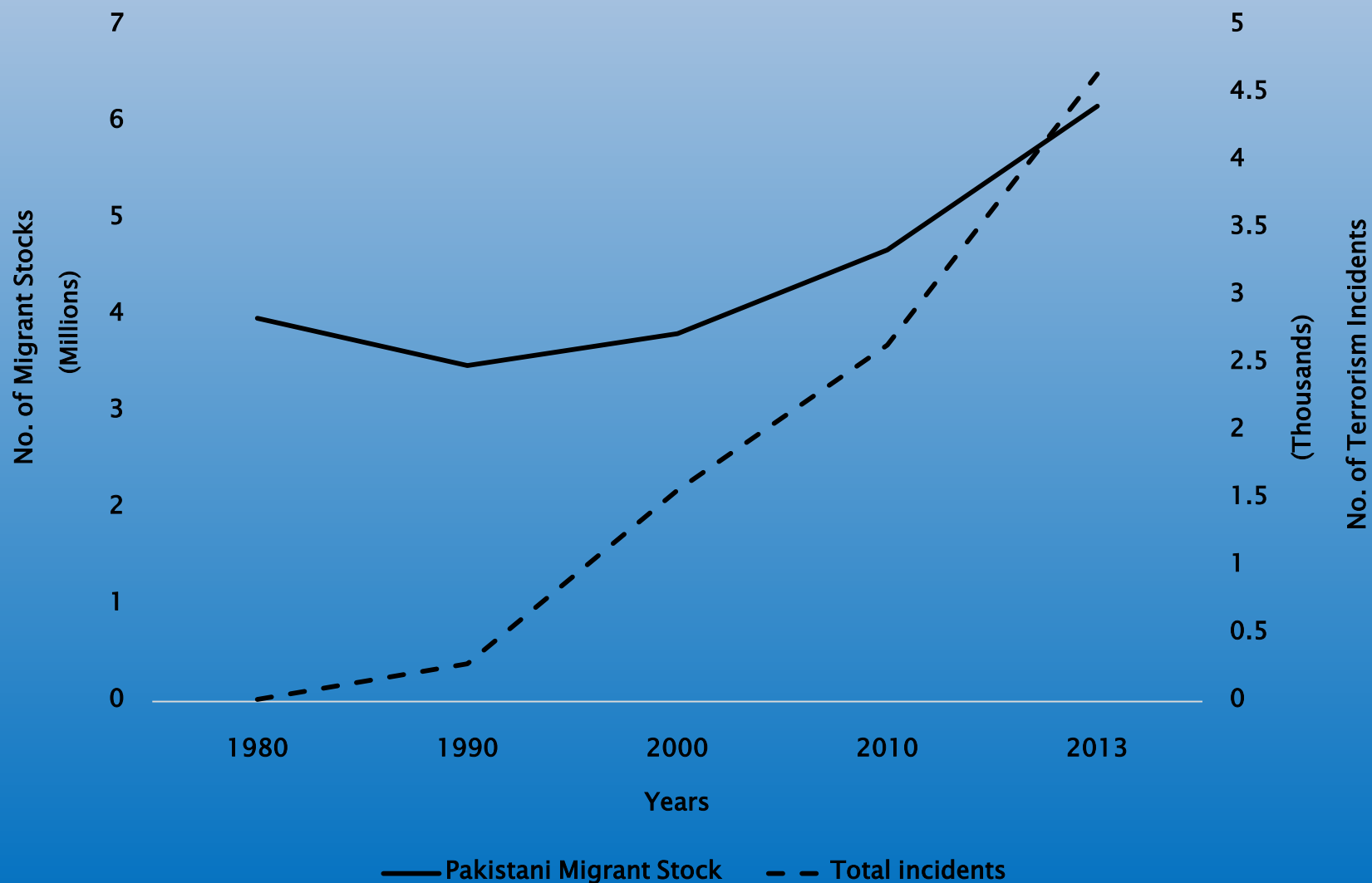
Rational of the study

- In the current phase of terrorism activities in Pakistan, when mobilization of resources, particularly labor mobilization, is increasingly needed by the country in order to stabilize the social and economic environment of the country, many destination countries are found employing restricted immigration policies.

- After the most tragic incident of 9/11, migration from Muslim countries including Pakistan had been restricted by many other countries (PILDAT, 2008).

- In 2008, around 1200 people were deported back to Pakistan due to strict security provisions in the world.

- Moreover, the rights of many Pakistani migrants are usually exploited in many host countries where they are mostly paid late and less compensation of their work efforts.

Objective of the study

- To evaluate the systematic effect of **terrorism activity on international migration in Pakistan**.

- To explore the effect of **monetary and social cost of migration (or gravity factors) on international migration** in Pakistan. It will help in identifying the role of various dyadic factors in explaining migration trends of the country.

- To estimate the impact of **per capita gross domestic product of home and host countries on international migration** in Pakistan.

- To estimate the impact of **dependency ratio of home and host countries on migration pattern** in Pakistan.
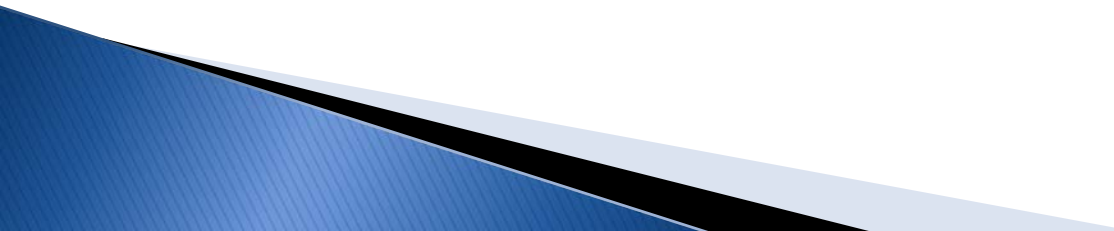
Contribution in Literature

The study is first in:

▸ Exploring the effects of terrorism activities and gravity factors on migration in Pakistan.

▸ Estimating Bilateral Migration through FE method .

▸ Establishing a bilateral migration model of Pakistan for 47 host countries.

Research question

This study will explore the following research questions.

- Is emigration from Pakistan terrorism induced?
- Is emigration from Pakistan sensitive to economic factors such as labor market conditions?
- Is emigration from Pakistan sensitive to demographic factors?
- Is emigration from Pakistan sensitive to non economic factors as geographical distance?

Data and Estimation Techniques

- Data type: Panel data
- Sample countries:
  - No. of host countries included in the study 47.
  - Origin country Pakistan.
- Sample period: (1970-2013)
- Estimation technique:
  - Pooled-OLS Method
  - Fixed Effect (FE) Method
  - Random Effect Method
- Test for Technique Specification:
  - Breusch and Pagan Lagrangian multiplier test for RE Method
  - Hausman Test for FE method
- Diagnostic Tests Employed
  - Breusch–Pagan test for heteroskedasticity

Research Model and technique

In the light of theoretical framework presented by Neo classical economics (Harris and Todaro, 1970; Todaro, 1976; Massey, 1993).
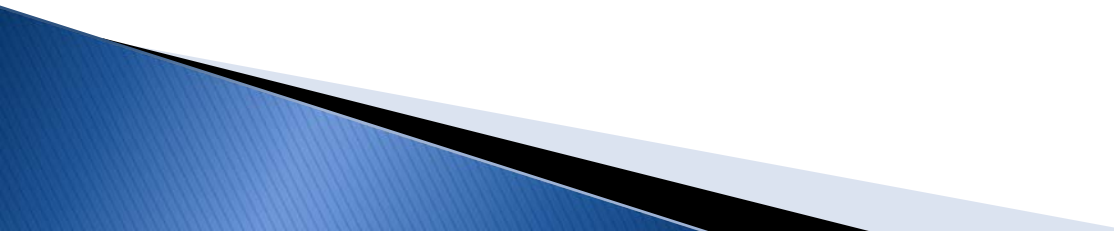
$$lmig_{oj,t} = \beta_o + \beta_1\left(gdppc_{j,t}\right) + \beta_2\left(gdppc_{o,t}\right) + \beta_3\left(depend_{j,t}\right) + \beta_4\left(depend_{o,t}\right)$$

$$+ \beta_5\left(lterrorism_{o,t}\right) + \beta_6\left(trade_{oj,t}\right) + \beta_7\left(llmig_{j,t}\right) + \beta_8\left(ldis\tan ce_{oj}\right) + e_{oj,t}$$

Description of Variables & Data Sources

Variable	Unit	Definition	Source
Out migration from Pakistan	Headcount	Stock of Pakistani migrants in destination country taken in log form for every 10 year period.	Global Bilateral Migration Database
Per capita Gross Domestic Product	Constant US. $	Measured at constant market prices.	UN-Database
Dependency ratio	Ratio	It is the ratio of the persons of 0-14 years of age and 65 years of age and above to the persons of the age of 15-64 years and is collected for every 10 year period.	World Population Prospects (UN-Database)
Terrorism activities*	Number of incidents	It includes the events of bombings, assassinations and kidnappings taking place in home country and is taken in log form.	Global Terrorism Database
Share of bilateral trade volume in GDP	Million $	Share of bilateral trade between Pakistan and 47 host countries taken as a ratio of combined GDP of Pakistan and respective trading partner country for every 10 year period.	Direction Of Trade Statistics
Migrant's network	Headcount	It is the lag of migrant stock (dependent variable) in period "t" taken in log form.	Global Bilateral Migration Database
Distance	Kilo meter	Distance between two major cities of home and host countries in terms of population.	CEPII- Database

*Variables are calculated as total number of events taking place in a given decade (Chort and Ruppele, 2015; Beine and Parsons 2013).

Significance of the study

- The study will help in forecasting future migration trend in Pakistan. On the basis of this forecasting, employment opportunities can be arranged for potential migrants in advance.

- The study will also help in identifying the difficulties faced by the potential migrants in moving out.

Dependent variable: Log of migrant stock in host countries ($lMIG_{oj}$)			
Independent Variables	Pooled–OLS	RE	FE
Pull factors			
Log of GDP per capita in host country ($lGDPC_{j, t}$)	0.177*	0.181*	0.516***
Dependency Ratio of host country ($DEP_{j, t}$)	0.0001	0.0002	0.014***
Bilateral trade share in combined GDP ($TRAD_{oj, t}$)	29.529	30.308	55.932
Log of lag migrant stock in host country ($lMIG_{oj, t-1}$)	0.908*	0.904*	0.311*
Push factors			
Log of GDP per capita in home country ($lGDPC_{o, t}$)	–5.687*	–5.684**	–4.029***
Dependency Ratio of home country ($DEP_{o, t}$)	–0.045	–0.045***	–0.048*
Log of incidents of terrorism in home country ($lTERR_{o, t}$)	0.399	0.400***	0.423*

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*, **, *** represents significance at 1%, 5% and 10% level; Coefficient of Chibar^2 Statistics is obtained from Breusch and Pagan Lagrangian multiplier test for random effects; Hausman Chi^2 statistic is obtained from Hausman technique specification test, results are expressed in

Appendix.

Dependent variable: Log of migrant stock in host countries ($lMIG_{oj}$)			
Independent Variables	Pooled–OLS	RE	FE
Gravity factors			
Log of Distance between home and host country ($distance_{oj}$)	–0.234**	–0.245**	–19.187*
Constant	40.649*	40.704**	207.239*
R^2	0.89	0.89	0.94
F–Statistic	235.80*	–	54.65*
Chibar^2–Statistics	1.99***	–	–
Wald Chi^2–Statistic	–	1795.39*	–
Hausman Chi^2–Statistic		111.64*	

*, **, *** represents significance at 1%, 5% and 10% level; Coefficient of Chibar ^{2} Statistics is obtained from Breusch and Pagan Lagrangian multiplier test for random effects; Hausman Chi^2 statistic is obtained from Hausman technique specification test, results are expressed in Appendix.

Policy Implications

The study offers following polices in this regard:

- The government should work for the **improvement of local education system** in order to supply competent workforce to foreign countries. Migration of skilled and educated persons will serve the origin country in long run by sending remittances that can be invested in better education of the family members left behind.

- GOP should take the measures to **control terrorism** and to **recover the tourism industry** of Pakistan. Through offering tourist secure environment, Pakistan can take foreigners into confidence and can change the foreigner's perception for Pakistanis, who are supposed to be terrorist and face trouble in migrating and living abroad.

- Destination countries should also take the advantage of increasing labor supply and should **welcome migrants with easy entering policies.**

- GOP should also offer some training sessions to the potential migrants to make migration easy. These training sessions may include teaching official languages spoken in those countries where most of the Pakistanis prefer to migrate. In this connection GOP should also maintain some collaboration with institutions where the country can hire the scholars on visiting to facilitate the potential migrants.

POLICY IMPLICATIONS

▶ Effect of physical distance on migration should be reduced by controlling the social cost of migration through:

◦ protecting the rights of migrants

◦ ensuring satisfaction of their basic rights

◦ Overseas employment agencies should take effective initiatives for the rights of existing migrant stocks in host countries.

◦ conducting awareness sessions and training programs about language, culture and other social traits for potential migrants.

List of Host Countries

Country code	Country name	Country code	Country name	Country code	Country name
1	Australia	17	Iraq	33	Poland
2	Austria	18	Ireland	34	Portugal
3	Belgium	19	Italy	35	Qatar
4	Brazil	20	Japan	36	Saudi Arabia
5	Brunei Darussalam	21	Jordan	37	Sierra Leone
6	Cyprus	22	Kuwait	38	Singapore
7	Denmark	23	Luxembourg	39	Sri Lanka
8	Egypt, Arab Rep.	24	Madagascar	40	Sweden
9	Fiji	25	Malaysia	41	Switzerland
10	Finland	26	Mozambique	42	Thailand
11	France	27	Nepal	43	Turkey
12	Germany	28	New Zealand	44	United Arab Emirates
13	Greece	29	Nicaragua	45	United Kingdom
14	Hungary	30	Norway	46	United States
15	India	31	Oman	47	Venezuela, RB
16	Iran, Islamic Republic.	32	Philippines		

Hausman Test for Technique Specification

Regressors	Coefficients		Difference (FE–RE)	Sqrt (diag (V_b–V_B)) S.E.
	FE	RE		
Log of GDP per capita in host country	0.516	0.141	0.375	0.279
Dependency Ratio of host country	0.014	−0.0008	0.015	0.005
Bilateral trade share in combined GDP	55.932	38.085	17.846	31.582
Migrant stock in host country	0.311	0.932	−0.621	0.061
Log of GDP per capita in home country	−4.029	−5.898	1.869	.
Dependency Ratio of home country	−0.048	−0.045	−0.003	.
Log of incidents of terrorism in home country	0.423	0.414	0.009	.
Chi² Statistic	111.64*			
P–Value	0.00			

* Represents significant 1% level.