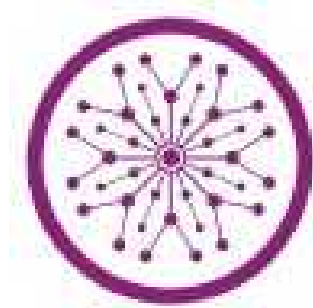


Traditional and Emerging Determinants of Poverty in Developing Economies: A Moderating Role of Governance on the Relationship of Traditional Factors and Poverty



A thesis submitted to The Superior University, Lahore, in partial fulfillment of the
requirements for the degree of

Doctor of Philosophy in Economics

Submitted by: Mahwish Zafar

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Department of Economics and Commerce

The Superior University, Lahore

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Dedicated To My Family

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List of Acronyms

ADF	Augmented Dickey–Fuller
AGRI	Agriculture
AIC	Akaike information criterion
ARDL	Autoregressive distributive lag
ASEAN	Association of Southeast Asian Nations
BIC	Bayesian information criterion
CD	Cross-sectional dependence
CPI	Consumer Price Index
ECM	Error correction model
ECT	Error correction term
FDI	Foreign direct investment
FEVD	Forecast error variance decomposition
FPE	Final prediction error
GDP	Gross domestic product
GIRF	Generalized impulse response function
HDI	Human Development Index
HQIC	Hannan–Quinn information criterion
I (0)	Stationary at level
I (1)	Stationary at first difference
ILO	International Labour Organization
IMF	International Monetary Fund
IPS	Im–Pesaran–Shin test
IRF	Impulse response function
ISIC	International Standard Industrial Classification of All Economic Activities
LDCs	Least developed countries
LFP	Labor force participation

LLC	Levin–Lin–Chu
LM	Lagrange multiplier
LHR	Likelihood ratio
LR	Literacy rate
MDG	Millennium Development Goal
MPI	Multidimensional Poverty Index
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary least squares
PP	Phillips–Perron
SAARC	South Asian Association for Regional Cooperation
SDG	Sustainable Development Goal
SEM	Simultaneous equations models
SIC	Schwarz information criterion
SSA	Sub-Saharan Africa
SVAR	Structural vector auto regression
TBT	Technical barriers to trade
TFP	Total factor productivity
UNWTO	United Nations World Tourism Organization
VAR	Vector auto regression
VEC	Vector error correction
VECM	Vector error correction model
WDI	World Development Indicators
WGI	Worldwide Governance Indicators
WTO	World Trade Organization

Abstract

This study examines the role of traditional and emerging factors on poverty with moderating role of governance between traditional factors and poverty. For this purpose the impact of migration, trade openness, inflation, foreign direct investment (FDI), and agriculture output (traditional factors) and women's empowerment and tourism (emerging factors) on poverty in South Asia, Latin America, and Sub-Saharan Africa. Data for the study were obtained from World Development Indicators (WDI) for South Asia, Latin America and Africa. The study applied a vector auto regression (VAR) model and uses panel data to examine the impact of traditional and emerging factors on poverty.

The purpose of my study is three-fold: the first purpose is to reexamine the set of traditional factors; the second is to find out how can we attain desired results from traditional factors; and, the third purpose is to introduce emerging factors as a way to reduce poverty in South Asia, Africa, and Latin America regions to meet the challenges of the current era. Poverty is multifaceted and its attributes can be apprehended in a many ways, such as malnutrition, disease, lack of education, low per capita income, less contribution to economy, and an absence of voice and powerlessness in society. This dissertation intends to investigate the role of existing solutions for poverty and how we can make them more effective to attain the desired results. Moreover, this dissertation will help to introduce and test the relations between new solutions for poverty reduction and poverty to tackle the challenges of the contemporary era.

The study formulates vector error correction model co-integration and uses panel data from WDI from 1995 to 2020 to examine the effect of traditional and contemporary factors on poverty reduction. This study estimates seven different VAR models to investigate the effect of traditional

factors on poverty with moderating effect of governance, and two VAR models have been estimated to determine the effect of emerging factors on poverty.

Results shows that migration, inflation, and agriculture have a significant and positive impact on poverty, whereas trade openness and FDI have a significant and negative relationship with poverty in the case of Africa. As far as governance as moderator is concerned, the study found that the role of governance as moderator weakens the relation of migration, inflation, and agriculture with poverty, whereas governance strengthens the relation of trade openness and FDI with poverty. However, FDI and migration have a negative association with poverty in South Asia region. For the case of South Asia, if FDI and migration are increased, then poverty will decrease; however, if agriculture development, inflation, and trade openness increase in South Asia, then poverty will increase as well. Moreover, governance as a moderator weakens the relation of trade openness and agriculture with poverty, whereas governance as a moderator strengthens the relation of migration, inflation, and FDI with poverty.

FDI, migration, and agriculture have a negative association with poverty in Latin America. FDI can help to reduce poverty, as FDI brings investment, new opportunities for projects, and employment positions for people. Moreover, in the case of traditional factors, the results indicate that governance weakens the relationship of trade openness, agriculture, and FDI with poverty, whereas governance strengthens the relationship of migration and inflation with poverty.

FDI, migration, and agriculture have a negative association with poverty in full sample. The overall analysis of full sample of South Asia, Latin America, and Africa region in the case of traditional factors suggests that the role of governance as moderator weakens the relation of trade openness and agriculture with poverty, whereas governance as moderator strengthens the relation of

migration, FDI, and inflation with poverty. The emerging factors of tourism and women's empowerment have a negative relation with poverty in the case of Africa, South Asia, and in Latin America.

This study implies a generalized impulse response function (GIRF) to forecast the responsiveness of poverty against one standard shock to traditional factors and emerging factors for next 10 years. Results for Africa shows that if one standard shock is given to poverty, it positively affects poverty throughout 10 predicted years, and one standard shock to inflation will affect poverty positively for 10 predicted years. Results for South Asia show that if one standard shock is given to poverty, it positively affects poverty throughout 10 predicted years. Results for Latin America show that if one standard shock is given to poverty, it positively affects poverty throughout 10 predicted years. Results for Latin America of emerging factors show that if one standard shock is given to poverty, it positively affects poverty throughout 10 predicted years. Results for Africa of emerging factors show that if one standard shock is given to poverty, it positively affects poverty throughout 10 predicted years.

This study add knowledge to the existing literature in several way. Firstly, this study reexamines the traditional factors that are considered to affect poverty. Secondly, this study finds the condition or circumstances that allow these traditional factors to become more effective in South Asia, Africa, and Latin America regions. Thirdly, this study examines the effect of emerging factors on poverty to help meet the new challenges facing the world. This research makes a contribution to the emerging factors of poverty and clarifies under what conditions traditional solutions can lead to sustainable growth.

The results of this study indicate that policy-makers should focus on governance if they want to achieve desired results from traditional factors. Moreover, this study also helps academicians and

researchers by identifying emerging factors that could have an impact on poverty in South Asia, Africa, and Latin America. This study will benefit and help researchers by providing data and information regarding emerging factors and poverty that are manageable by policy-makers.

Keywords: *traditional factors, governance, moderator, emerging factors, poverty, VAR, impulse response*

Chapter-1

1. Introduction

1.1. Background of the Study

The 2030 Agenda for Sustainable Development set 17 Sustainable Development Goals (SDGs) with the pledge that no one would be left behind (Kaltenborn, Krajewski, & Kuhn, 2020a, 2020b; Stuart & Woodroffe, 2016). The SDGs were established by the United Nations General Assembly in 2015. Now, the whole world is working tirelessly to achieve these SDGs. The 2030 Agenda had a balanced and integrated approach and three dimensions, which were economic, social, and environmental. Some of the 17 SDGs were social and economic (Chakraborty, 2020). “No Poverty” is the first SDG; poverty contributes to social and economic problems (Narayan, 2002; van der Meulen Rodgers et al., 2020). Poverty leads to other issues, such as deterioration in health and well-being, income inequality, compromised education, climate change, and lack of clean water and sanitation (Bawah et al., 2019; D. S. Rogers et al., 2012). However, this study focuses on the first SDG, poverty reduction, by modeling the relation of traditional factors, which have previously been investigated separately, and emerging factors with poverty.

Poverty reduction is the biggest issue for the whole world and it is important to resolve this issue to enable sustainable development (Fosu, 2017; Malerba, 2020). Human beings require an adequate standard of living and sufficient availability of food, clean water, safe shelter, education, and job opportunities for current and future generations. If the requirements mentioned above are not met, then there is poverty. Akutson Seth and John (2017) stated in their study, “Problems of Capital Formation in Underdeveloped Countries,” that poverty is the biggest issue of less developed nations; they explained that a country remained poor because of its poor conditions and few resources. The vicious cycle of poverty becomes rigid and the country is unable to get out of the poverty cycle. Poverty in the region of Africa is increasing faster than its population growth

rate (Beegle & Christiaensen, 2019); therefore, there is a shortage of the three basic necessities of life in Africa: food, health, and shelter. Every country that is suffering from poverty is trying to resolve this issue at the earliest. It is already recognized that poverty is the mother of all social evils, and if poverty is alleviated, then many economic and social issues can be resolved and developing countries can move toward sustainable development (Rogers, Jalal, & Boyd, 2012; Shiyu, 2019). For a better understanding of poverty, definitions of poverty are given in the next paragraph.

According to the World Bank, poverty means hunger and lack of basic necessities, of which shelter is the most important (Pomati & Nandy, 2020; Tesliuc, Grigoras, & Stanculescu, 2015). Moreover, poverty can also mean being sick and unable to afford a visit to a doctor. People who are poor cannot afford nutritional food and eat starchy food instead, which can lead to ill-health (Aliyu & Dansabo, 2017). Poor means being hungry, with no roof overhead and no clothing, with no proper medical attention and no access to education (Panday, 2020). Scarcity of well-being is marked as poverty. In addition, people living in poverty are threatened by elements that they cannot control. Authorities treat them badly and they have no say or access to decision making.

Poverty can be described in two ways (Duclos & Grégoire, 2002; Krishna, 2020): absolute poverty and relative poverty. Absolute poverty is when people cannot satisfy their basic human needs, for example, they endure a shortage of food, polluted water, poor sanitation or no migration (Johnston, 2019). Relative poverty is when a person is a certain percentage poorer than other people in the economy.

There are several measurements of poverty; different measurements of poverty may be used according to location and the economic condition of a country. Generally, at worldwide level, the

measurement of poverty used is income of US\$1 per day: a person who earns less than US\$1 a day is considered to live below the international poverty line (Brandolini & D'Alessio, 1998; Tigre, 2020).

Poverty reduction is a burning issue for developing countries, but most of the time it is considered vicious circle that never breaks (Gray & Moseley, 2005; Werhane, Newton, & Wolfe, 2020). In many parts of world, people are living in miserable circumstances and face hunger, which ultimately leads to sickness. In Alfred Marshall's words, "The study of the causes of poverty is the study of the causes of degradation of a large part of mankind" (Kanbur & Squire, 2001; Slobodian, 2019). Poverty is such a severe problem that in every era researchers focus on how to eradicate poverty. Many nations remain prone to poverty despite an overall decline in poverty. As an example, a majority of the people of the nations of Sub-Saharan Africa (SSA) live with a life-threatening level of poverty and a third are malnourished (Salecker, Ahmadov, & Karimli, 2020).

Definitions of poverty are important because they affect the measures and schemes used to tackle poverty. Ashley and Mitchell (2009) asserted that there is still confusion regarding the use of the term poverty, and the varying definitions of poverty were influenced by multidisciplinary procedures, global contexts, and philosophies. Overall, poverty had been defined in financial terms with the use of revenues and levels of consumption. Alvaredo and Gasparini (2015) stated in his study that poverty is measured in different methods, through this calculation people who lies below the poverty line are considered as poor. Graham, Moodley, and Selipsky (2013) noted that to intellectualize poverty, the monetary definition of insufficiency had been accompanied by other methodologies, for example, the capability approach, development approach, and Multidimensional Poverty Index (MPI) approach. Sachs (2006), a top scholar on poverty and progress, assembled a four-set definition of poverty: (1) income poverty (or its common substitute,

consumption scarcity); (2) absence of materials, including limited or low-quality possessions (such as lodgings, outfits, fixtures, personal means of conveyance, communication tools) and poor access to services; (3) lack of opportunities, which is beyond material deprivation and is linked with human competencies and one's respect in society; (4) scarcity of resources, including lack of tangible goods and services.

Worldwide data shows glaring differences in levels of poverty among and across nations (Mazzanti, 2002). The aim of SDG 1 was to eliminate poverty of all kinds universally. Furthermore, SDG 1.1 aimed at the eradication of extreme poverty by 2030 for all humankind. SDG 1.2 called for at least a 50% reduction in the number of people living in poverty and all its dimensions as set by national definitions (Lampert & Papadongonas, 2016).

Sub-continent masses rely on small-level food agriculture, which offers unsecured livelihoods that are increasingly affected by environmental factors and climate change hazards. Although all regions are experiencing economic growth, extreme poverty exists in South Asia. The South Asian region houses 400 million poor people that make up almost half of the world's poor population (Smillie, 2009).

Latin America also shows signs of scarcity and weakness. Data from 2009 showed that around 183 million Latin Americans were living in poverty, which was a third of the region's population, and 74 million out of these 183 million were facing extreme poverty (Mokomane, 2012). The region's extreme poverty is mostly centered among the native populace and in remote rural areas (S. Davis & Bartlett, 2008). The Gini coefficient is measured, where the value lies between 0 and 1, of income inequality; the higher the number, the greater the income inequality. The Gini coefficients of Latin America and SSA are 0.52 and 0.47, respectively (François Bourguignon, 2015). As

argued by Haron (2009), high inequality results in higher poverty levels and it also generates barriers to poverty mitigation. In least developed countries (LDCs), poverty is common and the number of people living in poverty has doubled during the last 30 years. It is noticeable that African LDCs face a lack of development in poverty mitigation. Poverty is severer in countryside areas as compared to metropolitan cities, and the majority of the rural poor live in inaccessible areas.

Lack of natural, social, physical, and human resources, non-social and political involvement along with remoteness are key factors in this continuous rural poverty. Poverty reduction is burning issue for the populace locations of developing economies especially within rural regions (Start & Johnson, 2004). The poverty situation of these LDCs is an indicator that a vital segment of the population has been ignored in the process of development (Stewart, 2005). Poverty mitigation in developed, middle-income, and developing countries comprises income transfers, a system of social welfare or concentrated job opportunities plans. However, in the majority of LDCs where there is generalized poverty, the disbursement of all of their resources would not be enough to meet the core demands of the population with continuity, only by the means of economic growth could poverty be mitigated on a large scale (Miller, 2010).

This study used a definition of poverty based on earnings or consumption in coordination with a standard lifestyle or income level that is necessary for survival. In 1990, poverty was measured as income of less than US\$1 per individual per day, which was later adjusted to US\$1.25 in 2005 and US\$1.90 in 2015; this reflected the real-time poverty line of the poorest nations (M. A. Hussain, 2019). The aim of study is to examine the relation of traditional and emerging factors with poverty in developing nations. This study improves our understanding of how traditional factors and emerging factors can be effective for poverty reduction so that important economic decisions can be taken to reduce poverty in a country.

1.2. Traditional Factors and Poverty

Several studies have investigated the effects of traditional factors, such as migration, trade openness, inflation, foreign direct investment (FDI) and agriculture, on poverty reduction. Poverty is the biggest challenge to achieve economic development (Sachs, 2012).

According to existing studies, poverty can be reduced through mobility, that is, the capability of people to get work so that they may improve their economic condition through available work opportunities (Awan, Malik, Sarwar, & Waqas, 2011). Therefore it is important to investigate the impact of migration on poverty in LDCs. The literature was in favor of migration and reported an inverse relationship between migration and poverty; so, if we want to reduce poverty level, then migration must be promoted (Awan et al., 2011). Basic needs can be achieved through intellectual development, which can be gained through migration and access to resources and opportunities; thus, taking people out of poverty.

However, the literature shows that migrants face many problems, for example, they may get ill and not be properly taken care of. Even female labor force is facing many social and economic problems while they are out of their town for work purpose then they can't properly give their input at work because of discrimination, and ultimately become a curse for the society (Boyagoda & Suramya, 2014; Senaratna, Perera, & Fonseka, 2011; Siddiqui, 2012). Migration brings fruitful results for the origin and host countries, but it also brings health and social adjustment issues for the migrants.

The assessment of poverty is a versatile term and becoming a serious concern of the developing world. The problem of poverty in low-income countries leads to a lack of mobility, ill health, poor housing services and so on which represent the vicious circle of poverty. So inconclusive results

exist, lack of migration drives the people towards poverty. It is also suggested in the study that the government should play a crucial role to reduce poverty; otherwise, all efforts will go in vain.

Many studies examined the relation between trade openness and poverty mitigation. Some studies were in favor of trade openness because it brings opportunities to the local investor (Bhagwati & Srinivasan, 2002; Onakoya, Johnson, & Ogundajo, 2019). However, some studies were against trade openness because findings showed that trade openness initially worsens poverty, then, after some time, it helps to reduce poverty. Studies argued that trade openness in the agriculture sector led to the exploitation of local farmers who remained poor. A review of the literature showed that the impact of trade openness on poverty alleviation is not clear, because to obtain benefits from trade openness, especially for unskilled labor, requires the application of several conditions (Winters, McCulloch, & McKay, 2004). Labor mobility requires government policies to ensure the flexibility of labor markets, the effectiveness of financial institutions and the ability to absorb new technologies imported as a result of trade openness, and policies to minimize the costs of adjustment in the short run, the effect of the price shocks resulting from trade openness on poor people and the dependence of the poor on government services. Studies are required to identify the conditions under which the relation between trade openness and poverty reduction might be weakened or strengthened.

Inflation also plays a crucial role in poverty (Fujii, 2013). Numerous empirical investigations of inflation and poverty showed that inflation and poverty are universal phenomena that affect people in different ways (Siyan, Adegioriola, & Adolphus, 2016). Unemployment and inflation are correlated concepts and unemployment leads to poverty. For many years, economists and policy-makers have examined the impact of inflation on the level of poverty and offered policy suggestions to governments to control inflation and poverty, and suggestions about the

implications of such policies. Governments endeavor to achieve economic growth, stable inflation, and full employment. These goals can reduce poverty and increase the welfare of the people. However, instability in gross domestic product (GDP) causes fluctuations in prices that can lead to unemployment.

It is also observed that FDI is considered a vital factor for poverty reduction; FDI can contribute to economic growth, which is directly proportional to poverty reduction in low-income countries (Gohou & Soumaré, 2012; Musakwa & Odhiambo, 2019). The opening of Indonesia's economy after the Asian financial crises of 1997 helped to bring more FDI into the country, which, resultantly, helped to reduce poverty in the country (Stiglitz, 2000). Several studies were conducted to examine the relation between FDI and economic growth; however, results on the impact of FDI on poverty are inconsistent: some studies showed a positive relation and some studies showed a negative relation. To cover this gap, studies should identify the conditions under which the relation is strengthened or weakened. Studies showed that the coefficient of FDI inflows has an inverse relation with poverty alleviation in different countries.

The major source of earnings in developing countries is agriculture (Balasubramanya & Stifel, 2020; Fekete Farkas & Singh, 2008); therefore, it is necessary to focus on an improvement of agricultural methods for development. "The interventions of the past half-century have also shown that agriculture can be a key driver of growth and development for many of the poorest countries in the world" (Corral, Díaz, Monagas, & García, 2017). The development of agricultural policies would help poor people to achieve financial stability and enable them to play a positive role in the economy of their country; this would help the industrial sector to grow and generate employment levels in industry, which would increase the overall economy of that particular country. The poverty level is increasing at a fast pace in countries like Africa that are unable to develop their

agriculture sector (Aladegbola, 2018). To reduce poverty in rural areas it is necessary to empower people so they can take decisions and add value to progress (Ugbomeh, 2001). For developing nations, agriculture is an important element of progress because development of the industrial sector and service sector depend on agriculture (Mccalla & Howitt, 2016). Countries like Nigeria suffer from severe poverty and are unable to manage their agriculture sector properly; resultantly, their rate of GDP is low, per capita income is low and there is high unemployment (Holden, 2014).

The above studies investigated factors that reduce poverty, but the effect of the factors on poverty was inconclusive: sometimes they had a positive impact on poverty reduction but sometimes they had negative impacts on poverty. To resolve this confusion we need to identify some conditions that will help to get favorable results with clarity.

The World Bank's World Development Report focuses on the equal distribution of state resources, transparent policies, and a good institutional environment to improve the development process. The impact of different policies depends on the effective performance of institutions, which requires good governance. Governance is usually described as decision making and the procedures through which decision making is implemented (Santiso, 2001). Governance can be applied at an international level, national level, local level or corporate level. Ekardt (2019) categorized effective governance into four basic components: certainty, transparency, power-sharing, and accountability. Good governance is measured by the welfare or well-being of the general public. The role of governance as a moderator remains unexplored and calls for research. Effective governance enables a country to understand its goals regarding economic development. It strengthens the authorities by facilitating a transparent environment for achieving development goals.

Kwon and Kim (2014) stated that good governance directly impacts economic development. The basic strategy of the theory of good governance is to reduce the poverty level, reduce unemployment by creating more work, and eliminate corrupt activities. Governance is a huge barrier in the way of progression and economic development. Collapsed institutions, slow economic development, and unequal distribution of resources lead to a low living standard in developing countries. Ultimately, these problems result in a vicious circle of poverty, non-remarkable growth, and increasing debt burden. Strong reforms to government institutions are needed for economic development and reduction in unequal income distribution.

The Worldwide Governance Indicators (WGI) database is used by international financial institutions to measure government effectiveness and to monitor political systems, rule of law, freedom of answerability, control of corruption, and state regulatory authorities. WGI guide international financial institutions in their distribution of loans for the progress of developing countries (Mastruzzi, Kraay, & Kaufmann, 2007).

1.3. Emerging Factors and Poverty

In addition to the traditional solutions to poverty described in the literature, there are contemporary factors that need to be considered to meet the challenges of the current era. Some emerging factors that affect poverty are discussed below.

More than 50% of the world's population are women. So it is nearly impossible to get economic success without the contribution of women. To enable the contribution of women to economic activities, women need to be empowered to alleviate poverty (Bent, 2019). Gender equality is one of the Millennium Development Goals (MDGs) and now it has become part of SDGs as well. Gender equality is one of the most important items on the agenda of developed nations (Sato,

2018). There are more women than men, and women participate more in family, social, and community matters than men. Gender equality comes in many shapes, but here the focus is on equal opportunities, and equal rights and value for men and women (Muñoz Boudet, Petesch, & Turk, 2013).

Women still face discrimination, inequality, and domestic violence; some women are still considered for domestic work only and are not allowed to work outside homes (Burman & Chantler, 2005). The potential of women who receive medical or engineering education, especially in South Asia, is wasted and they cannot participate in the economy. Usually, women do not get the same opportunities as men and they are paid less than men in developing nations. Moreover, some women receive social threats and work in a bad environment, which discourages them from participating in the labor force. If women are not appreciated and are unable to work in a friendly environment, then it is less likely that poverty will be reduced. So, there is an urgent need to examine the effect of women's empowerment on poverty for LDCs at a comprehensive level; how much can they contribute in the short run and long run?

The other emerging factor is tourism. For more than half a century, developing countries have paid attention to tourism because it is considered an important element in the economic growth of a country. Tourism helps a country to earn foreign exchange and tax revenue, and it creates new opportunities, which ultimately help to enhance macroeconomic growth (Llorca-Rodríguez, García-Fernández, & Casas-Jurado, 2020; Torres & Momsen, 2004). Tourism is a wide and emerging research problem for policy-makers, governments, and global organizations. The United Nations World Tourism Organization (UNWTO) is working to enhance the economic development of countries, which can help to mitigate poverty (Croes & Vanegas Sr, 2008; Medina-Muñoz, Medina-Muñoz, & Gutiérrez-Pérez, 2016; Novelli & Hellwig, 2011; Spenceley &

Goodwin, 2007). Generally, it is considered that tourism can play a significant role in poverty mitigation (McKercher, 2008; Scheyvens, 2007b); so, tourism is important for developing nations and LDCs with a high level of poverty (Scheyvens, 2007a). Economic growth can be achieved through tourism; economic growth can help to reduce poverty.

In 2008, according to the UNWTO Barometer for January 2009, almost 924 million tourists travelled across international borders; this number is increasing with every passing year. Tourism began in developed and upper-middle-income countries and then this trend penetrated developing countries. The spending of international tourists is more than the spending of development agencies on poor countries. Tourists' spending is more than three times bigger than foreign financial aid and is considered a great means of transferring funds from developed nations to developing nations (Eric, Semeyutin, & Hubbard, 2020). Some studies suggested that the impact of tourism on economies, geography, and society should be researched. A research gap exists on the impact of tourism on poverty, especially in the developing world. This study will help researchers to understand the contribution of emerging factors to poverty reduction.

1.4. Objectives of the Study

The main objectives of this study are to investigate the impact of emerging factors on poverty and the moderating effect of governance on the impact of traditional solutions to poverty on poverty in South Asia, Africa, and Latin America regions.

The objectives of the study are to:

1. Examine the long-run and short-run relationship between traditional factors and poverty in the regions of South Asia, Latin America, and Africa.

2. Investigate the impact of governance as a moderator on the relationship between traditional factors and poverty in the regions of South Asia, Latin America, and Africa.
3. Investigate the long-run and short-run relationship between emerging factors and poverty in the regions of South Asia, Latin America, and Africa.
4. Examine the relative contributions of traditional factors to poverty in the regions of South Asia, Latin America, and Africa.
5. Examine the relative contributions of emerging factors to poverty in the regions of South Asia, Latin America, and Africa.
6. Forecast the response of poverty in time $t + n$ when one standard shock is given to the vector auto regression (VAR) system of traditional factors at time t while no other shock hits the system in the regions of South Asia, Latin America, and Africa.
7. Forecast the response of poverty in time $t + n$ when one standard shock is given to the vector auto regression (VAR) system of emerging factors at time t while no other shock hits the system in the regions of South Asia, Latin America, and Africa.
8. Examine the direction of causality among traditional factors with poverty in the regions of South Asia, Latin America, and Africa.
9. Examine the direction of causality among emerging factors with poverty in the regions of South Asia, Latin America, and Africa.

1.5. Research Questions

The purpose of the study is to develop a common set of traditional factors that causes poverty, from the perspective to attain desired results from the traditional set. To attain desired results mean that traditional factors have effect on poverty are still inconclusive so it is need to find condition that help to make either strong or weak relation of traditional factors with poverty.

And also formulate a set of emerging policies that can meet the current challenges of poverty.

Thus, the developed main research questions and sub-questions are:

1. What is the impact of traditional factors on poverty in South Asia, Latin America, and Africa?
 - a) Is there a long-run/short-run relationship between migration and poverty in South Asia?
 - b) Is there a long-run/short-run relationship between migration and poverty in Latin America?
 - c) Is there a long-run/short-run relationship between migration and poverty in Africa?
 - d) Is there a long-run/short-run relationship between FDI and poverty in South Asia?
 - e) Is there a long-run/short-run relationship between FDI and poverty in Africa?
 - f) Is there a long-run/short-run relationship between FDI and poverty in Latin America?
 - g) Is there a long-run/short-run relationship between inflation and poverty in South Asia?
 - h) Is there a long-run/short-run relationship between inflation and poverty in Africa?
 - i) Is there a long-run/short-run relationship between inflation and poverty in Latin America?
 - j) Is there a long-run/short-run relationship between trade openness and poverty in South Asia?
 - k) Is there a long-run/short-run relationship between trade openness and poverty in Africa?

- l) Is there a long-run/short-run relationship between trade openness and poverty in Latin America?
 - m) Is there a long-run/short-run relationship between agriculture output and poverty in South Asia?
 - n) Is there a long-run/short-run relationship between agriculture output and poverty in Africa?
 - o) Is there a long-run/short-run relationship between agriculture output and poverty in Latin America?
2. Does governance moderate the relationship between traditional factors and poverty in South Asia, Latin America, and Africa?
- a) Does governance moderate the relationship between migration and poverty in South Asia?
 - b) Does governance moderate the relationship between migration and poverty in Africa?
 - c) Does governance moderate the relationship between migration and poverty in Latin America?
 - d) Does governance moderate the relationship between FDI and poverty in South Asia?
 - e) Does governance moderate the relationship between FDI and poverty in Africa?
 - f) Does governance moderate the relationship between FDI and poverty in Latin America?

- g) Does governance moderate the relationship between inflation and poverty in South Asia?
 - h) Does governance moderate the relationship between inflation and poverty in Africa?
 - i) Does governance moderate the relationship between inflation and poverty in Latin America?
 - j) Does governance moderate the relationship between trade openness and poverty in South Asia?
 - k) Does governance moderate the relationship between trade openness and poverty in Africa?
 - l) Does governance moderate the relationship between trade openness and poverty in Latin America?
 - m) Does governance moderate the relationship between agriculture output and poverty in South Asia?
 - n) Does governance moderate the relationship between agriculture output and poverty in Africa?
 - o) Does governance moderate the relationship between agriculture output and poverty in Latin America?
3. What is the impact of emerging factors on poverty in South Asia, Latin America, and Africa?
- a) Is there a long-run/short-run relationship between tourism and poverty in South Asia?
 - b) Is there a long-run/short-run relationship between tourism and poverty in Africa?

- c) Is there a long-run/short-run relationship between tourism and poverty in Latin America?
 - d) Is there a long-run/short-run relationship between women's empowerment and poverty in South Asia?
 - e) Is there a long-run/short-run relationship between women's empowerment and poverty in Africa?
 - f) Is there a long-run/short-run relationship between women's empowerment and poverty in Latin America?
4. What is the relative contribution of traditional factors to poverty in the case of South Asia, Latin America, and Africa?
- a) What is the relative contribution of migration to poverty reduction in the case of South Asia?
 - b) What is the relative contribution of migration to poverty reduction in the case of Latin America?
 - c) What is the relative contribution of migration to poverty reduction in the case of Africa?
 - d) What is the relative contribution of trade openness to poverty reduction in the case of South Asia?
 - e) What is the relative contribution of trade openness to poverty reduction in the case of Latin America?
 - f) What is the relative contribution of trade openness to poverty reduction in the case of Africa?

- g) What is the relative contribution of FDI to poverty reduction in the case of South Asia?
 - h) What is the relative contribution of FDI to poverty reduction in the case of Latin America?
 - i) What is the relative contribution of FDI to poverty reduction in the case of Africa?
 - j) What is the relative contribution of inflation to poverty reduction in the case of South Asia?
 - k) What is the relative contribution of inflation to poverty reduction in the case of Latin America?
 - l) What is the relative contribution of inflation to poverty reduction in the case of Africa?
 - m) What is the relative contribution of agriculture to poverty reduction in the case of South Asia?
 - n) What is the relative contribution of agriculture to poverty reduction in the case of Latin America?
 - o) What is the relative contribution of agriculture to poverty reduction in the case of Africa?
5. What is the relative contribution of emerging factors to poverty in the case of South Asia, Latin America, and Africa?
- a) What is the relative contribution of women's empowerment to poverty reduction in the case of South Asia?
 - b) What is the relative contribution of women's empowerment to poverty reduction in the case of Latin America?

- c) What is the relative contribution of women's empowerment to poverty reduction in the case of Africa?
 - d) What is the relative contribution of tourism to poverty reduction in the case of South Asia?
 - e) What is the relative contribution of tourism to poverty reduction in the case of Latin America?
 - f) What is the relative contribution of tourism to poverty reduction in the case of Africa?
6. How do traditional factors affect poverty in a forecasted period in South Asia, Latin America, and Africa?
- a) How does migration affect poverty in a forecasted period in the case of South Asia?
 - b) How does migration affect poverty in a forecasted period in the case of Latin America?
 - c) How does migration affect poverty in a forecasted period in the case of Africa?
 - d) How does trade openness affect poverty in a forecasted period in the case of South Asia?
 - e) How does trade openness affect poverty in a forecasted period in the case of Latin America?
 - f) How does trade openness affect poverty in a forecasted period in the case of Africa?
 - g) How does FDI affect poverty in a forecasted period in the case of South Asia?
 - h) How does FDI affect poverty in a forecasted period in the case of Latin America?
 - i) How does FDI affect poverty in a forecasted period in the case of Africa?
 - j) How does inflation affect poverty in a forecasted period in the case of South Asia?

- k) How does inflation affect poverty in a forecasted period in the case of Latin America?
 - l) How does inflation affect poverty in a forecasted period in the case of Africa?
 - m) How does agriculture affect poverty in a forecasted period in the case of South Asia?
 - n) How does agriculture affect poverty in a forecasted period in the case of Latin America?
 - o) How does agriculture affect poverty in a forecasted period in the case of Africa?
7. How do emerging factors affect poverty in a forecasted period in South Asia, Latin America, and Africa?
- a) How does women's empowerment affect poverty in a forecasted period in the case of South Asia?
 - b) How does women's empowerment affect poverty in a forecasted period in the case of Latin America?
 - c) How does women's empowerment affect poverty in a forecasted period in the case of Africa?
 - d) How does tourism affect poverty in a forecasted period in the case of South Asia?
 - e) How does tourism affect poverty in a forecasted period in the case of Latin America?
 - f) How does tourism affect poverty in a forecasted period in the case of Africa?
8. What is the direction of causality between traditional factors and poverty in the case of South Asia, Latin America, and Africa?

- a) What is the direction of causality between migration and poverty in the case of South Asia?
- b) What is the direction of causality between migration and poverty in the case of Africa?
- c) What is the direction of causality between migration and poverty in the case of Latin America?
- d) What is the direction of causality between trade openness and poverty in the case of South Asia?
- e) What is the direction of causality between trade openness and poverty in the case of Africa?
- f) What is the direction of causality between trade openness and poverty in the case of Latin America?
- g) What is the direction of causality between FDI and poverty in the case of South Asia?
- h) What is the direction of causality between FDI and poverty in the case of Africa?
- i) What is the direction of causality between FDI and poverty in the case of Latin America?
- j) What is the direction of causality between inflation and poverty in the case of South Asia?
- k) What is the direction of causality between inflation and poverty in the case of Africa?
- l) What is the direction of causality between inflation and poverty in the case of Latin America?

- m) What is the direction of causality between agriculture and poverty in the case of South Asia?
 - n) What is the direction of causality between agriculture and poverty in the case of Africa?
 - o) What is the direction of causality between agriculture and poverty in the case of Latin America?
9. What is the direction of causality between emerging factors and poverty in the case of South Asia, Latin America, and Africa?
- a) What is the direction of causality between women's empowerment and poverty in the case of South Asia?
 - b) What is the direction of causality between women's empowerment and poverty in the case of Africa?
 - c) What is the direction of causality between women's empowerment and poverty in the case of Latin America?
 - d) What is the direction of causality between tourism and poverty in South Asia?
 - e) What is the direction of causality between tourism and poverty in Africa?
 - f) What is the direction of causality between tourism and poverty in Latin America?
 - g) What is the direction of causality between traditional factors and poverty in the case of developing economies?
 - h) What is the direction of causality between emerging factors and poverty in the case of developing economies?

1.6. Research Gap and Contribution

There is no doubt that most of the countries of the world are imprisoned in a vicious cycle of poverty which affects their development. These countries try hard to develop but, unfortunately, they cannot achieve their desired results because of the complex structure of poverty (Lanau, Mack, & Nandy, 2020; Romeshun & Mayadunne, 2011). Several studies have been conducted to find ways to alleviate poverty, so that policies can be designed to mitigate the poverty (Sumner, 2007; van der Meulen Rodgers et al., 2020). The empirical literature has documented that FDI (Sanders, 2014), agriculture output (Elliott, 2017), trade openness (Paolo & Enrico, 2006), inflation (Easterly & Fischer, 2001), and migration (Buarque, Špolar, & Zhang, 2006) can help to reduce poverty. However, these traditional factors are as yet unable to provide the desired results; so it is necessary to identify the conditions under which traditional factors become more effective. For instance, the empirical literature advocates that migration and trade openness play an important role to reduce poverty. Therefore, it has been observed in developing nations that trade openness and migration are promoted constantly (Nkechi, Emeh Ikechukwu, & Okechukwu, 2012; Sheikh, Malik, & Masood, 2020), but nations are failing to reduce poverty to the desired level (Ebbinghaus, 2021). Therefore, it is obvious that migration and trade openness help poverty reduction only if accompanied by some policies or favorable condition for poverty reduction (Mitra, 2016). According to Soumaré, Gohou, and Kouadio (2019), FDI is an instrument to increase economic growth and to reduce poverty; however, it has been observed in many LDCs, like Pakistan, India, and Bangladesh, that although the influx of FDI is higher, poverty is also higher (Akinlo & Dada, 2021). Thus, there is an urgent need to create certain favorable conditions in a country that help to strengthen/weaken the relationship of modeled variables. This study adds to the existing literature by identifying traditional factors of poverty and investigates their contribution to poverty in South

Asia, Africa, and Latin America. Moreover, this study identifies the conditions or circumstances under which these traditional approaches become more effective.

In this era of technology, when economies are transforming their structure rapidly, there is a dire need to identify the emerging factors that can effect poverty to develop policies to meet the challenges of the era (N. Lee & Rodríguez-Pose, 2020). The present study aims to investigate whether tourism and women's empowerment in this contemporary era can contribute to poverty in South Asia, Africa, and Latin America. This study also aims to better explain the relationship between traditional factors and poverty. Moreover, this study examines under what conditions traditional solutions can be more effective and it proposes new solutions for poverty reduction.

1.7. Statement of Research Problem

In today's era, the major problem of developing countries is to attain sustainable economic growth. Poverty hinders economic growth. Many studies suggested that alleviation of poverty can lead to economic growth. In this era, poverty is a major and critical challenge and a root cause of many social and economic problems in developing nations (Moges, 2020; Romeshun & Mayadunne, 2011). More than a billion people live in extreme poverty all around the world (Emara & Moheildin, 2020). Poverty prevents a nation from utilizing its resources properly, which, ultimately, reduces economic growth and development. Poverty is multifaceted; it is related to lack of health facilities, child mortality, poor infrastructure, and unemployment (Abasilim, Eyo, Adah, & Popoola, 2016).

The traditional solutions to poverty are FDI, migration, agriculture development, inflation, and trade openness, which are called traditional factors in this study. FDI helps to generate employment opportunities and it helps to reduce poverty. Migration enhances people's knowledge and

experience which helps to reduce poverty (Buarque et al., 2006). Agriculture development is an important element that contributes to the GDP of a country and it also helps to reduce poverty, especially in the rural areas of Pakistan (Elliott, 2017). Inflation has a significant relationship with poverty but poverty respond sometimes positively and negatively as well to inflation (Easterly & Fischer, 2001; McLeay & Tenreyro, 2020). Trade openness respond to poverty positively and negatively at the same time (Avelino, Brown, & Hunter, 2005; HO, PHAM, & NGUYEN, 2021; Musah et al., 2021).

There are more women in the world than men; if women's participation equaled men's participation, then the economy would progress. So, women's empowerment could reduce poverty in developing countries. Nowadays, the world is seriously working on gender equality as it is one of the SDGs. Furthermore, tourism is a way to transfer resources from developed nations to developing nations. In addition, tourism helps to increase the circulation of money and foreign currency to reduce poverty in the economy of developing countries. Therefore women's empowerment and tourism are considered emerging solutions to poverty.

The purpose of my study is three-fold: the first purpose is to revisit solutions to poverty described in the literature (traditional factors); second, is to investigate how to attain effective results from traditional factors; and, the third purpose is to identify emerging factors that could reduce poverty in the regions of South Asia, Africa, and Latin America to meet the challenges of the current era.

1.8. Significance of the Study

First, this study compiles the factors described in the literature that affect poverty: migration, trade openness, FDI, inflation, and agriculture output (traditional factors). This study suggests that women's empowerment and tourism are emerging factors that affect poverty. This study

investigates the short-run and long-run relationship between traditional factors and poverty and between emerging factors and poverty in South Asia, SSA, and Latin America by applying a VAR test. This study then introduces governance as a moderator on the relations between traditional factors and poverty to see if governance makes traditional factors more effective. Therefore this study contributes in three aspects to the existing literature: firstly, it compiles a set of traditional factors from the literature that are considered to affect poverty; secondly, it finds the condition or circumstances that enable these traditional factors to become effective in the regions of South Asia, Africa, and Latin America; and, thirdly, it identifies emerging factors that affect poverty in the current era. This study contributes to existing body of knowledge by identifying set of traditional factors which are migration, FDI, trade openness, inflation, and agriculture output. Secondly, this study also identified the set of emerging factors which are women empowerment (Bhalotra, Brulé, & Roy, 2020) and tourism. Moreover, this study offer useful insights to expand the literature by investigating the role of governance as moderator that identify the condition under which traditional factors become more effective (Mungiu-Pippidi, 2019). The integrated research model offers a theoretical lens to understand how traditional and emerging factors affect poverty in developing economies with moderating role of governance on the relationship of traditional factors and poverty.

Furthermore, this study can also be used for practical purposes, which are as follows:

- i) *Policy-makers:* The investigations of this study are relevant to the burning issue of SDG 1, poverty eradication, of the 2030 Agenda for Sustainable Development and it is a very vital issue for developing countries. The results of this study suggest that policy-makers should focus on governance if they want to achieve desired results, to reduce poverty effectively, from traditional factors. Moreover, this study helps policy-makers

- by identifying emerging solutions to poverty and suggests that policies should be established to promote tourism and women's empowerment in the developing nations of South Asia, Africa, and Latin America.
- ii) *Theoretical Contribution:* Primarily the findings contribute to existing body of knowledge by incorporating Set 1 which is comprising of traditional factors: migration, FDI, trade openness, inflation, and agriculture output. Secondly, Set 2 comprises emerging factors which are women empowerment and tourism, that are being established and making their way to reduce poverty (Brulé, 2020). Finally, the current findings offers useful insights expand the literature by investigating the role of Governance as moderator to make effective relation of traditional factors and poverty (Mungiu-Pippidi, 2019). The integrated research model offers a theoretical lens to understand how traditional and emerging factors affect poverty in developing economies with moderating role of governance on the relationship of traditional factors and poverty.
 - iii) *Academics and researchers:* The increasing poverty in LDCs has transformed the focus from using traditional solutions to reduce poverty to finding the conditions under which traditional solutions can become more effective. Moreover, this study helps academics and researchers by identifying emerging solutions to poverty in South Asia, Africa, and Latin America. This study will add value and help researchers by providing data and information regarding emerging solutions to poverty that can be managed by policy-makers. It will also help researchers to understand the relationship between emerging solutions to poverty and their relationship in the short run and long run.

1.9. Organization of Study

This study is organized as follows. Chapter 2 is a literature review and it comprises nine sections. Section 2.1 provides an overview of the chapter and states the sources of the literature that is reviewed; Section 2.2 presents definitions and measurements of poverty. Section 2.3 summarizes global and regional trends in poverty. Section 2.4 presents a review of traditional factors and Section 2.5 reviews the literature on emerging factors. Section 2.6 summarizes the literature on role of governance as moderator. Section 2.7 presents theories that underpin the conceptual framework, whereas Section 2.8 illustrates the theoretical framework. Section 2.9 presents a summary of Chapter 2. Chapter 3 is the Methodology section; it summarizes the background and importance of VAR and discusses pre-estimation of VAR analysis. In Chapter 4, estimations and results are presented and interpreted in relation to the efficacy of traditional and emerging factors on poverty in South Asia, Latin America, and Africa. Chapter 5 comprises a discussion of results derived from Chapter 4; Chapter 6 consists of the conclusions of the study with policy implications, limitations, and recommendations.

1.10. Summary

Chapter 1 presents an introduction to the research. It establishes that poverty is the biggest challenge to the achievement of economic development.

Chapter 1 identifies five traditional and two emerging factors that can affect poverty reduction, especially in South Asia, Africa, and Latin America. The present study investigates how traditional factors become effective in poverty reduction and how emerging factors can play a role in poverty reduction. For this purpose, this study used a sample of 8 countries of South Asia, 42 countries of Latin America, and 48 countries of SSA to examine the effect of traditional and emerging factors on poverty.

Chapter 1 explains that the role of traditional factors and emerging factors in poverty reduction has been developed through theoretical and applied research for economists and policy-makers. In the context of LDCs, traditional factors have had an inconsistent impact on poverty; so, some condition is needed to make them more effective and there is a need to identify emerging solutions to poverty reduction.

Chapter-2

2. Literature Review

2.1. Introduction

The literature review of this study is divided into nine subsections for review. First, I discuss sources for the literature review. After introducing the concept of poverty and SDG 1, global and regional trends in poverty are summarized. Then the literature is discussed hypothesis-wise; that is, the impact of migration on poverty, the impact of trade openness on poverty, the impact of FDI on poverty, the impact of inflation on poverty, the effect of agriculture output on poverty, the effect of women's empowerment on poverty, and the effect of tourism on poverty, followed by the overall impact of traditional and emerging factors on poverty. And lastly, an overall summary is presented at the end of the literature review.

2.1.1. Literature Sources

In this study, three sources for the literature review are discussed, which are primary, secondary, and tertiary.

2.1.1.1.Primary Literature Sources

A primary source is firsthand information, which is collected from experiments or collected through direct observation in social sciences, such as research articles and research papers. The study used conference reports and unpublished theses (Fuchs et al., 2006). This study also used World Bank working papers, organization for economic co-operation and development papers, and international monetary fund working papers for the completion of the literature review.

2.1.1.2.Secondary Literature Sources

Secondary sources are secondhand information, such as information collected by other researchers; the information can be derived from books, articles, and other published sources. Secondary sources are equally as important to research as primary sources (Crowston & Scozzi, 2002). Researchers use empirical data and information from secondary sources that are relevant to their investigation (Saunders et al., 2018). This study reviewed the literature from recognized journals of economics and business management.

2.1.1.3. Tertiary Literature Sources

Tertiary sources are designed to help researchers conduct their research successfully. Tertiary sources were utilized in this review of the literature, such as databases and indexes (N.-S. Chen, Wei, & Chen, 2008).

2.2. Definition and Measurement of Poverty

Poverty is a multifaceted phenomenon that cannot be explained or influenced by a single approach (Laderchi, 1997), it needs to be studied using different methods and from different perspectives (Simpson Reeves, Parsell, & Liu, 2020). To explain poverty is not an easy and simple task, there are many definitions and ways of measuring it. Poverty is a severe global issue that wants to be solved on an urgent basis. In September 2000, the international community made eradicating extreme poverty and hunger by 2015 the first United Nations MDG. After introducing MDGs, the whole world started working on the goals, including the problem of poverty eradication, with the mission of leaving no one behind (Kanayo, 2014). Despite continuous effort at a worldwide level, a major part of the world is still living under miserable conditions. Therefore, post discussion of MDGs, poverty at a global level is still a burning issue and the first SDG of 2030 Agenda for Sustainable Development is “No poverty” (Reddy, 2020). To accomplish SDG 1, the first thing required is the establishment of a yardstick to measure the challenges to alleviate the poverty and

assess progress in coming years (Wiegand, 2020). There is a need for experts of the field to agree upon a single definition of poverty that can be measured and used to validate progress. Poverty alleviation was the primary objective of the first MDG and later of the first SDG, but how can the progress of poverty alleviation be measured and assessed for the betterment of the world?

Though poverty alleviation has to be solved to enable socio-economic development, however there is still no agreement on the definition and measurement of poverty (Burchi, Rippin, & Montenegro, 2020). So, firstly, this section describes several definitions and measurement approaches related to poverty. There are many methods for measuring poverty, it can be measured in monetary terms and it can also be measured in multidimensional aspects of deprivation. The enormous amounts of data, and objective and subjective information, on poverty can be used to set a threshold to calculate the scale of absolute and relative poverty. Dynamic studies have concluded that absolute and relative poverty have different perspectives and cannot cover all possibilities; so, to overcome the limitations of absolute and relative poverty, the concept of multidimensional poverty was introduced. There are many descriptions of poverty in the literature, including that of the United Nations, which is given below.

“Fundamentally, poverty is a denial of choices and opportunities, a violation of human dignity. It means a lack of basic capacity to participate effectively in society. It means not having enough to feed and clothe a family, not having a school or clinic to go to, not having the land on which to grow one’s food or a job to earn one’s living, not having access to credit. It means insecurity, powerlessness, and exclusion of individuals, households, and communities. It means susceptibility to violence, and it often implies living on marginal or fragile environments, without access to clean water or sanitation”. (WE, 2017)

Whereas the World Bank (2020) definition of poverty is:

“Poverty is a pronounced deprivation in well-being, and comprises many dimensions. It includes low incomes and the inability to acquire the basic goods and services necessary for survival with dignity. Poverty also encompasses low levels of health and education, poor access to clean water and sanitation, inadequate physical security, lack of voice, and insufficient capacity and opportunity to better one’s life”.

(P. Townsend, Gordon, & Pantazis, 2006) stated:

“A person (or household) is considered poor if the person’s (or household’s) income cannot acquire the basket of goods and services used to define a threshold for poverty. The monetary value of the basket is the poverty line and the population of people and households whose incomes are below this line is then derived through a headcount. In 1995, the World Summit on Social Development in Copenhagen defined poverty as a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information”.

(Chambers & Conway, 1992) stated:

“Poverty is not only defined by earnings but also by access to services, including a lack of income and productive resources to ensure sustainable livelihoods; hunger and malnutrition; ill health; limited or lack of access to education and other basic services; increased morbidity and mortality from illness; homelessness and

inadequate housing; unsafe environments and social discrimination and exclusion”.

Chambers (2013) explained that poverty is a multidimensional concept and that five dimensions can be used to calculate poverty: physical feebleness, loneliness, helplessness, powerlessness, and poverty. These are the aspects which create deprivation among people and lock them in poverty.

Blanco (2002) defined poverty:

“As the total absence of opportunities, accompanied by high levels of undernourishment, hunger, illiteracy, lack of education, physical and mental ailments, emotional and social instability, unhappiness, sorrow, and hopelessness for the future. Poverty is also characterized by a chronic shortage of economic, social, and political participation, relegating individuals to exclusion as social beings, preventing access to the benefits of economic and social development, and thereby limiting their cultural development”.

All these definitions of poverty were discussed from a broad perspective. However, for income and poverty measurement, a physiological deprivation model is usually used and economic resources are evaluated to get basic requirements. In general, a person is considered poor if they are unable to purchase a basic basket of goods and services. It is important to focus only on the income and expenditure method as a substitute for measuring goods and services. If a person's income is below the poverty line, then they are considered poor. Most countries utilize multiple poverty lines, and determine relative and absolute poverty. Absolute, relative, and multidimensional poverty are discussed in the next three subsections.

2.2.1. Absolute Poverty

The welfare of human beings in absolute poverty is at the minimum level. For those who live in absolute poverty it is nearly impossible to purchase a basket of daily essentials. If we calculate in terms of cash, then a person who earns less than US\$1.90 a day lives in absolute poverty. According to the United Nations' definition of absolute poverty, absolute poverty is a condition in which there is a deficiency of basic needs, which includes food, safe drinking water, sanitation, health, and shelter, and it depends on the income of people and their ability to access services (Gordon, 2006). Absolute poverty exists homogeneously among the people of a particular part of the world and it is sensitive to the economic development of that area. In areas of absolute poverty, if the income level increases, then its distribution floats equally across the society, and the percentage of poor people will decrease and help to reduce absolute poverty. The income level at which absolute poverty is said to exist increases in line with inflation; for example, in 1985 it was US\$1 a day, then it increased to US\$1.25 a day in 2005, according to prices in terms of per capita consumption (S. Chen & Ravallion, 2008). There are also other methods to calculate poverty. Today, income of US\$1.90 per day is the absolute poverty threshold for developing nations (S. Chen & Ravallion, 2008).

2.2.2. Relative Poverty

The relative poverty line categorizes society into two groups, in which poor people who are most deprived and unable to enjoy basic needs comparatively with another group who can afford and enjoy the basic needs of life easily (Moller, Huber, Stephens, Bradley, & Nielsen, 2003). If an increase in income homogeneously in society, e.g. in relative poverty if 3% rise in the income of all household then, the poverty rate will remain same before and after rise; means the proportion of poor people remain same. A person is considered relatively poor if they are in an underprivileged

condition either financially or socially in comparison to other people in the same location (Foster, 1998).

The concept of relative poverty is calculated according to the degree of development of a society and it cannot be transferred from one society to another. For example, in one country a person may be considered poor if their income per annum is less than US\$3000, whereas in another country a person may be considered poor whose income per annum is less than US\$8000. The phenomenon of poverty changes over time, a person who is considered poor at one time might not be considered poor at another time (Zheng, 2001). Therefore, it is recommended that the dynamic nature of poverty be taken into consideration while analyzing the poverty of a population, for example, by studying the population for a long period instead of only for a specific year or as an isolated investigation.

To calculate relative poverty, the distribution of income of different groups is considered; the standard of living of the bottom layer and the standard of living of the top layer of a population are compared. Absolute poverty is usually calculated for developing nations, whereas relative poverty is calculated for developed nations. So, the selection of a list of countries to investigate for a study on poverty is crucial and the correct selection method must be chosen. To proceed further we need to understand definitions of poverty and evaluate the progress of poverty reduction in relevant countries (Notten & De Neubourg, 2011).

The International Comparison Program organized by World Bank is considered the main source of data for prices and exchange rates within different countries. Furthermore, to meet the international trade local currency converted in US dollar with the help of purchasing power which is usually 1.90 US dollar to get same goods and services in other countries (Fritzell, Rehnberg, Hertzman, & Blomgren, 2015). Through this procedure individual's expense of goods and services

and each item of consumption from the basket picked as local currency then it is converted in dollars by PPP exchange rate. If this expenditure is less than the threshold of poverty, then the individual falls into the category of poverty (Moller et al., 2003).

2.2.3. Multidimensional Poverty

The MPI can be used to measure acute poverty. MPI measures the multiple deprivations experienced by people who are undernourished and lack access to necessities (e.g. clean water). The MPI includes people who are living below the international standards of basic living. The MPI calculates different levels of deprivation, such as absence of clean water, proper cleanliness, and fuel (Francois Bourguignon & Chakravarty, 2019). The multidimensional poverty combines two pieces of information to measure acute poverty; first, it calculates the proportion of people who have experienced deprivation; and, secondly, it calculates the intensity of the deprivation they experience. This innovative index includes more dimensions of poverty than traditional methods of measuring of poverty, it includes education, health, and living standard. MPI helps to draw a clear picture of poverty within a country and at a country level. The MPI is an analytical tool used to identify the most vulnerable people of society who are facing deprivation (Alkire et al., 2015).

There are many measurements of poverty, but this study focuses on absolute poverty because it is considered a basic definition and measurement of poverty (Ravallion & Chen, 2007). Absolute poverty is used to measure poverty in the extremely poor countries of South Asia, Latin America, and SSA. Now the question arises how poverty can be reduced in the world? And what are possible solutions which are discussed in the literature to mitigate poverty?

2.3.Global Trends in Poverty

The MDGs of 2015 were set for the betterment of human beings and with the aim that no one would be left behind (Kanayo, 2014). A main feature of poor people is that they live in rural areas and depend on agricultural productivity, which plays a significant role in poverty. There is a worldwide focus on improving the economies of developing economies and on alleviating poverty. The widening gap between developed nations and developing nations requires worldwide attention (Alkire & Sumner, 2013). The measurement of poverty suffers from serious limitations that need to be addressed.

Poverty is declining over time, for example, using a poverty line based on income of US\$1 a day, the number of people in poverty reduced from 1.125 billion to 1.044 billion from 1987 to 1998 according to International Labour Organization (ILO) estimates and from 1.184 billion to 1.174 billion from 1987 to 1998 according to the World Bank. So, both sources indicate a slight decline in the numbers of people enduring poverty. Roser and Ortiz-Ospina (2013) stated that poverty has declined from 93% to 10.6% at worldwide level over the past two centuries.

2.3.1. Regional Trends in Poverty

Regional estimates of poverty vary according to definitions and estimates. The poverty trends in regions vary according to the policies and priorities of the country. A glimpse of poverty trends according to region and country-wise for South Asia, Latin America, and SSA is given below.

Poverty Trends in South Asia

For the purpose of this thesis, we need to understand the regional distribution of poverty. According to the ILO estimate, South Asia's share of global poverty is 29%, whereas according to a World Bank report it is 44%; according to the ILO estimate, China's share of global poverty is 30% as compared to 18% reported by the World Bank report (Atkinson, 2019).

South Asia's share of global poverty increased from 27.3% to 33.4% (248.8 million) during 1990 to 2013 (NR Deyshappriya, 2018), whereas SSA had the largest share of global poverty of almost 50.7% (Bicaba, Brixiová, & Ncube, 2017). The poverty of South Asian countries is heterogeneous. The latest information from India was that 21.2% of the India's people are living below the poverty line according to the definition of US\$1.90 per day (Das & Das, 2019). Statistically, India is on lowest number and consider as less develop country in the region with 270 million people living below the poverty line, followed by Bangladesh where 18.5% of the population is below the poverty line (Mottaleb, Mainuddin, & Sonobe, 2020). The percentages of people living below the poverty line in Pakistan, Nepal, and the Maldives are 6.1%, 15.0%, and 7.3%, respectively. Bhutan is on the second lowest number where people living below the poverty line (2.2%) and Sri Lanka has the lowest percentage of people living below the poverty line (1.9%) in South Asia. The biggest constraint to the calculation of poverty is the unavailability of data, which makes it impossible to count poor people directly (Mujeri & Mujeri, 2020).

Poverty estimates can be based on a standard year, simply applying the yearly poverty changes to the standard evaluation in the current year. This approach is used to estimate the poverty of Bangladesh, Cambodia, Thailand, Sri Lanka, Nepal, and Mongolia. The reliability of the data depends on the quality of the estimated growth of poverty. It is also reported that poverty reduction is heterogeneous in the region. Despite the financial crisis affecting fuel and food, the people living on less than US\$1.25 decreased by 150 million from 2005 to 2008 in South Asia (Lyons, Kass-Hanna, & Greenlee, 2020). Bangladesh officials have achieved remarkable gains in poverty reduction since 2000. Extreme poverty has reduced by two-thirds to 12.9%, whereas the percentage of people living below the poverty line in Bangladesh has reduced to 24.3%.

The recent trend of poverty reduction between 2010 and 2016 suggests a deceleration in the rate of poverty reduction. The poverty reduction process is slow in urban areas; however, it is also documented that inequality decreases more slowly in rural areas as compared to urban areas (Rahman, Hossain, & Rana, 2020).

The current situation of COVID-19 pandemic is generating an exceptional crisis in Bangladesh, which is leading to a substantial increase in poverty. There is a marked decline in demand for manufactured goods and exports of garments, which in the recent past were considered poverty reduction tools, which has affected the employment level of the country. Moreover, many people have lost their jobs and income due to slower demand and closures during the pandemic. Therefore, a negative impact on poverty is anticipated in urban areas. A reduction in remittances is also expected, which would contribute to an increase in poverty, especially in Chittagong and Dhaka as these divisions have many international migrants (Bhuiyan, Sakib, Pakpour, Griffiths, & Mamun, 2020).

Bhutan is struggling to reduce poverty; it is trying to raise the living standard of its people but its progress is slow. Poverty was reduced from 14.5% to 12% from 2012 to 2017 based on a benchmark of \$3.20 per day. Comparatively, poverty reduction is at a slow pace as compared to 2007 to 2012; therefore, some improvement is needed to achieve the desired level of poverty reduction. Inequality is measured with the help of the Gini index, which reduced marginally from 38.8 to 37.4 from 2012 to 2017. Few people in Bhutan live in multidimensional poverty because capital-intensive hydropower is its main driver of growth. To capture a more holistic view of poverty, multidimensional poverty was measured with the help of World Bank data by combining monetary poverty with access to education and basic infrastructure. Latterly, multidimensional poverty includes access to adequate drinking water and sanitation (Mujeri & Mujeri, 2020).

India has made impressive progress in reducing absolute poverty; poverty declined from 21.6% to 13.4% approximately for 2015 and contributed to the historical trend in poverty reduction. It is also reported that 90 million people escaped from extreme poverty and tried to improve their lifestyle during this period (Ayush Agrawal, Lalji, & Pakrashi, 2020). Despite this remarkable progress, poverty still exists and is a big issue for India. It is reported that 176 million Indians live in extreme poverty. An increase in poverty at a country level is expected due to the COVID-19 pandemic. Poorer people are more exposed to the risk of COVID-19; to maintain social distancing during consumption of food and the washing of hands are challenging for the people. The lockdown has a very destructive effect on entrepreneurial people and workers. Food shops, hotels, and restaurants affect 11% of the workforce in this sector. Well-being policies from the government level can help people to manage with the condition of COVID-19 (Mani, Gopalakrishnan, & Wadhwa, 2020).

The Maldives is the first country of South Asia to gain an ideal living standard despite external shocks and to gain a position in the list of upper-middle-income group. Its annual GDP growth rate was increasing; it was 6.9% in 2018. However, because of COVID-19 this situation has reversed as there was a ban on tourism and exports, and growth is forecasted at -4.7% (Dev & Sengupta, 2020).

In the Maldives, the poverty line is at the level of 74 Rufiyaa per person per day, which is 8.2% of the international US standard rate. Out of the population, 1.5% have less than US 5.50\$ per day while 42% of the population of Maldives comprise on the 10.4% of poverty rate. Moreover, many Maldivians live just above the poverty line, statistically 1.6% increase in poverty rate in the upper-middle-income class. A shock in growth sectors causes the population to fall below the poverty line. Because of COVID-19, only Maldivian nationals are allowed to travel within the country;

citizens of China and Europe are prohibited from entering the country, which decreases Maldives' revenues, which will have a significant impact on poverty. Furthermore, fish is a major source of export to Europe for the Maldives and earns foreign exchange, but fishing is restricted during the COVID-19 pandemic, which leads to fluctuation in prices (Fernando, 2020).

Nepal's poverty reduction has fluctuated: it was 42% in 1995, which gradually declined to 31% and then increased again to 35% in 2010, and then it reduced to 25%. The fluctuation in poverty reduction reveals that the government needs to visit again the threshold of poverty line for a better reflection of living standards. According to a 2018 survey conducted in Nepal, almost 28% of the population is multidimensional poor. The recent situation of the COVID-19 pandemic has had a negative effect on the global economy and vulnerable households face the risk of falling back into poverty. The impact of the pandemic is high because international remittances support both poor and non-poor households; the current restrictions on the entry of migrant workers is likely to have a negative effect on the welfare of the population because remittances of 25.4% in 2019 increased economic growth (Khanal, 2020).

According to Pakistan's statistics, there was a significant decline in poverty (64.3% to 24.3%) in Pakistan for 14 years from 2001 to 2015. An increase in employment level and improvement in the agriculture sector helped to reduce poverty in the country. This major decline continued from 2001 to 2014, but in 2015 the rate of decline slowed due to macroeconomic crises and, later, the poverty rate increased. The COVID-19 pandemic will increase the poverty level because internal demand has declined. The expected reduction in employment and income level adversely affects poor people, especially in urban areas. The above-given information indicates that there is fluctuation in poverty reduction in Pakistan; therefore, exploration to find a permanent solution is required (Mamun & Ullah, 2020).

Sri Lanka's poverty reduction rate declined from 51% to 40.4% from 2012 to 2016. They achieved a strong GDP growth rate which helped to reduce poverty, and employment level rose and generated a good wage system across the country. In brief, the labor market improved and social transfer was the main source of progress. Tourism is considered a great source of growth. There is a wide range of variation of poverty, so there is a need to revise the poverty line of Sri Lanka, which was established in 2002, to estimate the vulnerabilities of the population accurately. The impact of COVID-19 will lead to a decline in economic activity and a vulnerable labor market, because tourism and services are considered to be more affected. Export-oriented products like garments and sub-sectors are considered important earners of exchange. Construction has also slowed down recently, which may cause job losses (NP Deyshappriya, 2020). People living on less than \$2 per day for developing countries facts and details are given below.

The poverty numbers (as raw as you can find them)

People Living on Less than \$2 per day (PPP) in Selected Large Developing Countries			
<i>Country</i>	<i>% of Population Living on \$2 per day or less (PPP) (2005)</i>	<i>Population (2009)</i>	<i>Poverty Headcount Approximation (unadjusted for income / pop. growth 2005-10)</i>
Bangladesh	81%	162,220,762	131,934,146
Brazil	18%	193,733,795	35,530,778
China	36%	1,331,460,000	483,033,716
Egypt	18%	82,999,393	15,321,688
India	76%	1,155,347,678	873,425,905
Indonesia	54%	229,964,723	123,643,352
Pakistan	60%	169,708,303	102,351,077
<i>Total</i>		<i>3,325,434,654</i>	<i>1,765,240,662</i>
Global Sherpa 2011; Source: World Bank.			

Poverty Trends in Latin America

Challenges and outside elements made the economic recovery of the Caribbean and Latin American countries lose its momentum and become more uneven. In 2018, economic recovery weakened in a few of the largest nations of the regions due to the hard monetary situation worldwide, which intensified local weaknesses. This led to a downward trend in regional economic growth (Ponciano, Ponciano, Gómez, Holt, & Blackburn, 2020). In 2017 and 2018, overall GDP grew by 1%. In Latin American and Caribbean nations, normal GDP growth was forecasted for 2019 and 2020 at 1.7% and 2.3%, respectively.

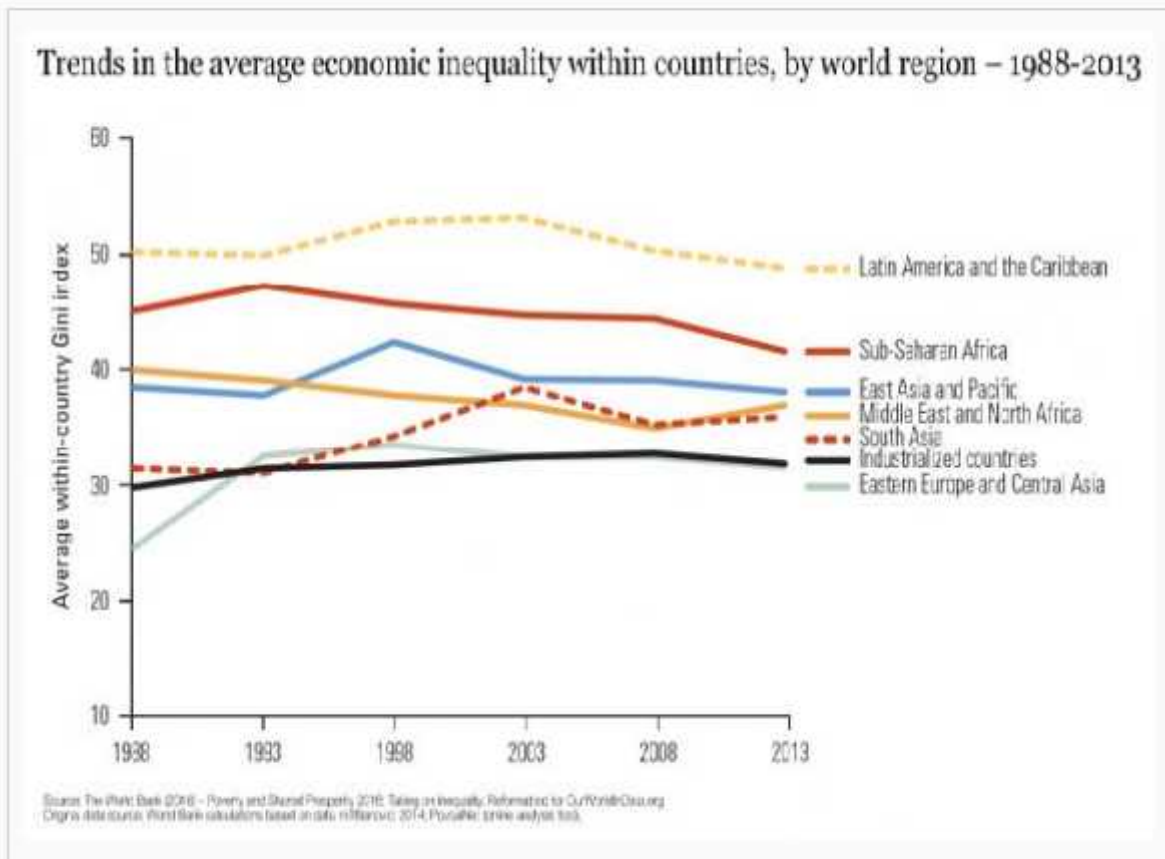
Weak social protection, poor health system and income inequalities led to a worsening of the COVID-19 pandemic in Caribbean and Latin American nations. This pandemic worsened the

economic recession of 2020 and resulted in a shrinkage of GDP by 9.1% in these regions. Resultantly, the number of poor people could rise from 45 million to 230 million and the extremely poor from 28 million to 96 million individuals, which can cause a decline in nutrition. The regions which faced significant political crises and demonstrations in 2019 and rising injustice, in addition to facing COVID-19 pandemic, have experienced a decline in human freedom of enjoyment and democratic progression; if the situation is not resolved, it might lead to civil turbulence. These particular nations have a certain type of social and economic setup and high inequality, which might enhance this crisis. Although many nations of these regions are categorized as middle income, most of the population is poor and extremely threatened by economic downfall. Growth and fiscal scenario are constrained by expertise in less technological sectors, like natural resources and labor, which are inexpensive and less skilled. Recently extreme poverty has reduced by two-thirds to 12.9%, whereas upper poverty has been reduced to 24.3% (Martins-Filho, de Souza Araújo, Quintans-Júnior, & Santos, 2020).

Poverty Trends in SSA

The poverty rate dropped by 13% during 1990 to 2013 in SSA and it remained at 41% during 2013. This is the highest rate among all the regions of the world, whereas the whole world population is consist of 21.9% from 1990 to 2013 (Juju et al., 2020). The ongoing pandemic situation is likely to slow economic growth in 2020 in SSA and the poverty rate for SSA will probably increase by more than 2% points. This current situation of 58 million people will lead to extreme poverty as per the definition by the international poverty line of US\$1.90 per day. The COVID-19 pandemic has led to a sudden sharp fall in global economic activity (Adam, Henstridge, & Lee, 2020).

Following figure provides regional shares of economic inequality over time.



Source: The World Bank (2016)

ILO estimates show that the world's share of poverty is shifting to SSA from the Asian region; according to a World Bank report, poverty is shifting to SSA from East Asia and China (Aaberge, Atkinson, & Modalsli, 2020).

2.4. Traditional Factors and Poverty

In this section, I will review the literature on five traditional factors that affect poverty.

2.4.1. Migration and Poverty

Migration is considered a source of opportunities for people to improve their lifestyle and help their families to improve their lives. McCormick and Wahba (2003) found that migrants learn new technical skills and accumulate savings and assets, which enable them to bring back financial and

human capital to their home country. However, these benefits can only materialize if the home country of the migrants has the right policies to adjust to the investment of returnees with their skills.

In developing countries like Kosovo, families depend on remittances for their economic well-being. (Möllers, Traikova, Herzfeld, & Bajrami, 2017) analyzed the effect of migration on poverty in Kosovo. The investigation was consisted on the data collection from household incomes that is derived from the propensity to consume from consumer. The analysis found that remittances have no impact on extremely poor people but lift migrants above the vulnerability threshold. Poverty is reduced due to the migration of the people. Logit regression was applied to find the effect of migration on poverty. Analysis showed that education and migration help economic growth and alleviate poverty in the area. The basic things required are a suitable macroeconomic environment, quick information, and investment possibilities to reduce poverty. In many developing countries, there is a trend of migration to reduce poverty (Christiaensen, De Weerd, & Kanbur, 2019).

Remittances can be utilized in investment, schooling, housing, and household consumption. Migration brings many other benefits, for example, migrants learn new skills and education from destination country and take this to their home countries later. Therefore, it is stated that migration increases the income of people and helps to reduce poverty (Baas, 2019). Internal migration in large countries is also fruitful, for example, India and China. No comparison can be found between internal and international migration, but it is not important for poor people because they are only looking for opportunities. Poor people look for strong networks and incomes that are higher as compared to their place of origin or country. Assurance of migration finance loans and the establishment of social networks encourage the poor people of developing countries to migrate internationally even on a contract basis (Siddiqui et al., 2019).

However, migration opportunities are different among the poor people and it depends on they travel to destination countries if they are cheaper then return from that country is low. The other barrier that may be seen by migrants is the lack of opportunities and bearing of the high cost. This may cause lower returns and slow process of poverty alleviation. As a result, this cyclical interconnection of poverty reduction did not achieve its maximum points (Silvey & Parreñas, 2020).

A study conducted by Al-Nsour (2020b) used data to find the impact of migration on poverty and welfare in Lesotho for both countryside and metropolitan areas. Al-Nsour (2020b) found that 35% of household income came from remittances of migrants. Al-Nsour (2020b) concluded that there is inverse relation exist between per capita income and poverty as if the average per capita income of 32% of consumption falls then 26% of poverty will increase ultimately. Furthermore, remittances will help to reduce the poverty gap by up to 52%.

Murodova (2018) found in their study that migration helps to reduce poverty. Statistically, it showed that the Gini coefficient of Jakarta was reduced from 0.55 to 0.53 and overall poverty was reduced by 4.2%. Moreover, Bikoue (2020), in his study of Guatemala, found that poverty decreased drastically by 19.8% with the inclusion of international remittances in household income received by migrants in the origin country. International migration plays a significant role in reducing poverty in Mexico even at municipal level (Mora-Rivera & García-Mora, 2020). Carling and Schewel (2018) examined 1782 household surveys of Mexico about migration and poverty; they concluded that a 10% increase in international remittances would help to reduce the poverty gap from 0.77 to 0.53.

A few studies have been conducted to investigate the macroeconomic impact of migration on poverty. Cross-countries analysis revealed a positive impact of migration on poverty. A study of

World Bank by Azizi (2020) a 3.5% poverty reduction leads to 10% increase per capita in migration and inflow of international remittances of the host country.

To examine the role of migration in poverty reduction, Sunny, Parida, and Azurudeen (2020) took the household data of 71 countries. By examining income inequality on a geographical region basis, they found that international migration had a significant but negative relationship with poverty. Their study suggested that a 10% increase in remittances in the origin country would reduce the number of people living below the poverty line by 1.5%.

Similarly, Abduvaliev and Bustillo (2020) study found that on average, an 11% of transmittals increases a country's economic growth, which is related with a 1.5% reduction in poverty. To examine the impact of migration on poverty in 77 less develop countries, panel data were extracted from 1990 to 2015 to find the effect of migration the results depict that the contribution of transmittals on economic growth is higher than 5% (Azam, Haseeb, & Samsudin, 2016).

Sobiech (2019) stated that remittances boost the strength and health of the recipient country's economy. During business cycle fluctuations more remittances inflow from the migrants to the home country help to come out from disaster soon. These inflows of remittances help a country to cope with a bad economic situation quickly; they provide an opportunity for LDCs to borrow money at low cost from international capital markets. Remittance receipts fluctuate quickly so they may not get appreciation in term of real exchange rate.

Confirming the above claim, Pant (2017) stated that remittances can be utilized to purchase investments like houses; remittances have a positive relation with the economy because they can create a boost by creating more demand for goods and services. Origin countries receive capital in different forms from migrants, which has a developmental impact on their countries. These impacts

are cultural, economic, and social. Capital inflow generates both micro-level and macro-level growth, which affects households and GDP growth, and can lead to poverty reduction and the development of that country.

Möllers et al. (2017) in the case of Kosovo remittances received from migrants, who live in rural areas usually spend their remittances on leisure goods e.g. mobile phones, cameras, satellite dishes instead of investment in education or property. So basically the people of rural areas want to spend their money on possessions of goods like washing machines, cars, television, refrigerators as compare to non-migrant families. Poverty reduction and economic development were harmed when remittances were spent on imported goods. There are three pathways to get rid of rural poverty: migration, farm intensification, and non-farm labor.

Ceriani and Verme (2019) found that a large number of micro and multidisciplinary studies of developing countries reported that migration helps to smooth seasonal income fluctuations because extra cash arrives in the country to meet its contingency plans, which increases the disposable income of the country. It is statistically proven that remittances help to improve the economy of the recipient country, but the impact of remittances on economic development still needs to be examined because, initially, remittances help to increase expenditure on food and clothing rather than on investment (Christiaensen et al., 2019).

Alpaslan et al. (2021) reported in their research that migration is given importance over agriculture and farming in rural households. Moreover, it is also on record that in rural areas some business investments are done with the help of remittances.

Cattaneo et al. (2019) conducted a cross-country analysis to find the impact of migration on poverty, particularly on the origin country. Moreover, they also investigated that migrants help to

generate welfare levels through the comparison of international migration on populations of different sizes with different levels of income slots. The relationship between migration and poverty was analyzed for different sized networks of friends and family. For investigation new data set have been derived with the variable migration and poverty, the sample was contained on the information of 149 migrants from origin OECD 23 countries.

In support of the above-given arguments, Rivera and Tullao Jr (2020) explained in their studies the effect of migration on poverty reduction and regional development in home countries. Migration and remittances help to raise the income levels of all groups whether they are rich or poor. Results from Latin American countries revealed that comparatively rich migrants enjoy more facilities and opportunities than poor migrants. Furthermore, econometric analysis of data also supports the view that remittances received from migrants will enhance savings, improve spending on education and health care, and help the poor to get out of poverty. If all the other variables remain constant, remittances improve regional development, increase overall regional income and contribute to the development of the nation. However, the overall analysis indicated that rich migrants benefit more than poor migrants.

Titiloye (2020) examined consumption patterns using data derived from a living standard measurement survey to find the effect of migration on the poverty of Nepal. However, it was not that simple because it depends on the maturity of the migration process, and different regional and country-wise responses. Statistically, data from the survey showed that remittances help to reduce poverty from 3.3% & 2.3% in the initial round whereas in the second round it helps to reduce poverty between 4.6% and 7.6%. And further it reduced from at least 3.4% to at most 10.5% of poverty of Nepal. Overall, remittances increases income inequality but this effect was lessened in the second round of the survey. Remittances from countries like India are lower as compared to

other countries, but they have a larger impact on poverty reduction. The regional simulation showed that where there is a high level of migration, there is a great impact on poverty alleviation.

Al-Nsour (2020a) analyzed new data on migration, remittances, inequality, and poverty from 71 developing nations. Results showed that in the developing world, poverty is reduced by encouraging migration. On average, international migration helps to reduce the number of people living on less than US\$1 a day by 2.1%. Similarly, a 10 % increase in remittances will lead to a 3.5% decrease in poverty.

Sener (2019) reported four negative impacts of migration on the poverty of both the origin and host country. The first negative impact is that migration brings new workers to a location which reduces the wage rate of that particular area. This situation leads to poverty as wages decrease, employment level decreases and employment opportunities decrease as well. The impact on poverty will depend on the number of people who migrate globally. The second negative impact of migration that causes an increase in poverty is that the cost of living, and prices of goods and services increase in the destination country for both production and purchasing. Generally, it is expected that goods will be less expensive as a larger workforce is available for production, but, in reality, goods become more expensive as migrants push up demand. Thirdly, public services like health, education, and housing become a problem for government because the local population increases in comparison to the actual population of that particular country. The fourth negative impact generated by migration is that the government revenue of both origin and destination countries decreases, which affects the state's capacity to support people at risk of poverty; in addition, it is not guaranteed that revenue earned from migrants will be spent on poverty reduction.

By contrast, Tuccio and Wahba (2018) suggested in their study that people who return from migration are very beneficial for their home country. Some migrants return to their home country

with an accumulation of savings for investment purposes or to start a new business. Along with the financial investment, they bring human capital to developing countries based on what they have learned from developed nations. All these things will be beneficial if the home country is able to create a situation where these skills, financial capital, and human capital can be used easily. Therefore, home countries need to design policies for the proper utilization of resources.

Conclusively a review of the existing literature on migration and poverty indicates that decisive results are still required. Different studies have been conducted at a worldwide level to find the complexity of migration patterns and their multiplier effects, especially on poverty. Migration has many types, such as internal migration, short-term international contract-based migration, regional migration, cross-border mobility. Every type of migration has an impact at a household level, which leads to a reduction in poverty. Migration has a financial impact on the migrant, the family of a migrant which is left behind, the local community and the domestic economy of the source country (Girard & Shragge, 2020).

Internal and international migration are considered important factors for the development of a country, migrants' families, and destination countries; internal and international migration are also considered important for the economies of origin and destination countries. With the help of migration, a country is able to receive remittances which help to improve the income and consumption pattern of the country; therefore, migration is considered a coping strategy in a bad economic situation.

H1: There is relationship between migration and poverty.

2.4.2. Foreign Direct Investment and Poverty

FDI refers to overseas investment by a tenant of one country in another country to establish a business or project for profit (Benfratello & Baidoo, 2020). FDI is also described as “an investment into the business of a country by another company of the country. This can be achieved by either buying a company in the target country or by expanding operations of the existing business of that country”. This investment can be made for several causes, including taking advantage of cheap wages and the investment offered by that country (Markowitz, 2020).

FDI plays an important role in the economy and it is beneficial in the form of economic and social welfare for both investor and host country. The role of FDI gained much attention in the current era. FDI has become an important source of external finance, especially for LDCs. It helps to introduce new technology, innovative ideas and gives effective marketing links in a competitive world. Thus, FDI is important to global integration (Hao, Wu, Wu, & Ren, 2020).

There is rich literature available on FDI and the economic growth of a country (Adams, 2009). Developing regions like South Asia, Latin America, and Africa see FDI as contributing to the economic growth of the nation, which ultimately leads them to modernization, economic growth, and poverty reduction. The above-given situation can be achieved when economic policies are favorable for getting desired results. It is recommended that economic policies are adopted that help to improve the conditions to attract FDI in the domestic economy to maximize the benefits of FDI. After the Asian financial crisis in 1997, Indonesia adopted economic policies to attract FDI to increase the economic growth of the country and to reduce the poverty (Tambunan, 2005).

The study of M. Magombeyi and M Odhiambo (2017) explained a comprehensive literature on the impact of FDI on poverty mitigation which reported both theoretical and empirical relationships between the modeled variables. Some studies have been conducted on the impact of FDI on poverty, whereas few studies have been conducted on the indirect impact of FDI on poverty

reduction. Few studies are in the favor of FDI to reduce poverty whereas few studies find an adverse or insignificant effect of FDI on poverty.

According to Li and Tanna (2017), a spillover effect is a situation where domestic industries enjoy the resources from imported firms. There are two types of spillover effects, one is horizontal and the other is vertical. Horizontal spillover is a non-market transaction, whereas in vertical spillover domestic assets enjoy the resources from international firms. Externalities another name for spillover effects. Spillover effects happen in an intra-industry setup.

Horizontal spillover effects are generated by the transfer of technology from international firms to local firms at the same level of operation but with different technologies (M. T. Magombeyi & N. M. Odhiambo, 2017b). Demena and Murshed (2018) proposed that knowledge spillover occurs with the movement of labor. Moreover, local products' imitation of foreign products is an example of the demonstration effect (Orlic, Hashi, & Hisarciklilar, 2018); the arrival of the new technology of foreign firms in a local market gives the local market the confidence to produce a product that is already appreciated in the foreign market. Therefore, local firms adopt technology spillover and imitate technology and products. Developing nations also learn from developed nations about the dismantling and reassembling of products, which is known as reverse engineering (Ikpe, 2018).

A study conducted in Indonesia found that FDI have a vital role in the GDP of the country, which helps to reduce poverty in the country (Afandi, Wahyuni, & Sriyana, 2017). According to their literature survey, FDI has a positive relation with poverty reduction. Indonesia followed three approaches: i) labor-intensive economic growth with export growth, ii) knowledge spillover and technological innovation from FDI-based company situated in local economy, and iii) poverty mitigation program financed by tax revenue collected from foreign firms. A finding derived from secondary data of Indonesia indicated that FDI plays important role to mitigate poverty, whereas

no evidence was provided as yet about the second and third approaches for FDI and poverty reduction (Aje, 2020).

The literature indicates that FDI has a positive effect on reducing poverty in developing countries if they have mechanisms to utilize FDI properly. Therefore, the impact of FDI on the poverty and the country's development depends on many factors, such as the policies of the home country, ability to utilize investment, the regulatory framework and the flexibility of the labor market (Lal, 2019). There are many benefits of FDI, among the most important are reducing poverty, easy access to employment, and productive work opportunities. In general, insufficient job opportunities in developing nations are caused by an inadequate level of investment at the domestic and foreign level (Quinonez, Saenz, & Solorzano, 2018). Kuspiniya and Bhavan (2020) explained in their study that low investment reduces the growth rate of a country, which hinders poverty reduction. Domestic and foreign investors are considered the most suitable sources of capital formation in a country.

It is challenging to investigate the effect of FDI on poverty. The academic literature typically deals with this issue in three ways; firstly, it works on determinants of economic growth; secondly, an international comparison of economic growth in which FDI is considered an explanatory variable; and thirdly, FDI is associated with the creation of employment which leads to economic growth, which is later linked with rapid poverty alleviation. However, the above given relationship between GDP, employment opportunity and poverty mitigation can only be possible when FDI is labor-intensive. So, a reduction in poverty based on FDI is conditional on FDI being a labor-intensive method and economic growth. The second method of gains from FDI is focused on technology and the relocation of resources from foreign to domestic firms at the level of individual firms or

cross-industry level. The third way is tax collection from foreign firms that directly or indirectly benefits the poor (Durowah, 2017).

M. T. Magombeyi and N. M. Odhiambo (2017b) conducted a study of 61 provinces in Vietnam for the period from 1999 to 2002 to analyze the impact of FDI on poverty. Where the direct method calculate the impact of FDI through employment creation but it has a negative and insignificant relationship with poverty reduction. They found that FDI contributed to economic growth indirectly through its contribution to local budgets. Moreover, FDI played a significant role in the progress of local human capital, which affected economic growth; economic growth has a significant positive impact on the magnitude of poverty reduction. Therefore, Vietnam tried to reduce poverty with the help of FDI. However, FDI's contribution to the local budget is still insignificant, but FDI creates globalization which helps poor people. Those countries that have policies to attract FDI will facilitate the implementation of registered foreign investment, which will upgrade the quality of their labor force.

Mirza and Giroud (2004) examined in their study the effect of FDI on the development of ASEAN countries. They interviewed transnational corporations of Cambodia, Malaysia, Thailand, and Vietnam. They developed a model through this research on the possible effect of FDI on the development of three categories of effect: direct effect, multiplier effect, and spillover effect. Malaysia, Singapore, and Thailand have been major beneficiaries of FDI for the past three decades; FDI has a significant relation with growth and development in ASEAN countries. It seems that the effect of FDI is mainly due to the direct effect and multiplier effect.

Agarwal (2008) investigated whether it is globally accepted that capital account liberalization helps to benefit developing nations; if capital controls are lifted, then there are many possibilities of movement of capital in developing countries. This movement of capital helps to create new

opportunities for poor people which reduces poverty in a country. India has adopted this strategy of openness since the 1980s, since then more inflows have been recorded as compared to outflows. Composition and capital flows have been observed more inflow in post-1991 for India. Agarwal (2008) stated the effect of FDI on poverty in India for the time period of 1980 to 2011, and concluded that India's trend is both similar and contrasting to the trend of SAARC countries (Agarwal, 2008).

Sarisoy and Koc (2012) stated the effect of FDI on poverty in developing and developed countries. Their analysis was conducted on 40 countries; the selection of countries was based on income distribution. They used the panel regression method on the data. The results showed that poor countries generated less income through FDI as compared to rich countries. They concluded that FDI affects the income level of different groups in different ways; so, there is no uniform rule that can be applied to poor countries to get better results.

M. Ş. Ucal (2014) examined the impact of FDI on poverty at the macro level in selected developing countries. The host countries can benefit in several ways from FDI, like transfer of technology, generation of corporate tax, human capital development, and increased competition in the domestic market. Macro data were selected for analysis and an econometric model was applied to find the effect of FDI inflows on poverty. The findings showed that FDI plays a significant role in reducing poverty, especially for developing countries.

A. Sumner (2005) reported a trend, particularly in developing nations, of increased FDI due to countries' trade liberalization and FDI-friendly policies. The critical question of the analysis is whether the growth in global FDI plays an important role in GDP and poverty reduction in a country. The results are inconclusive as some empirical studies support the view that FDI has a positive effect on economic growth (Jalilian & Weiss, 2002; Kundan & Gu, 2010; P. Lin, Liu, &

Zhang, 2009; Mars et al., 2009; Okpala, 2012), whereas some studies indicate that FDI does not exhibit an independent and robust impact on real economic growth (Carkovic & Levine, 2005).

Nguyen and Nguyen (2007) proposed that if FDI can attract new projects and engage the labor force to meet the demand, then the employment level increases in the country which helps to reduce poverty. The effects of FDI on reducing poverty by direct and indirect methods are not the same for all countries, they may vary according to different factors and scenarios. These factors consist of investment quantity and quality, which represent labor intensive or capital intensive, types of investment, taxes generation and spending through FDI, technological improvements and efficacy of investment and wages.

Ndikumana and Verick (2008) investigated the relationship between FDI and poverty and tried to examine FDI effects on economic growth, and evaluated the impact of the circulation of income on well-being. FDI can have direct and indirect effects on the poverty reduction of a country. The indirect impact of FDI on poverty reduction can be achieved with the help of economic growth. Economic growth helps to improve the living standard of the people; productivity increases because of the latest technology, which leads to a competitive economic environment in the country.

Whereas J. Sumner (2005) explained, being the part of colonial regime FDI existing in the primary and manufacturing sector. Whereas after world war II as global networks expanded and capital inflows enhance FDI and become a significant topic for research.

Moreover, Abbas, Masood, and Sakhawat (2017) stated that the some factors are affected by economic and political conditions, because important determinants of the effect of FDI on poverty are economics and politics. Therefore, countries need to work on economic and political conditions

to get better results in reducing poverty with the help of FDI. Labor-intensive specialized FDI plays an important role in the reduction of poverty by creating employment opportunities for people. So it is suggested in the study that FDI can help to reduce poverty because it can affect the level of unemployment.

Furthermore, Shamim, Azeem, and Naqvi (2014) stated that FDI makes a contribution to poverty reduction but its impact is seen as very small and indirect. They also stated that the impact on poverty of capital-intensive FDI is less than labor-intensive FDI because capital-intensive FDI only provides the opportunity of employment to skilled labor, which does not help to reduce the poverty level of a country. Employment growth plays a positive role in the reduction of poverty but the impact is affected by income and wages. For example, if an investor pays employees a standard wage rate then poverty alleviation is high, but if pay is less, then the impact on reducing poverty is limited. So, it is concluded that wages below the poverty line push people into poverty and do not help them to get out of poverty.

Bilal Khan, Huobao, and Saleem (2019) conducted an empirical study on FDI and poverty alleviation for Pakistan data taken from 1985 to 2016. The robust result of their study was that there was a long-run relation between FDI and poverty, which was calculated through co-integration analysis. For this analysis, an autoregressive distributive lag (ARDL) technique was employed. The short-run and long-run results indicated that FDI plays a role in poverty alleviation. Their results indicated that there is a Granger causality between FDI and poverty reduction.

Phuyal and Sunuwar (2018) stated that working on the reduction of poverty and enhancing the quality of life of individuals and their communities is a common worldwide agenda. To achieve this goal, investments and economic growth are important. Since the first post-war international trade agreements are looking forward to the investors and creating a wide range of incentives, offer

from foreign countries as resources and capital imbalances are facing by the countries. FDI can be defined as investment of an origin country in a host country, and investor takes at least 10% of investment.

Aguilar (2018) concluded in his study that governments with scarce financial resources should work on the betterment of policies regarding FDI inflow if the inflow of FDI is not high. Aguilar (2018) analysis suggested that policy-makers should design policies to attract FDI inflow to a trading zone like other emerging economies.

According to Fernandez and Wigger (2016), global FDI increased from US\$ 13 billion in 1970 to the US\$1750 billion in 2016. Over the last three decades, due to trade openness, different investors have participated in global investment which enhances growth and capital flows. Moreover, Reiter and Steensma (2010) argued that FDI has become a major source of finance in developing countries and it replaced international trade as a main driving force in global markets. By the end of the twentieth century, there was a remarkable and significant acceleration of global FDI in developing nations.

Rich literature is available on the relationship between FDI and poverty reduction but empirical results are still inconclusive. The relationship between FDI and poverty is measured through economic growth instead of direct relation (Driffield & Jones, 2013; Feeny, Iamsiraroj, & McGillivray, 2014; Hsiao & Hsiao, 2006; M. T. Magombeyi & Odhiambo, 2018). Furthermore, some studies report a positive relation between FDI and poverty alleviation whereas other studies show a negative relationship among the said variables (Pan et al., 2014; Shahbaz, Nasir, & Roubaud, 2018). However, some studies indicate that FDI increases poverty in countries and results show it reduces the scope of theoretical hypotheses. Moreover, (Akinmulegun, 2012;

Huang, Teng, and Tsai (2010))reported in their studies that an insignificant relation exists between FDI and poverty alleviation.

Bilal Khan et al. (2019) investigated the relation between FDI and poverty reduction in 12 European countries from 2000 to 2015. Their study was based on two regions of European countries: transition economies and post-transition economies. The results showed a positive relationship between FDI and poverty reduction in Western Balkan region, whereas in central European region the results showed a negative and insignificant relationship between FDI and poverty reduction. Furthermore, the study reported that FDI has a more powerful and strong relationship with poverty mitigation that exists in emerging countries.

Dhrifi, Jaziri, and Alnahdi (2020) explained in their literature based study the impact of FDI and poverty reduction. In the literature, both theoretical and empirical relations exist between FDI and poverty reduction. It is also expressed in the study that there exists a direct impact of FDI on poverty reduction and a comprehensive review of the nature of said variables also exists.

Despite the population effect on FDI, foreign aid, and growth, mixed results have been drawn from extant research. Recently, the focus of literature has shifted from effect of economic growth to poverty reduction effects. The results of studies that have examined the empirical evidence on single countries separately are inconclusive. This study examined data from 29 countries of SSA from 1990 to 2017 to analyze the effect of FDI, foreign aid and trade openness on poverty alleviation by applying the feasible generalized least squares technique. The results showed that there was an inverse relation between FDI and the poverty mitigation of selected countries. The results showed that there was no proper channel to utilize FDI systematically. These results indicate that the impact of FDI on the reduction of poverty did not reach its potential or actual requirement because FDI was not utilized properly (Anetor, Esho, & Verhoef, 2020).

Earlier studies focused on the effect of FDI, foreign aid, and trade openness on GDP, but it was later realized that instead of working on economic growth, working on poverty would give more desirable results to achieve targets. The impact of FDI, trade and aid on poverty reduction was mixed. Some studies reported positive results (Adams, 2009; Alfaro, Chanda, Kalemli-Ozcan, & Sayek, 2004; Hansen, Rand, & Tarp, 2003; Trevino & Upadhyaya, 2003; Trinh & Nguyen, 2015), whereas other studies reported a negative impact (Adams, 2009; Bose & Kohli, 2018; Farooque & Yarram, 2013). Moreover, some studies were conducted to measure micro-level and macro-level impacts of FDI and poverty and concluded that it might have micro effects but it is also measurable at the macro level (F. A. A. Ali, 2010; Rojas, 2016).

There are many factors affecting poverty reduction therefore only economic growth is an insufficient requirement (Badibanga & Ulimwengu, 2020). Therefore, many developed and developing countries have designed policies to attract FDI to their countries. There are many advantages of FDI inflow, it does not only help to accumulate capital in the country, but also increases competitiveness, technology transfer, and level of employment (N. Ali & Xialing, 2017; Gachino, 2020; Ha, Wang, Hu, & Than, 2017; Masipa, 2018). There is another fact, not all FDIs are equal (Duboz, Kroichvili, & Le Gallo, 2019; Mihalache-O'Keef, 2018); some FDI leads to economic growth and poverty reduction whereas others will not. To gain a positive effect of FDI at a certain level in the host country, financial markets need to be developed (Osei & Kim, 2020). There is also a need to identify conditions, which can be economic and technological, under which FDI will have a positive impact on the economy of the recipient country (Bermejo Carbonell & Werner, 2018).

The direct effect of FDI on poverty alleviation, when foreign investors invest directly, is the creation of job opportunities for the labor of the country, and also government should design some

social welfare policies for the poor community (Latif et al., 2018). The good jobs created by FDI to enhance knowledge and technology transfer from origin country to host country (Haudi & Cahyono, 2020). Furthermore, good jobs help to reduce poverty, whereas knowledge transfer helps to create further job opportunities in the country.

M. T. Magombeyi and N. M. Odhiambo (2017b) examined the indirect effect of FDI on poverty alleviation. They reported that FDI helps to increase investments and capital accumulation, which enhances the GDP of a country, which, ultimately, leads to poverty alleviation. However, the impact of FDI depends on the type of inflow (Sinha, Tirtosuharto, & Sengupta, 2019) as FDI directly reduces poverty through new employment opportunities and labor-intensive economic prospects (Masipa, 2018). FDI can reduce poverty in both the long run and short run (M. Magombeyi & N. Odhiambo, 2017; M. T. Magombeyi & Odhiambo, 2018).

Quality institutions and functioning financial system increase the rate at which FDI reduces poverty (Anthony-Orji, Orji, Ogbuabor, & Nwosu, 2019). The impact of FDI on poverty reduction in developed countries that have proper financial systems is faster than in those countries that do not have good financial systems and institutions. At the same time, it is also found in the literature that FDI plays a more positive role in poverty reduction in developing nations as compared to developed nations because they really don't need it (Dhrifi et al., 2020).

Although SSA countries still fall in the category of extreme poverty, FDI helps to reduce poverty significantly. Therefore, SSA countries need to identify conditions to pull themselves from extreme poverty (Bicaba et al., 2017). Some studies have been conducted to investigate the impact of FDI on poverty reduction in the case of SSA. The results from Aydin (2019), who used the Granger causality test, for the period from 1990 to 2017, reported that FDI has a significant relation with poverty reduction in the case of Africa. Also study conducted by Bilal Khan et al. (2019)

from 1981 to 2018, and the results were the same. Latif et al. (2018) used the Human Development Index (HDI) as a measurement of welfare condition, FDI, and poverty as headcount ratio, proportion US\$1.25 a day, and the study found that FDI plays significant role on poverty. M. T. Magombeyi and N. M. Odhiambo (2017b) reported that FDI has a positive impact on poverty reduction in Africa. Anetor et al. (2020) investigated the impact of FDI on poverty in SSA for the period 1990 to 2018 and that FDI reduces poverty. Whereas South Africa used different measurements of poverty to examine the effect of FDI because it is proved measurement of poverty is sensitive (M. T. Magombeyi & N. M. Odhiambo, 2017a). SSA countries continually growing rapid, comparatively to the western world, for this reason, several studies have been conducted to find the impact of FDI on poverty.

Conclusively it has been observed from above discussed literature about FDI and poverty that there are three types of findings are reported on the relationship between FDI and poverty reduction: firstly, studies conclude that FDI has a positive impact on poverty alleviation (Fowowe & Shuaibu, 2014; Gohou & Soumaré, 2012; M. T. Magombeyi & Odhiambo, 2018; Shamim et al., 2014; Soumaré & Tchana Tchana, 2015; M. Ucal, Bilgin, & Haug, 2014); secondly, studies reported a negative relationship between FDI and poverty reduction, which means the inflow of FDI leads to an increase in poverty level (F. A. Ali, Fiess, & MacDonald, 2010; Jayachandran & Seilan, 2010); and thirdly, studies reported that FDI has an insignificant relation with poverty (Akinmulegun, 2012; Gohou & Soumaré, 2012).

It is suggested that if the home country has appropriate policies then development can be achieved with FDI which can create job opportunities, the innovation of new technologies, and human capital development with new ventures. FDI can contribute to international trade, create a healthy competitive environment and enhance the capacity of local enterprises to develop; FDI brings

innovative ideas which help to collect more tax revenue from the corporate world. All benefits should contribute to the social and economic growth of the country and the well-being of the people living in that country, which would help to remove poverty from developing countries (Osabutey & Jackson, 2019).

H2: There is relationship between FDI and poverty.

2.4.3. Trade Openness and Poverty

Trade openness is usually defined as the import + export-to-GDP ratio, that is, ratio of foreign trade to a proxy measurement (export + import) of GDP (McIntosh, Songyan, & Oguchi, 2020). The trade-to-GDP ratio has the advantage of a clear definition and is a measurement for both national and international level; prices of products are used to value the trade ratio (Egwakhe, Akinlabi, & Odunsi, 2018). It is documented in the literature that the economic performance of countries more engaged in trade is better than the economic performance of countries that trade less. The trade openness of a country is associated with policy openness, which allows people easy access to foreign markets and enables local traders to trade (Abdella, Naghavi, & Fah, 2018).

Carrasco and Tovar-García (2020) stated that restrictions on trade diminish the variety of intermediate contributions and complete advantages of latest technologies which are based on a broad range of inputs that cannot be utilized to their full capacity.

Wade (2018) stated that constraining the flow of trade through the imposition of restrictions creates barriers to the transfer of knowledge that can benefit upcoming industrializers, making it hard for them to catch up. The spread of knowledge is not limited to the implementation of specialized intermediate inputs and production equipment obtainable from trading associates, it can be in the form of production engineering information and changing patterns in production. Hence, trade

openness can lead to better productivity or effectiveness and trade-oriented resource distribution from higher creative segments to lower creative segments. Trade openness can structurally transform an economy and have an impact on poverty levels.

Institutional and policy factors of trade liberalization have caused income inequality to increase within an economy and within nations (Cooray, Dutta, & Mallick, 2017). It was also found that urban households' welfare growth was positively related to trade liberalization (Gnangnon, 2018).

Onakoya et al. (2019) examined trade openness and poverty using data from 21 African countries from 2005 to 2014. Econometric analyses were employed that consisted of descriptive statistics, Johansen co-integration test, panel unit root test and pooled ordinary least squares (OLS) test. To confirm the robustness and validity autocorrelation, heteroscedasticity, Ramsey regression equation specification error test (RESET) test were also applied. The results revealed that trade openness had a negative relationship with poverty at a significance level of 5%. The recommendation of the study was to take critical policy measures to revamp the poverty alleviation programs. Diversification of export market and targeting of developing countries by other developing countries were also recommended in the essence of cooperation. Another recommendation was to strengthen and join regional economic integration.

Research indicated that poverty remained high despite growth in economic globalization (Coulibaly, Erbao, & Mekongcho, 2018; Desai & Kharas, 2017). Poverty in underdeveloped countries was not reduced by globalization (Ravallion, 2018), although the number of people living below the absolute poverty line kept decreasing. The percentage of people living in Asia on US\$1 per day decreased from 30% to 18% from 1981 to 2004 (Kaplinsky, 2013). Absolute poverty decreased in Latin America from 11% to 9%, in the Caribbean from 42% to 41%, and in SSA, Eastern Europe, and Central Asia from 0.7% to 0.9% because of trade openness. (Nissanke &

Thorbecke, 2010) documented that the impact of trade openness on poverty relating to globalization interaction, economic growth, and inequality was very complex. Chaudhry and Imran (2013) applied time series regression analysis on data from Pakistan; they found that trade liberalization resulted in a reduction of poverty: it did not have a significant impact in the short run, but had several strong effects in the long run.

Agusalim (2017b) examined the dynamic impact of international trade openness on poverty in Indonesia. Previous research showed different effects in different single countries. The variables used were export, import value, GDP, income per capita, open unemployment, and poverty rate during 1978 to 2015. Vector error correction model (VECM) analysis showed that over a short period, trade openness seemed to have an insignificant impact on poverty. On the other hand, it had a significant impact over a long period. However, poverty gave a positive response in the first 2 years using impulse response function (IRF) analysis, but resulted in a negative impact in the third year on every trade openness variable shock. While the fifth year showed the largest negative impact. Poverty was not affected by trade openness in the first 3 years, but an effect began in the following years with the biggest effect in the ninth year in an analysis of forecast error variance decomposition (FEVD).

Several studies reported that trade openness accelerated economic growth and lessened worldwide poverty (Curren, Lindsey, Fischer, & Hills, 2018; Okungbowa & Eburajolo, 2014; Oyewale & Amusat, 2013; Ozcan & Kar, 2016); most economists and economic bodies stated the same. Huque and Zafarullah (2017) were in favor of international trade and claimed that since the 1980s the globalization surge had stimulated economic impartiality and reduced poverty.

Agusalim (2017a) conducted research based on Turkey to investigate the impact of trade freedom on poverty. Turkey became a vital part of the world economy when it started to implement export-

oriented growth in the early 1980s. Reduction in poverty, increase in per capita income and economic growth were the factors behind this trade liberalization. By using VECM, it was found that poverty reduced in Turkey due to trade liberalization. On the other hand, doubts were raised by claiming that globalization has made countries poor. Onakoya et al. (2019) proposed that incentives should be placed for capacity building of humans and production in the exporting sector to improve trade in a country. The side effects of removing trade barriers are countered by the social and economic policies of a country.

PHAM (2020) found that trade openness is multifaceted; the study examined the role played by trade openness in poverty and it concluded that it helps to reduce poverty. Stefaniak-Kopoboru and Kuczevska (2016) examined the swift impact of trade openness with poverty. They examined how the export specialization of Poland, Hungary, the Czech Republic, and Slovakia was influenced by their entrance into the European Union. The finding indicates that impact of trade openness on poverty is inconclusive in some studies it shows positive and in some studies it shows negative result.

Ghodsi and Michałek (2016) in their research paper, “Technical barriers to trade notifications and dispute settlement within the WTO,” aimed at verifying whether the notifications by World Trade Organization (WTO) members regarding technical barriers to trade (TBT) under specific trade concerns could be seen as an initial warning system for past and future disputes covering allegedly trade-restricting TBT. Requests which were critically discussed by the dispute bodies for possible violations of TBT agreements were noted.

Lund and Tyson (2018) conducted a widespread assessment of three models to determine the influence of trade openness on growth: the neoclassical supply-side model, the balance of payments constrained growth model (Hicks super-multiplier model), and the virtuous circle model.

It was concluded that economies grow at a faster pace when they are enter for international competition. The conclusion was drawn that impact on poverty because of multilateral liberalization results in a competitive position in the worldwide markets and stimulated growth.

Onakoya et al. (2019) supported the opinion that a growing economy is key to sustained poverty alleviation. Onakoya et al. (2019) argued that liberalization of trade does not reduce poverty, that's why nations with a higher inclination to imported products, it cause to rise in poverty for those commodities which do not have follow all rules of trade liberalization policies.

Ezzat and Ezzat (2018) analyzed a panel of 25 developing countries. They concluded that poverty has a significant and negative relationship with overall trade, merchandise trade, and import/export. They also stated that self-reliance policies are neither good for poverty nor growth. Based on Solow's new growth theory, Kuiper, Shutes, Verma, Tabeau, and van Meijl (2018) studied poverty and trade levels. They concluded that agriculture foreign trade helped to reduce poverty among farmers of coastal areas more than inland areas.

Tinta et al. (2018) concluded that trade openness reduced growth impulsiveness, particularly when the parties involved in trading are well diversified. Data were derived from a form of an uneven number of 77 developed and underdeveloped markets. This study confirmed the results of an early Egyptian study of 2012 when it concluded that rapid economic growth due to trade liberalization policies resulted in poverty reduction. By using the distinguishing trade openness factor used model established a relationship between globalization and poverty which is significant (Joshua, Salami, & Alola, 2020).

Horner and Hulme (2019) discovered a divergent trade and growth interconnected with each other in short run and long run both. Sibangilizwe and Jeffrey (2019) stated that liberalization of trade

affected the economy for a shorter period, thus affecting protected infant industries badly, while keeping in view the tariff cuts and uniform tariff policies through WTO.

Pietrucha and Żelazny (2020) deployed the dynamic spatial auto regression technique on the data of 41 upper-middle developed economies and developed economies to study the use of imports and FDI as transmission mechanisms for generating global total factor productivity (TFP) spillovers and externalities. They concluded that trade networks and ventures are indispensable for technology transfer while depending on the quality of absorption capability of the social and economic institutions present in a nation. Unless the economic institutions of a country are strong, poverty levels are largely unaffected by trade liberalization. Nigeria and Angola are examples where the locals benefited from the wealth of their oil and gas industry.

Asamoah, Mensah, and Bondzie (2019) reinforced the significance of institutions in their findings; they used a dynamic growth model and three measures of trade openness for economies in SSA. They found that economic growth was favorably affected by trade openness but there was no linear effect. The effect on growth of trade openness may vary as per different levels of trade liberalization. They recommended that trade openness should be aligned with the harmonizing of desired monetary and fiscal policies to enrich institutional quality.

Ahmed, Abdulbaqi, and Adisa (2019) studied Nigeria's new democratic tenure from 1999 to 2016 to see the effect on poverty of globalization. Three channels (migration, financial openness, and trade openness) through which globalization might impact poverty were examined by deploying the OLS method. They found that poverty was significantly affected by trade openness. It was also stated that a lending program was opened by IMF to solve the balance of payments issue of developing nations to mitigate poverty (Stubbs, Kring, Laskaridis, Kentikelenis, & Gallagher, 2021). According to Watkins (2017), the policy advice of bilateral and multilateral donors to

developing countries in the past two decades has been centered on favoring greater trade openness and better integration into the global economy.

Ukeje et al. (2020) forwarded three broad approaches (rural development, basic need approach, economic growth approach) with the purpose of poverty eradication. Okoro, Ujunwa, Umar, and Ukemenam (2020) stated that Nigeria obtained different benefits like poverty alleviation from trade openness. Rani and Kumar (2018) Panel data from 1981 to 2018 of 43 African nations were studied to see how trade openness helps in reducing poverty. Using generalized method of moments, findings showed that trade openness initially deteriorates poverty about 1.3% and after one period lag, it reduces it by about 1.2%. Further, the results showed that infrastructure development and fostering the participation of the private sector in the continent contributed greatly to poverty reduction. The study also investigated the causality between trade openness and poverty and the results demonstrated that there is a bi-causality relationship between the two variables. Obeng-Odoom (2020) investigated that even with primary cost imposed on the poor African markets must focus on reforms to achieve structural alterations in its wider logic and enhance global trade.

C.-S. Lee, Nielsen, and Alderson (2007) stated in their research that internal growth highlighted the presence of diverse mechanisms by which trade openness might produce dynamic remunerations that would resultantly affect the rate of economic growth over a long period. In particular, trade openness helps in the procurement of high quality and low price intermediate merchandise and better equipment while enhancing overall economic productivity. Trade openness enabled local and international merchandise from the worldwide market to the nationwide economy, thus enhancing dispersion of production and managing information, and it improved internal effectiveness because of demanding universal competition. Therefore, trade openness

allows more efficient resource allocation in harmony within a country which enhances economic growth, which helps to reduce poverty.

Majumder, Raghavan, and Vespignani (2020) stated that via effective distribution of resources through trade openness, poverty is reduced in a country. Furthermore, tax revenue is generated through trade openness which enables governing bodies to invest in infrastructure like education, transportation and physical well-being services to help poverty alleviation. Arabiyat, Mdanat, and Samawi (2020) studied the role of trade openness on poverty in a general equilibrium framework. They found that poverty was negatively affected by international trade. Redmond and Nasir (2020) stated that countries that tend to open trade are benefiting with higher per capita income along with growth rate.

An and Yeh (2020) stated that with openness to foreign trade, Taiwan has benefited from rising income levels for the poor in both the short and long run. However, in the short run, the benefit arose through the positive influence of openness to foreign trade on the share of income accumulated by the poorest quintile. In addition, a short-term increase in the ratio of trade to GDP of 1% led to an increase in the mean income of poor inhabitants of 0.17% along with the outcome of economic growth. The study also described that in addition to trade openness, measures were taken to promote exports, which helped Taiwan in the exploitation of its comparative advantage, where export-led growth was based on small and medium-sized enterprises which had 60% to 80% employment and manufacturing exports with 50% to 70%. Therefore Taiwan's trained labor-hiring for modern production technologies that create significant role in job opportunities whereas less opportunities for the people who are poor and no even receiving and land income as well.

Cuervo-Cazurra, Doz, and Gaur (2020) stated that the progressive effects of trade openness on poverty is proved by evidence. Studies have emerged showing a decrease in demand of unskilled

labor with low wages in the short run along with lowering of the demand for labor among sectors, diminishing jobs and declining incomes, which have resulted in a high poverty ratio. In addition, when a foreign firm enters a nation's market, it reduces the market power of local firms and increases competitive pressure, which results in certain local firms being forced out of business.

Gnangnon (2020) It is find in the study that trade openness is a good component for the poor and the literature empirically supported the view that liberalization of trade leads to openness of trade resulting in poverty reduction. Consequently, trade liberalization is reflected as an appropriate strategy apparatus for poverty alleviation. Nevertheless, distribution of income effect and a country's comparative advantage are the factors based on which poverty is alleviated led by growth. Therefore, who gains from trade led by monetary growth is the matter on which poverty alleviation depends. Promotion of exports would result in a wage rate that is higher or there will be more job opportunities for jobless who are generally poor.

Baiman (2016) suggested that inflexibilities in influential markets, particularly in the labor marketplace, might thwart the Stolper-Samuelson theorem and result in an increase in joblessness and poverty. Harrison and Hanson (1999) stated that certain Asian and Latin American countries while opening themselves to trade during 1980 to 1990 faced a demand for skilled labor while unskilled labor was ignored, which resulted in wage discrimination.

Usage of higher-level technology has been associated with the trade liberalization phenomenon. The use of high-level technology demands skilled labor. This argument results in that linkage in accumulation of human capital and trade openness partly effects on poverty in trade openness. It is suggested that investments should be made in human capital and in trade openness. Some theoretical models predict that in countries where skilled labor is short, trade openness may result in diminishing growth of human capital.

Saidi and Mbarek (2017) stated that a healthy and inverted U-shape relationship exists between trade openness and poverty. If trade openness is of a low degree, then it will not hurt the poor, although at higher level of trade can help to decrease poverty.

Beegle and Christiaensen (2019) stated in their study that developing countries are working specifically for poverty reduction in African countries. There is an emerging consensus between researchers and policy-makers that continuous economic growth is mandatory for poverty reduction. A widely accepted empirical regularity along with a consensus assert that extrovert economies result in rapid growth, which implies that international trade appears to be relevant in combating poverty. Poverty is multifaceted; so, it cannot be understood or curbed easily.

Tsaurai (2018) established in their quantitative study that African experience to analyze whether it holds the theoretical forecasts that being to trade openness is generally helping in poverty alleviation. The study found that the positive outcomes of trade openness relating to poverty elimination depend on the effects of trade openness as well as structural reforms of African economies. More precisely, two fundamental issues concerning the trade–poverty debate focusing on Africa were addressed. Firstly, an attempt to show whether progressive structural reforms, growth of the economy, and reduction in poverty in Africa benefit from the commencement of global trade. Secondly, the causal link between structural transformation and trade openness in Africa is being examined. The study contributed to the debate on the significance of international trade on structural revolution and poverty mitigation in developing areas.

S. Lin, Winkler, Wang, and Chen (2020) discussed Vietnam’s key trading specifications and explored the influence of trade openness on growth, poverty alleviation, and provincial level inequality. Data analysis for the years 1997 to 2019 indicated that trade openness might have contributed to growth and poverty mitigation on the one hand, but it increased income

disproportion among first and fifth quintiles on the other hand. The study signifies an indissoluble association concerning openness and the state's role in the economy; the state intended to coordinate the impact of trade on Vietnam's economy during its transitional period. Therefore it is said that continuous debate about the effectiveness of liberalization is tradition now. All rational inquiries for transitional and developing nations must explore potential proficient interventionism in the framework of globalization. S. Lin et al. (2020) studied the effect of trade and trade openness on income distribution as well as poverty via theoretical and empirical approaches. Although the impact of globalization on poverty has been uneven, as per literature, depending on model choice, trade openness increases cumulative welfare but it results in smaller and unequally distributed gains. The price change is the factor through which the effect of welfare is measured while keeping the focus on the effects of the demand for local factors of production, specifically the demand for trained labor upon untrained labor. The study showed that infrastructure, skills, incomplete markets, and policies are the sources from which poverty constraints originate.

S. Lin et al. (2020) stated that trade openness can result in faster growth in regular income, which proportionally increases the income of the poor, thus resulting in a decrease in absolute poverty. They stated that one sure tactic for countries under development to reduce poverty is to follow trade openness policies. Nevertheless, their statements and proof are confronted by the record of the effects of trade progression and poverty on certain nations, particularly LDCs. Rodríguez (2020) stated that the effects of trade openness are stronger on those countries where there is less inequality in income and assets. Tsaurai (2018) stated that trade openness does not work particularly well for poor nations as a poverty alleviator. There is no systematic empirical evidence that trade openness is good for growth, human development, and reduction in poverty; this is because of poor trade performance, which is the result of a weak bond between trade and national

growth along with fundamental socio-economic and political pressures. Significantly, the harmony among openness, trade and poverty is based on the levels of development in a country and the structure of its economy (Le Goff & Singh, 2013). The above empirical literature shows that trade openness has both positive and negative relations with poverty.

Conclusively trade liberalization has remained an important topic of discussion for the development of countries in recent years. In the 1990s, ten major development policies were designed regarding trade openness for achieving the economic growth of a country. Trade policy can be beneficial if tariffs are low on imported products that are used as intermediate goods by the exporting firms (Koengkan, 2018). Although trade openness increases competition in domestic market that raises concerns about protection of the local market (B. Townsend, Schram, Baum, Labonté, & Friel, 2020). Therefore, gain from trade can be established only when policies are designed to increase economic growth. According to a World Bank report, trade increased almost three times from 1980 to 2002 and, resultantly, world output has become doubled (Maune, 2019).

H3: There is relationship between trade openness and poverty.

2.4.4. Inflation and Poverty

To examine the impact of inflation on LDCs, a lot of studies was conducted to evaluate the relationship between inflation and poverty. It was found that in certain countries' scenarios, inflation showed a positive and significant relation with poverty, on the other hand, under certain specifications in countries with low revenue levels, there was an inverse and insignificant relation between inflation and poverty; therefore, the literature provides inconclusive results as given in more detail below.

Baklouti and Boujelbene (2019) found in their study for OECD countries that in 2005 to 2016, people living in poverty were badly affected by inflation, a substantial rise in food prices and food was a major portion of their overall expenditures. The prices of food items such as egg, fish, and meat increased, but there were minimal increases on items like beverages, footwear and edible oils. The impact of this inflation varied for the poor of both rural and urban areas and at different periods.

Radhakrishna (2015) stated that there was a shift in India in inflation rate patterns in 2005 to 2006 and 2011 to 2012; the study proved an inverse relationship in the case of rural and urban segments between inflation rate and expenditure in 2005 to 2006, which was completely distinct from the case of 2011 to 2012. As per clear findings, the 30% of the populace of rural and urban areas faced the same inflation in 2005 to 2006 due to their poverty level. The study concluded that inflation's impact is commodity-based and class-specific. Furthermore, it was observed that the effect of inflation differs between rural and urban areas. Public distribution plans favoring the poor domains of the public were established with the purpose to diminish the impact of inflation among rich and poor.

Talukdar (2012) described the consequence of inflation on scarcity in less developed nations. Panel data analysis was conducted on data from 115 nations covering the period from 1981 to 2000. The data comprised 10 observations for each nation based on 3-year intervals. From the results of a regression analysis, Talukdar (2012) concluded that inflation is commonly positively correlated with poverty but, on the other hand, earnings, educational accomplishment, and quality of authority have an inverse relation with poverty. As per the indication of previous research, poverty is affected by elements like earnings, educational accomplishment, and quality of authority. The above-mentioned variables were taken as independent variables and a regression analysis was done

with poverty as a dependent variable. Siyan et al. (2016) investigated the relation between poverty and inflation in commonwealth countries using panel data analysis on data from 2001 to 2014. The results of the study showed a concave shape with threshold level of poverty, and results were in alliance with existing literature.

Osabuohien, Obiekwe, Urhie, and Osabohien (2018) investigated the regressive stance of inflation and its impact on the poverty line. The study highlighted that the effect of inflation is produced via its impact on real wages. They provided evidence that with the rise of inflation in Latin America, wages increased at a lesser rate than prices. Lastly, the research indicated that the programs of stabilization that were implemented through income policies were not of much help in Latin American countries because of the drastic effect of inflation on the poor.

Adegoriola, Adolphus, and Anthony (2017a) studied the effect of inflation on poverty using a panel of 115 LDCs for the period from 1981 to 2015. They took different variables as independent parameters along with inflation, for example external debt, governance on poverty as dependent variable. They found that inflation had positive relation with poverty.

Oduro-Afryie (2018) examined the period from 1960 to 2017 during which Latin American nations' wages declined; Oduro-Afryie (2018) found that inflation maximization increased poverty maximization in the last two decades. Inflationary macroeconomic policies badly affected the living standards of the poor. Paul and Sharma (2019) studied food prices from 1959 to 2015 and assessed their influence on poverty. They found a strong and positive correlation between poverty and higher prices. Alok (2020) analyzed the trend of inflation in India and found that India's poor inhabitants were badly affected mainly because of the influence of inflation on unskilled labor's real wages. This study was based on three steps. Firstly, the inflation rate for the spending segment was evaluated and the inflation rate expenditure function was assessed.

Secondly, the Lorenz curve was fitted to the spending circulation and each group's per capita spending was assessed. Thirdly, each segment-specific inflation rate form assessed inflation spending functions were calculated.

Darma and Onimisi (2017) investigated the implications of inflation and joblessness on the poverty level in Nigeria for the years 1980 to 2014. Inflation rate, unemployment, and poverty levels were the variables used in their study. These variables were all stationary at first difference while being subject to unit root test before applying the Johansen co-integration test on the variables at a 5% level of significance. To determine the relationship in the short run, a VAR model was utilized and four lags were selected, which were based on the lag selection criteria. Cholesky decomposition of VAR residual was used to obtain FEVD; the obtained results represented the proportion of the variations in the unemployment rate, inflation, and poverty credited to their lag values. From the VAR model, a Granger causality test was carried out and the result indicated bi-causality among inflation and poverty and showed two-way causality among poverty and unemployment rate. It was found that unemployment causes poverty in Nigeria; it was recommended, as per findings, that authorities revise the educational syllabus to include practical skills acquisition programs to produce individuals who employ labor rather than be labor. Incentives should be given by the governing body to production units to boost domestic production. It was suggested that Nigerian authorities must excel in the diminishing of poverty by formulating and implementing programs, such as social security, to reduce inflation and joblessness, which will result in economic growth.

Khraief, Shahbaz, Mallick, and Loganathan (2018) examined the role of economic growth and inflation on poverty in Pakistan. Covering the period from 1972 to 2017, they applied an ARDL bounds testing approach to co-integration and confirmed the presence of a long-run relation among variables of trade openness, inflation, poverty, investment, and GDP. The results showed that

economic growth and investment had a negative impact on poverty, inflation had a positive impact on poverty, and trade openness had an insignificant effect on poverty. In the short run, analysis showed that the effect of trade openness and investment on poverty was insignificant, whereas economic growth had a negative impact on poverty and inflation had a positive impact on poverty.

Nabi et al. (2020) investigated a sample of 72 developing nations to evaluate the change in the cost of urban poverty alleviation caused by the current inflation in food prices. The cost was an estimation of change in poverty deficit which is the variance in financial resources needed to diminish poverty. For most countries, this cost was 0.2% of GDP; furthermore, in many countries, it may exceed 3%. In a whole scenario, this was due to the negative real income effect for those family units which were already poor before the price shockwave, on the other hand, its effect on new family units falling into poverty was negligible. Adding to it, the countries where affected target based distribution setup has already established the strategy of cost-effectiveness would be to boost these programs rather than to identify the new poor by designing tools.

Researchers have examined data on unemployment, inflation, and poverty rate from one particular country or a panel of countries. Oduro-Afriyie (2018) examined data from 140 developed and developing nations spanning from 1960 to 1998 to study the presence of threshold influence in the relations among inflation, poverty and unemployment by deploying structural VAR (SVAR) econometric methods that produce measures for estimation and inference. The derived inflation threshold level on which joblessness and inflation significantly increased poverty was estimated to be between 1 and 3% for developed countries and between 11 and 12% for developing countries. Oduro-Afriyie (2018) found that the relationship between poverty, inflation and unemployment was significant and positive.

Teupe (2020) implemented an absorption-based methodology to count poverty in West Africa. Data from 2000 to 2016 from eight African countries were selected for the study. A robust and relatively high positive relation was found between inflation and poverty rate. Teupe (2020) stated that the poor were directly affected by inflation due to a decline in their real-time wages based on the short-term rigidity of normal wages.

Hooper, Mishkin, and Sufi (2020) investigated the relationships among unemployment, inflation, and economic growth in Nigeria. OLS and secondary data were utilized to investigate this association. As per findings, inflation and unemployment had an inverse effect on growth. This inversed effect of inflation was due to interruptions in the goods supply to outlets by local and international suppliers. Nevertheless, in Nigeria, a pivotal link is present among inflation, unemployment, and economic growth. Therefore, Nigerian authorities must understand the necessity to work continuously for the betterment of macroeconomic policy instruments to achieve continuous and empowering conditions that will enable an increase in domestic output.

Goldberg and Reed (2020) studied the causes of poverty levels in Nigeria for the years 1990 to 2018. A dynamic OLS method was deployed. Their study measured poverty with a poverty index generated from per capita contribution in agriculture, individual earnings, and individual consumption using the common measurement of poverty and principal component analysis. The trend component of independent variables (poverty index) was removed using Butterworth filter and regression was run on the important variables of interest. Results were not statistically significant but showed negative affiliation among poverty and political right, but relation turned positive when there was differenced political right. Political instability reduced poverty and showed significant statistics in results intensities with the uses of individual's real income for poverty and it was positively related with poverty. Civil liberty was also positively related to

poverty but results were not statistically significant. Democracy reduced poverty, increase in population was positively related to poverty.

Halliru, Loganathan, Hassan, Mardani, and Kamyab (2020) explored the influence of inequality, unemployment, and poverty on GDP in developing countries, such as West African countries, with the use of population average estimation techniques. A small and insignificant coefficient was produced with the regression in a change in poverty and surprising change in GDP. The relation between expected change in GDP and unemployment rate was significant with the result showing that a 1% expected increase in unemployment led to a decline in GDP of 0.2%.

Fujiwara, Hori, and Waki (2019) stated that uncertain inflation reduced the real value of nominal assets along with liabilities; thus, it resulted in real losses in the capital of nominal creditors and gains for nominal debtors. Poor people, if considered nominal debtors, would gain benefit from these effects.

Murshed, Ferdaus, Rashid, Tanha, and Islam (2020) hypothesized that study rates of inflation promote a country's development resulting in a process of expansion in an economy and depletion of poverty. Adequate inflation complements savers' returns, boosts investments, and results increases the economic growth of a country. The affiliation study among inflation, poverty, and unemployment was in the context of Bangladesh from 1980 to 2009 using yearly data of real GDP, poverty rate, and Consumer Price Index (CPI). Co-integration and error correction models (ECMs) were used to assess the empirical evidence. They also studied the threshold level of inflation needed for the economy. It was found that there was a long-run negative and statistically significant relationship among the country's economic growth, poverty rate, and inflation, which was specified by the long-run negative and statistically significant association among CPI, GDP, and

poverty rate. A threshold level (i.e. structural breakpoint) of 6% was estimated for inflation; inflation above this level badly affects economic growth and results in poverty enhancement.

Adegoriola, Adolphus, and Anthony (2017b) presented the notion that a stable price policy provides a stable condition for the flourishing of real sector activities. There had been no empirical examination regarding the outcomes of this policy in the real sector in Ghana. Time series data were used to study stagflation and macroeconomic performance. The study found that economic performance was higher during low inflation rather than higher inflation. The study concluded with the use of quarterly data for 1990 to 2011 and the application of least square multiple regression analysis; the results showed that in Ghana for revenue maximization the growth rate is 9.14%. The study also realized that the single-digit inflation rate set by the Bank of Ghana was not maximizing economic growth.

Kinsi (2019) inspected unemployment and Nigerian GDP from 2000 to 2018. Eight regression analyses were run and findings exhibited that effect of over 65% in the making of Nigerian GDP and exhibited an inverse relationship between unemployment and GDP. An increase in unemployment decreased the GDP and vice versa.

Babatunde, Gbenga, and Idris (2019) examined the indicators of poverty along with poverty-alleviating approaches in relation to farmers in Nasarawa State, Nigeria. Random sampling from 150 agricultural families and costs of calorie method and discriminant analysis were used to determine the commonness of poverty and its causes. The poverty occurrence in sampled houses was found to be high and its causes were household size, earning sources of household, household members' employment in fields other than agriculture, and educated members of the house. The poverty coping plans included forgoing meals, reduced quantity of served meals and keeping busy

with work. It was recommended by the study that this segment should be involved in the strategy making for the communication of family planning to these households.

Seth, John, and Dalhatu (2018) examined the impact of inflation on poverty in Nigeria. They applied time series secondary data and parsimonious error correction method to variables such as level of unemployment and demand for labor, the supply of labor, population, inflation, capacity utilization, gross capital formation, and nominal wage rate. They found that increasing nominal wages and population affected the supply side by providing more labor than required by the economic capacity, which appeared to be the main element behind increased joblessness in Nigeria.

Alhassan, Adedoyin, Bekun, and Agabo (2020) employed economic growth data and expenditures on MDGs to study poverty conditions in Nigeria. Panel data analysis of the pooled model, random effects, fixed effects, and weighted least squares methodology was applied. It was revealed that a unit increase in GDP of per capita resulted in a 0.6% escalation in poverty, whereas a unit increase in MDGs spending increased 9 units relative poverty by 11.56 units in the model which was pooled. It was concluded by the study that MDGs funding did not reduce poverty substantially during the studied period.

Though previous research and evidence seem to be in favor of the understanding that poverty is affected by inflation positively, some opinions are opposite to these. “Rethinking Poverty. Report on the World Social Situation 2010,” a report by the United Nations, raised several interesting points: employment should rise if inflation reduces real wages, thus creating more earning sources for the working class.

Conclusively literature depicted the significant and positive relationship between inflation and poverty. Teupe (2020), stated that the poor were directly affected by inflation due to a decline in their real-time wages based on the short-term rigidity of normal wages. However literature also documented negative relationship between inflation and poverty. The employment effect of the creation of more jobs due to low wages (inflation) should overshadow the effect of lower real wages on poverty. It is more likely to happen if the inflation (lower income) elasticity of poverty is established to be significantly less than the output (employment) elasticity of poverty. In addition, the majority of the poor are debtors and inflation lessens the real value of their debt. By this means, inflation might have a negative correlation with poverty. Moreover, above mentioned literature also documented the indirect effect of inflation on poverty.

H4: There is relationship between inflation and poverty.

2.4.5. Agriculture and Poverty

There are multiplier effects of agriculture which play a role in the form of rural farm and rural non-farm effects on the reduction of poverty (e.g. real income changes, food price effect, and employment generation). However, there are some constraints, like barriers to new technology adoption, market access and initial asset endowment, to gains from agricultural output growth. Agriculture output is defined in many ways in the literature, like output per unit, farm yield by crop, and total output per hectare and worker.

The first MDG was to eradicate extreme poverty and hunger by 2015. Developing countries have made exceptional progress toward MDG 1 and have made it a realistic goal. However, this target has not been fully achieved, as up to 1 billion people still live in poverty. The question arises why some countries are more able to achieve their targets as compared to other countries. Dhahri and Omri (2020) sought to answer this question; they selected 25 developing countries that had

remarkable success in reducing poverty over the past 20 years. These countries were observed by taking macroeconomic variables especially they were common with agriculture economic growth variables. The selected countries were diverse in characteristics. The chosen group of countries represented virtual and geographic regions of some poor and some rich developing countries of the world. The selected countries were similar in their achievements: they had all reduced poverty equally and their macroeconomic progress and agricultural performance were the same. The findings generated from time series and cross-section analysis showed that economic growth is a great contributor to poverty reduction, the mix sector growth is substantial and growth in agriculture income becomes more important.

A rich literature is available on the linkage between agriculture output and poverty reduction. Osabohien, Matthew, Gershon, Ogunbiyi, and Nwosu (2019) irrespective of measurement empirical studies have been conducted to support the idea of improvement in agriculture productivity and poverty reduction. However, Gourlay, Kilic, and Lobell (2019) investigated in their study that productivity growth can analyze with both ranges of direct and indirect effects that mediate the pathways to poverty reduction. The appropriate methodology for measuring agriculture output is also part of the debate, this brief sets aside methodological debates and productivity measurement is discussed in the literature as well.

Ivanic and Martin (2018) used the output per worker as a productivity measurement and agreed as well about the measurement of productivity and linkage between agricultural and non-agricultural growth with poverty reduction. Hajra, Ghosh, Chadwick, and Renaud (2018) stated in their study that there is a positive and significant relation between agriculture output and poverty in the case of India. Pullar et al. (2018), conducted case study analysis of 12 countries to compare the effects of agriculture growth on poverty reduction across the countries and the results showed agriculture

and poverty are inversely correlated. Moreover, Lu et al. (2017) investigated the relationship between TFP level and poverty. The findings of the study were that agriculture research, development, investment in roads, and extensions in projects have an impact on productivity and poverty reduction.

Only one study modeled the direct relation between agricultural productivity and changes in poverty at a macroeconomic level across countries (Botzen, Deschenes, & Sanders, 2019). They used country-level data from world development reports to examine the impact of TFP of agriculture on the population living on less than US\$1 per day, which was calculated with the proxy of headcount ratio. They found that agriculture productivity growth has a positive, robust, and consistent impact on poverty for all measurements. They reported that there is an inverse relationship between agriculture output and poverty: when agriculture output increases by 1% then poverty decreases 1.3% to 0.65% by evaluating population which is living below the US\$1 per day of poverty line. Moreover, regression analysis of productivity with HDI reflected the findings as a 1% increase in agriculture output led to 0.12% increase in HDI (Lindner & Wagner). However the above data was taken for a single year which was aggregated for multiple years depending on the country's recent census, national household survey and index calculations, which limits the generalizability of the findings.

The contribution of poverty reduction depends on direct and indirect economic growth which has major contribution from agriculture sector, effects and its participation effects as well. By giving special attention to SSA this study evaluates the effect and comparison between agriculture and non-agriculture reviewing the literature and analyzed cross-country national accounts and poverty data from household surveys (Addeah Darko, Palacios-Lopez, Kilic, & Ricker-Gilbert, 2018). The direct growth effect of agriculture on poverty reduction is smaller as compared to non-agriculture

output; the indirect effect of agriculture is substantial and has a bigger effect as a feedback effect. Poor people are more likely to participate in the agriculture sector than rich people, especially in low-income countries; therefore, changes to agriculture have a much larger impact on poverty reduction than changes to other sectors (Frank et al., 2017). Together these findings support the overall agriculture productivity and designing effective poverty reduction strategies in SSA.

Much more specific country analysis is required to maximize poverty reduction effects as well as specific analysis of the institutional organization of a poor economy and the design of customized poverty reduction strategies (Vallino, Ridolfi, & Laio, 2020). In addition, the right agricultural technology and investment must be adopted according to the country's need. Furthermore, according to the country's context, changes in agriculture labor depend on demographic changes and even on cross-sector migrations. Calculation of the output growth in an agriculture sector depends on the factors of production, such as labor, and on the technical factors behind the output growth. The analysis is run on developing regions of the world estimated for 1970 to 2000. Libinb (2018) commented on the spectacular growth performance of China, it is observed that the growth of China increased by 400% during the time period of 1978-2000 in the index for the agriculture at worldwide level. Asia's agriculture progress graph also increases as compared to other regions. When we breakdown agriculture output, its components are land, labor, tractors and fertilizer; land, labor and fertilizer have gained remarkable growth in China, whereas the growth in China's tractor use index reduced after the mid-80s, which suggests that China's agricultural development in the last three decades has not displaced labor.

Odusola (2017) stated that in the case of SSA there was modest output growth and stagnation in land utilization, but the introduction of fertilizer and tractors helped to grow output massively. Because of stagnation in economy, low output growth is likely to worsen the situation in

agricultural labor. Whereas agriculture trends in form of inputs and outputs, due to uncertainty of weather, shows incomplete growth, and for the measurement of poverty reduction we need to look into the population and per capita income. It is important to measure agriculture growth and its impact on poverty reduction. On a per capita basis, we find that growth in agricultural output and the value of crops have been trends in developing countries, except in SSA where fluctuating trends were identified.

Conclusively a rich literature is available on the linkage between agriculture output and poverty reduction. Osabohien et al. (2019), reported that improvement in agriculture productivity causes to lower poverty. However, it has been observed that farmer spent a lot on agricultural activities to boost agriculture output but due to environment uncertainties and calamities agriculture sector unable to play its due role to eliminate the poverty. Moreover, literature is ambiguous and unable to provide a clear picture about the relationship between agriculture productivity and poverty; so there is dire need to identify the role of agriculture productivity in poverty reduction.

H5: There is relationship between agriculture output and poverty.

2.5. Emerging Factors and Poverty

2.5.1. Women's Empowerment and Poverty

Half of the global population are women. If this half of the population faces familial, economic, and social discrimination along with the increasing threat of torture, harassment, and other difficulties, based on their gender, then just imagine the future of this world. Women's empowerment is registered and appreciated in numbers only, because discrimination and gender inequality remains the same. Women's empowerment explains the women's capability concerning domestic, political, social educational, and economics.

Sharaunga, Mudhara, and Bogale (2019) stated that women are enabled by empowerment to take charge of their lives, establish their agendas, make demands with the purpose of support for women and make changes in society as a whole. Briefly, empowerment is a phase of self-awareness, capacity building thus resulting in greater contribution in power to control the decision making and transformative action. Empowerment is a process that involves both individuals and people as a group to develop awareness and aptitude to manage actions and bring change. There are diverse discussions about women's empowerment. Various agreements and disagreements are found among researchers while defining the idea of women's empowerment. The greatest consensus is on keywords that define women's empowerment, like preferences, control over choice, and, ultimately, power. Occasionally these are referred to women's capacity in decision making resultantly they can play role in family matters and know about their self-importance. There is great stress over control when it comes to private life and resources. Hence, some variants like "self-well-being" and "important life choices" are frequently referred to.

Gram et al. (2017) explained empowerment as having power that restrains women's options, autonomy and badly affects health and happiness. They termed empowerment as a development by which women become enabled to organize themselves with the purpose to rely on themselves, to proclaim freedom in choice-making and to control the resources, while challenging and eliminating subordination. Listo (2018) discussed measuring poverty and women's wealth, degree of their control, and access to resources because from a gender point of view, authority over resources is an important concept while discussing poverty.

Annan, Donald, Goldstein, Martinez, and Koolwal (2020) stated that many people realized that in the absence of critical examination regarding gender relations in a society and the incapacitating barriers that women face, programs related to poverty alleviation will remain beneficial for men

rather than women. Gressel et al. (2020) w empowerment takes place when individual efforts, group efforts, and authorities' efforts are on the same page to establish an environment where women can be empowered and appreciated to participate in the economy equally. Strategies and agendas adopted by governments and global institutions for the mitigation of hardships experienced by women are in line with the scope of empowerment; this is done by giving women more power over resources and decision making. Empowerment is related to the understanding of power as the power within, the power to, and power with; adding to this, women's empowerment is taken as a procedure that includes political and socio-economic involvement. From a women's empowerment point of view, the role of authorities and global institutes is questioned, but a consensus is found among researchers that in its simplest form, empowerment means enablement.

Sultana, Jamal, and Najaf (2017) argued that the average woman in a developing country might not be in a position to support herself, to get power over resources and take part in making "decisions." For this reason, a third party, whether authorities or other organizations, is required to create feasible conditions for women's empowerment. Kumari (2020) argued that empowerment initiates at the micro level and turns into macro level; that is, it is a two-way scenario in which power is taken at the individual and collective level at the same time, altogether. Women's empowerment is an ongoing process with changes at micro and as well as macro levels.

Berni (2020) studied whether men and women are on the same paths or different paths when it comes to politics, education, economics, and life expectancy. It was found through the use of the Gini index that in 193 countries, 2.1 billion adults divide equally when it comes to men and women. 45% of women were literate. A significant difference was found among men and women politically and economically. The study showed an uneven growth in population which slowed the progress

of gender equality, while not specifying any region where gender inequality is on the rise. Berni (2020) also reported a decline in gender inequality from a religious perspective.

Latin America region is working constantly to remove poverty for this they are emphasizing on females to participate economically equal to men. To increase the women participation in economy they introduced anti-poverty programs especially for the women. It is also described that female policies should be designed that they lead households and get rid from poverty. Latin America with agenda of reducing poverty for SDG 2030 could be women empowerment (Bradshaw, Chant, & Linneker, 2019).

Sub Saharan Africa region is working on gender equality and poverty. This study is conducted to create the link of women health women education and women political participation in the economy of Sub Sharan Africa. Finding of the study shows that women economic empowerment, leadership and their education can help to reduce poverty from the region. Women can start small business and may start a job to support their family (Yaya, Odusina, Uthman, & Bishwajit, 2020).

Similarly, Parker and Funk (2017) found in their study that poverty would not reduce when there was an index of 0.23 for men and 0.35 for women, which showed that women had lower income as compared to men and the poverty level remain high. They also reported that men had larger farms and superior income than women. Sultana et al. (2017) provided a charter that supported the notion to further study the relationships among women's empowerment and poverty mitigation.

Krishnamurthy, Joseph, Pradhan, and Rao (2017) surveyed poverty mitigation and women's empowerment in India concerning differences between men and women under the effects of globalization and trade openness. Effects were found to be generally negative, and it was suggested that microfinance could mitigate poverty. Here, microfinance was suggested as a partial solution

to gender inequality in India; microfinance could increase women's empowerment and reduce poverty. It was argued that microfinance programs provide women with economic self-reliance and women can gain savings and credit prospects while avoiding discrimination from lenders. Over time, microfinance programs can enhance women's earnings and increase their contributions to their family, which might increase their standing in the household. Even though all these studies discussed microfinance or microcredit programs. Bueno and Morefield (2017) investigated the relationship between empowering women and microcredit programs. They found that in Chennai, India, 52% of the recipients of programs of loans and small grants reported an increase in income level.

Adding to this, Islam et al. (2008) demonstrated that the fraction of the population living under poverty was lower than the national average, which meant that a decrease in poverty levels among the study groups of Asia was seen. The women who are working and taking decisions on their own had improved their economic standing and sustainability. De Klerk and Verreynne (2017) detailed that these financial programs allowed women to attain new talents while interacting with society at large and improve their standing in society. Somewhat simplified, the key component in this scenario is the obtainability of microfinance, which enables women to enhance their monetary contribution.

Glennerster, Walsh, and Diaz-Martin (2018) stated that although the number of women in educational programs is on the increase, it does not mean that women will get employment upon completion of their studies; however, an increasing number of educated women will bring improvements to family life. Results based on data covering 1998 to 1999 found that an increase in the number of women educated to middle level led to 58% poverty reduction and the education of women to professional degree level led to 99.4% poverty reduction (Nkemnyi, Fombu,

Kwobenyi, & Mumbang, 2017). By contrast, Asaolu et al. (2018) stated that there is a no relationship between women's economic comfort and their education. They proposed that schools with gender participation in the educational process establish women with negative self-perception, thus creating a barrier to the empowerment phase, and concluded that not all programs related to education result in empowering women.

Dhamija, Gupta, and Bag (2019) found that job promotions, better work-life, and job positions are enjoyed by women with higher education; women know the preferences of men and inconsistencies in society so they do not further enhance their studies. But it was concluded in study that women who gain higher education are more likely to find a job and make more money.

Bryant (2020) stated that education increases women's self-confidence, along with furthering their knowledge, and awareness of the need to nurture gender equality. Nwosu and Orji (2017) emphasized that it is more difficult for women than men to get out of poverty because of discrimination in opportunities of employment and access to education. These research studies support the notion that by becoming aware of gender equality and pursuing education women can flourish in society. In the context of women's empowerment and reduction of poverty in developing countries, Félix and Belo (2019) emphasized that programs related to education must include planning to reduce gender inconsistencies at each rank and concentrate on further promotion of opportunities for women in higher education.

Disagreeing with these researchers, Jung, Yang, and Yang (2020) argued that education itself cannot solve social and economic difficulties that lead to women living in poverty, and education has not reduced the gender discrimination of social stigmas which cause greater inconsistencies among women and men.

Menon and Rodgers (2018) illuminated women's empowerment and development in Kyrgyzstan (the state intervenes in work practices with the purpose to reduce gender disparities) and how this is related to the global goals of transforming development aid. Salim and Khan (2020) evaluated women's empowerment on a micro level in the state of Oman and examined women's capacity in decision-making choices related to household financial decisions helps to release stress and concentration in spreading women's empowerment.

Siddik (2017) explored the fundamental dynamics that obstruct the active involvement of women in their social circle based on the connection between development and empowerment. Empowering individuals is necessary to enable women to gain access to prospects, thus permitting them and their social circle to prosper financially which reduces poverty. Gichuhi and Njuguna (2017) identified social, judicial, economic, and political empowerment. They affirmed that by these empowerments women were allowed to have a better standing in their social circle and huge opportunities for progress. Therefore, women's empowerment helps to reduce the poverty in the country.

Munyambu (2019) proposed that the amount of education, political reasons, leadership familiarity, cultural and social issues, obligations within the family, and religion all influenced the degree of the contribution that women made to their community. Brulé (2020) affirmed that even if India had rules that were aimed at the empowerment of women, the creation of gender equality is needed in modern India. Education is a key element for the betterment of women's involvement because it provides them with heightened self-confidence and expertise which results in proficient contributions to their community (Latt, Ninh, Myint, & Lee, 2017). It cannot be assumed that problems of poverty will be solved by the poor on their own because there are outside elements

that affect their capacity to successfully get out of poverty; what motivates them for change is not understandable by us (Banerjee, Breza, Duflo, & Kinnan, 2019).

Conclusively the term women empowerment is derived when women become enabled to organize themselves with the purpose to rely on themselves only, to proclaim freedom in choice-making and to control the resources. Half of the global population are women; so if this half of the population faces familial, economic, and social discrimination along with the increasing threat of torture, harassment, and other difficulties, based on their gender, will cause so many problems in the world. Although women's empowerment is debated and appreciated but still discrimination and gender inequality level is high in poor countries. Women's empowerment enhance the domestic, political, social and economic capabilities of women. Therefore it is proved through above provided theoretical literature that women empowerment helps to reduce poverty from the world. So this study enhance the literature by investigating the empirical relationship between women empowerment and poverty.

H6: There is relationship between women's empowerment and poverty.

2.5.2. Tourism and Poverty

The last 50 years have been good for tourism. Tourism has expanded astonishingly, generated employment and revenues, and become a significantly important industry globally. As per 2009 data, it was expected to exceed US\$851 billion in 2010. The UNWTO estimated the influx of 1.6 billion holidaymakers worldwide by the year 2020 (Bowen & Clarke, 2009).

The continents of Asia and Africa, which contain most of the LDCs, were expected to have 416 million and 75 million tourists, respectively. Many of these destinations had diversified and many

LDCs witnessed prodigious growth in tourists and their spending (Shaaban, Ramzy, & Sharabassy, 2013).

Yang and Wall (2016) stated in their study that LDCs had seen an increase of 11% from 1990 to 2015 in foreign sightseers. The factor of tourism provided significant prospects for these economies and played a vital role in regional strategies related to the poor populace. On the other hand, this development is not a remedy. Though this sector shows resilience, it remains sensitive to competition, outside happenings like economic ups and downs, natural calamities, along with political scenarios.

Ashley, De Brine, Lehr, and Wilde (2007) stated that during the last few decades the tourism industry had boosted many countries economically. In the current situation, the masses see tourism as a necessity, not a luxury. Coordination is needed between tourists, travel agents, and tour operators for tourism. Destinations, sites, attractions, accommodation, and other subsidiary activities are major elements of tourism. People stay at locations away from their local environment for leisure, business purposes, and other reasons.

Haigh (2020) defined tourism as a “Temporary relocation of masses to another place from their residences and workplaces and for this purpose certain activities and facilities take place to meet the demands.” Initially, tourism remained traditional; however, as cultures evolved and the economy and the knowledge base grew, tourism changed into a different shape with sustainability, better planning, well-organized places, and conservation.

Neto (2003) found that in the United States and other countries tourism was a major contributor to maximizing economic activities. Jobs were created in large as well as small nations and became the main industry in many places. Tourism became a major economic activity in many localities.

Until now, its effect on a community where tourism had grown rapidly, and must be of greater concern, is not understood completely. When it comes to tourism many think about its impact on the economy, jobs, and taxes but its real effect is vast and expands outside these commonly related impacts. Those leaders and locals who understand these other subsidiary impacts can incorporate this industry into their local society in a much better manner.

Moyle, Weiler, and Croy (2013) suggested that selection of the positive impacts while mitigating possible negative impacts is a way to achieve the goal of tourism development in a community. Firstly, identification of these possible impacts is mandatory. Many researchers have identified these impacts. By categorizing these impacts, types of impacts can be identified which could result from the expansion of tourism in a mutual interest.

Ritchie (2004) stated that tourism is a movement in which crises cross sectors other than conventional ones. Environmental, social, economic, and cultural inputs are required by tourism; tourism is multidimensional. Tourism does not have a typical production format that is usually measurable, such as agriculture (tons of rice), and that is why it faces problems while being described as an industry. In every country, there is no common framework that represents this industry. Empirically, very little data is available when it comes to tourism and poverty alleviation. Tourism is seen as a vital element for the development of economies, generation of foreign revenue, and the expansion of taxes along with job openings, and as a lure for international investors.

Folarin and Adeniyi (2020) documented that in the country of Nicaragua, tourism helped in the mitigation of poverty; they used the Engle and Granger co-integration approach in multivariate analysis of economic growth, poverty reduction, and tourism. Another study concluded that in developing nations, the development of tourism reduces poverty; they applied the ARDL

mechanism in a multivariate framework (Khan, Bibi, Lorenzo, Lyu, & Babar, 2020). Khan et al. (2020) investigated a multivariate framework of poverty, economic growth, human capital tourism, exports, and human capital along with capital investment by using the Johansen and Johansen approach; they found that the development of tourism diminishes poverty. Their research suggests that development in tourism diminishes poverty in emerging countries with the help of rising income levels, skill enhancement, and development of infrastructure. Njoya and Seetaram (2018) stated that in Brazil, tourism helped to reduce poverty; they used a computable general equilibrium model.

Bakker, van der Duim, Peters, and Klomp (2020) found that tourism alleviated poverty; they used a multivariate framework in their research. They proposed that the tourism sector helped job creation and small business setups, encouraged entrepreneurship, empowered the least fortunate, such as the young populace and women, and fostered economic growth; therefore, tourism helped poverty reduction at the national level (Bakker, van der Duim, Peters, & Klomp, 2020).

Binns and Nel (2002) affirmed the role of the state in enhancing tourism by providing suitable infrastructure, market investigation, and ensuring financial encouragements for investors. It was argued that to achieve sustained tourism with financial benefits, authorities must ensure strict regulations to direct the benefits of tourism to the least privileged. Self-centered, expansion-oriented approaches to progress had resulted in a higher level of inequality in the local population of many Eastern Caribbean nations. Binns and Nel (2002) were against the free-market agendas of institutions and emphasized the fact that the needs of the least privileged should be catered for by giving priority to outside focused necessities. It is also documented that Bonaire's tourism policy states for one location that no license will be issued for "American-style fast-food

restaurants” with the purpose to equalize the necessities of tourism with the needs of local communities and environmental protection.

Scheyvens and Russell (2012) stated that tourism operators (in family businesses at a small level and big resorts) in the private sector had developed plans to mitigate poverty because it was socially and politically beneficial to add to the progress of local people. In some scenarios, these actions were taken under pressure from the government and other factors. On a smaller but increasing level, some businesses actively participate in poverty mitigation by teaching in-house skills to the less privileged, buying locally produced products and services, or by establishing and appreciating the charities and development funds for the community with the help of local actors. Therefore, for instance, some tour operators and non-governmental organizations have now commenced to work together to develop a “travelers’ philanthropy” approach, which directly links tourists and local populations to involve tourists in the financial prudence of communities that they visit while on holiday and to continue financial support.

Jonsson (2018) reported that a local businessman named Gordon Butch Stewart who owns a Sandals all-inclusive resort bought locally produced agricultural products, which thus negated the concept that these resorts are less beneficial to the local populace. Sandals operated an elementary school in Negril, Jamaica, and offered local students free scholarships, provided seeds along with technical support to farmers of the area, and purchased their agricultural products at market value. Sandals inspired visitors to make contact with locals while hiring local entertainers and guides for different programs. They also provided space at their establishments to the locals for the display of their produce and involved locals in corporate decision making.

Meyer (2006) stated that in St Lucia food service personal along with Sandal’s chef had met with an agriculture food supplier since 2002 and that 75% of these suppliers are women. A Four Seasons

Resort opened in Nevis in 1990 and implemented a production system which was led by a local farmers' market and supplied 40 items to the resort. Likewise, in Fiji, employees of the Exclusive Turtle Island Resort struggled hard to give benefits to the local community of islanders by providing school facilities and they facilitated an association of hitchhiker tourism providers while helping them in matters of marketing, quality control, service, and administration.

Henama, Mangope, and Strydom (2019) stated that as tourism impacted societies with its effects on livelihoods, socio-culture, and economic point of view it became significant in both rich and poor nations. Poverty mitigation became a top priority while establishing tourism agendas. The UNWTO had identified a reduction in poverty along with climate change as an international revolution in the tourism sector. UNWTO created a Sustainable Tourism-Eliminating Poverty project whose objective was to help LDCs and developing nations to combat poverty. The analysis and findings of this study showed that tourism helped the local community by increasing the income and welfare of the local populace. Although the income and purchasing power of the locals increased, tourism had a negative side effect of increasing price of land, and commodities due to tourism. It was concluded while making a policy of tourism to think about the poor people situation as well.

Tourism is a multifaceted and difficult concept that generates a positive economic impact in the concerned country. Therefore, in the long run, tourism as a tool or measure can be used to eliminate poverty and to improve lifestyle. Tourism is a vital component for all countries to enhance the income level especially for developing countries (Muiruri Njoroge, Atieno, & Vieira Do Nascimento, 2017).

Khan et al. (2020) stated that tourism is taken as an important tool that brings prosperity in emerging countries. Their study assessed the role of tourism in Pakistan in determining the basic

concept of economic development. The causal relationships of tourism with energy, poverty, economic growth, and agricultural development were investigated with the help of different econometric techniques and methods. The vital role of tourism in the development of emerging economies was highlighted in this study. The findings suggested that a 1% increase in tourism enhanced FDI by 2.674%, GDP by 0.051%, energy development by 0.134%, and agriculture development by 0.26%, and reduced poverty by 0.51%. Policy-makers were informed that over a long period with the help of the public's involvement and with the design and employment of unified strategies, this sector can enhance progress in developing economies. In addition, steadiness in strategies along with rationality is essential for competition, durability, and profit enhancement from tourism.

Conclusively, the last few decades the tourism industry had boosted many countries economically. In the current situation, people considered tourism as a necessity, not a luxury. Coordination is needed between tourists, travel agents, and tour operators to boost tourism. Destinations, sites, attractions, accommodation, and other subsidiary activities are major elements of tourism. People stay at locations away from their local environment for leisure, business purposes, and other reasons. Therefore it helps to bring foreign currency in the country which ultimately helps to reduce poverty from the host country especially in case of developing nations.

H7: There is relationship between tourism and poverty.

2.6. Moderating Role of Governance

Chaudhary et al. (2020) documented that in this age good governance is a catchword and public attention had been attracted by it for the last 10 years. It is a foundation of importance in a regime's capacity to confirm globally accepted democratic principles.

Mungiu-Pippidi (2020) reported that since the 1980s international discussion that focused on the issue of good governance assisted growing nations. Good governance is an essential element for advancement. Numerous nations, even those with few natural resources and poor social structure, had shown remarkable performance in the advancement of the welfare of their populace. Much of this was achieved through good governance. Bad governance thwarts and obstructs progress. Countries that had corruption, not able to look after of public funding, no transparency, violation of human rights, and more than usual army involvement suffered inevitably.

Chimakonam stated that in 1989 the World Bank introduced the term good governance and characterized the crisis of SSA as the government crisis worsened. Governance became an essential tool for economic growth and poverty mitigation in growing nations. As expected, fruits of reforms will not be accessed by the poor and funds will not be used appropriately without good governance.

Goel and Karri (2020) stated that diminishing poverty and the betterment of lifestyle of each individual are the main necessities of socialism and the true focus of the state's continuous involvement in poverty mitigation. Nevertheless, states are faced with many practical issues such as extreme pressure on poverty and state's uneven power and responsibility at grassroots level, while combating poverty under poverty mitigation framework for the very poor populace. At the end of the day, authorities could take advantage of the chances to improve the situation while combating deprivation, generate suitable conditions for betterment in poor areas, self-motivation of the poor, and create unity for poverty mitigation; thereby, lessening general poverty and regional extreme deprivation.

Asadullah and Savoia (2018) asserted that no empirical evidence was found favoring the hypothesis that good governance can result in a diminishing of poverty. In middle-income nations,

it can help in poverty mitigation but not in nations that are least developed. It was suggested in the findings that the establishment of policies aimed directly at tackling poverty are necessary, not by the help of direct tools and signifying the instant necessity to tackle structural disparity in progressing nations.

Sillah (2016) argued that it is necessary to enhance GDP per person and look after economic resources in a better way. Good governance is particularly related to poverty reduction, such as providing more access to clean water and betterment of living surroundings by reducing the number of people living in the shantytowns of cities. Sillah (2016) also suggested that organizations and departments related to development should set targets when provided with monetary help for poverty alleviation. One can win this fight not only with monetary support but also with acquiring good governance when it comes to accountability and transparency.

2.7. Theories Underpinning Conceptual Framework

Now the question arises which theory is appropriate to understand the phenomenon of poverty in detail? Kakwani (1980) explained in her study that poverty literature thoroughly accepted the theory of income distribution that helps to choose between model specification and poverty reduction results. We are now going to analyze the main economic theories of poverty with the motive to give attention to country-wise analysis. This analysis describes the broad economic frameworks of theories.

2.7.1. Classical Theory of Poverty

Classical economic traditions contend that individuals are ultimately responsible for poverty, thereby providing a foundation for laissez-faire policies (Aboaba, 2020). In classical theory, it is assumed that exchanges taking place are efficient and depend on individual productivity. This

theory proposes that poverty is mainly the consequence of poor individuals, which means that the poor individually negatively affect productivity; it is also accepted that difference exists in poverty because of abilities and potential. The theory suggests that the wrong choice of productivity makes individuals live in poverty or welfare trap. To avoid the minimum level of poverty, government intervention is assumed to deal with economic inefficiency, which helps to generate incentives and creates an alignment between a poor individual and society; welfare programs help to get rid of poverty. Therefore, the government is considered the most supportive intervention for poor people. Therefore policies are designed to enable deprived individuals to join the labor force so that they can raise their productivity. Several approaches with broad defining characteristics are discussed under the classical tradition. Each approach and causes are different in the occurrence of poverty.

2.7.2. The Neoclassical Theory of Poverty

Neoclassical economics explains that poverty is a state that is beyond the control of an individual; (Matsuda et al., 2020; Saeed, 2020) in particular, it is about market failures. This concept was introduced by Alfred Marshall in his *Principles of Economics* first published in 1890; it is described as the most significant progress toward neoclassical economics. This concept states that prices are determined at the equilibrium point where supply and demand curves intersect each other. He explained that supply is easier to vary over time horizons and becomes an important determinant of price in the long run. Neoclassical theory paid attention to the role of unequal granting of talent, skills, and capital which measure the productivity of an individual in poverty generation in a competitive economic structure (Sameti, Esfahani, & Haghighi, 2012). If a market failure occurs due to incomplete information, then adverse selection is observed as poverty. This uncertainty plays a great role in poverty generation because the poor are more vulnerable to shocks like sickness, family breakup, and recessions. In classical theory, there is no role for government

(Pocock, 1976); however, in neoclassical theory, targeted policies to address market failure may be warranted in some cases. For example, the basic idea of migration is derived from classical thought, that is, labor migration is increased due to wage differentiation among the regions, whereas in neoclassical ideas on migration, which are an extension of classical thought, migration is based on expectation rather on actual wages among the regions (De Haas, 2010).

2.7.3. The Liberal Theory

Liberal theory has a macro perspective and is a major shift from neoclassical theory and micro-based models. Keynes emphasized the importance of working on human capital: if individual decisions lead to promotion of human capital and investment in people, then they help to get rid of poverty. The government can play a central role in the economy. Liberal theory proposes that government intervention against poverty is required (Williams & Young, 1994). Government intervention can play a role against poverty and remove economic problems, from managing unemployment to promoting human capital and investment in public education which play an important role in tackling poverty through development. This is an understood contrast to classical and neoclassical views that a government's role is limited. From a liberal perspective, poverty is mainly explained as misfortunate for minorities who are unable to find work and they wish to work (E. P. Davis, 2014). For this reason, the state needs to create opportunities as a supplement but not impose them. This theory explains that poverty is a reflection of market failure under certain circumstances. If entrepreneurial investment is low, then unemployment increases which leads to poverty among labor. The focus on public investment is to accomplish the complementary goals of economic growth and poverty reduction.

2.7.4. The Capability Approach

The capability approach elaborates that when women make life decisions, for example attaining education, earning and spending money on their choices, they are empowered, which leads to economic growth in poor countries (Gasper, 2002). The capability approach is about social change in society, social and political development, and the welfare of women. The capability approach is used mostly for the well-being of individuals, and deals with inequality and poverty.

Saith (2001) asserted capability was a non-welfare methodology:

The capability to function represents the various combinations of functioning (beings and doings) that the person can achieve. Capability is, thus, a set of vectors of functioning reflecting the person's freedom to lead one type of life or another.

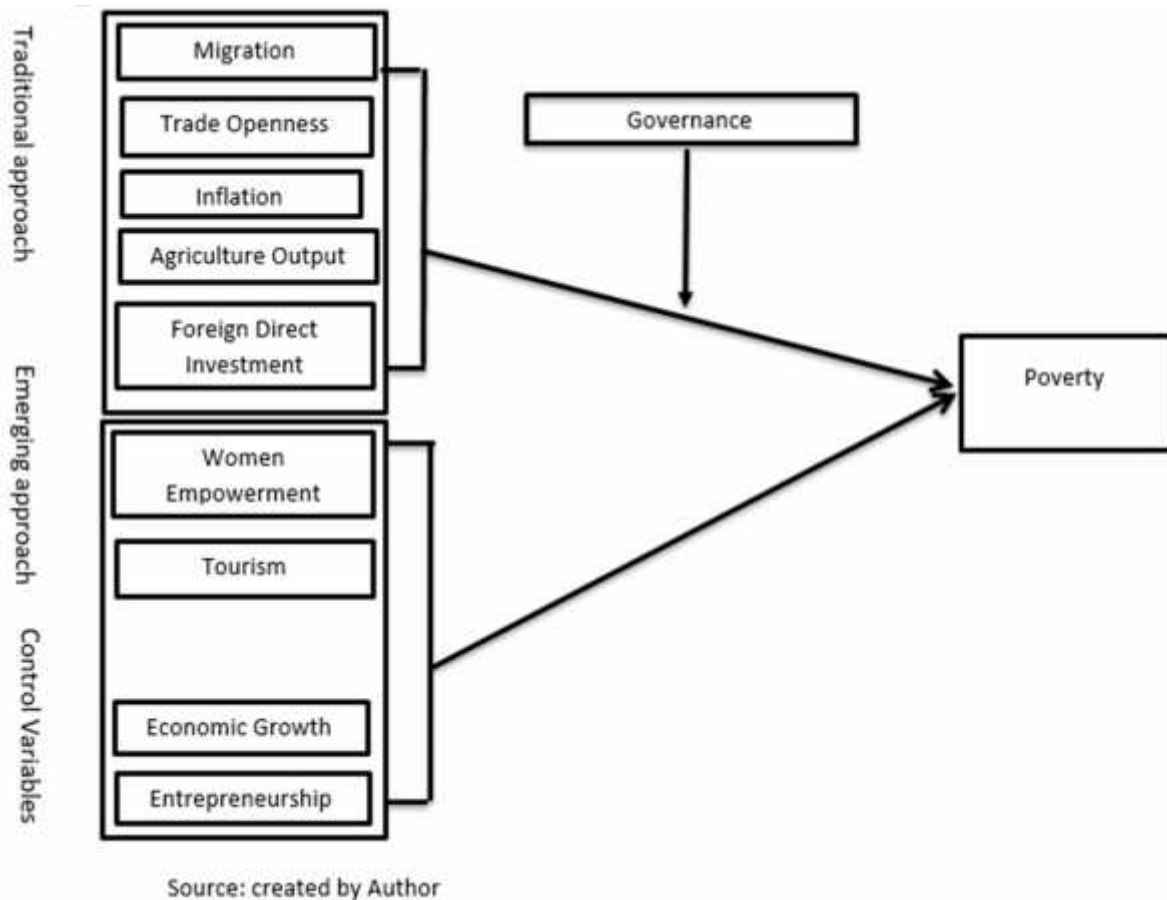
The capability approach is described as “an individual can perform well in the eye of public; but the working not accomplished by the individual to accomplish fundamental working, however, to live well, it is the source of opportunity, and in this manner adequate the ability approach for one not to be poor”. Sen (1999) simplified it as:

Freedom, as expressed in basic capabilities, provides the ability to achieve valuable functioning bundles any one of which can be attained (sufficient level of nutrition enabling a life free from hunger).

Sen (1999) and Nussbaum (2001) documented the notion that gender fairness leads to economic competency. This methodology centers on competency or freely performing certain engagements, such as supporting women to access further education. Women's liberty allows them to earn, which results in greater empowerment and autonomy. Women can spend their earned incomes as

they please. This will enhance their degree of spending and they will also end up with additional autonomy in a family structure.

Theoretical Framework



2.8. Summary

Chapter 2 consists of a review of the literature. Part 1 describes the literature sources, which are primary, secondary, and tertiary sources. Part 2 defines poverty and summarizes measurements of poverty. Poverty can be measured in absolute, relative and multidimensional index forms. The third portion of Chapter 2 describes global and regional trends in poverty. Then individually every variable is discussed that how previously they were measured by different researchers and what

were their findings. Then underpinning theories were discussed that how they establish relation with poverty. And lastly, a theoretical framework was established in the light of theories. On the basis of literature review there is need to identify the condition that help to make existing solutions of poverty more effective. Moreover there is need to introduce emerging solutions to meet the emerging challenges of developing economies. This study contributes to the existing literature in several way. First, this study reexamines the traditional factors that are considered to affect poverty. Second, this study finds the condition or circumstances that allow these traditional factors to become more effective in South Asia, Africa, and Latin America regions. Third, this study investigates the effect of emerging factors on poverty to help meet the new challenges facing the world.

Chapter-3

3. Data and Methodology

3.1. Background

When the purpose is to conduct a study for the estimation of a system of equations, then the appropriate method is VAR. To attain more reliable estimates of multivariate time series analysis, VAR/VECM are considered the most suitable as they also incorporate lagged interconnection that exists among the variables. Furthermore, VAR/VECM are useful to calculate the IRF, which enables the researcher to investigate the reaction of a dynamic system in response to some external fluctuations by computing variance decomposition. The estimation of the forecast error variance of a variable helps to find variance decomposition of data (Campbell, 1990). The presence of long-run relations among time series data helps to make decision criteria to choose between SVAR, VAR, and VECM. VECM can be used for estimation purposes if co-integration variables are stationary at the first difference, whereas if co-integration of time series is not stationary at first difference then VAR is more suitable for analysis.

When unit root and long-run stochastic trend exist among the variables then VECM is more convenient as this is a multiple time series model and make specify vector process with variables. VECM is a suitable test when forecasting, impulse response, and causality analysis are the major purposes of an investigation (Asari et al., 2011). This methodology is also appropriate for estimation when the purpose of estimation is to derive the short-run and long-run effects of independent variables on dependent variables. The ECM term explains the speed of the adjustment

process toward equilibrium path when the shock occurred disequilibrium in VAR system, whereas the error term is explained in the form of short-term dynamics (Obayelu & Salau, 2010).

3.2. VECM

VECM is an appropriate method to measure dynamic adjustment among stationary variables, because by applying unit root test if variables are stationary at first level then co-integration regression is not suitable method to investigate the long-run relation among the modeled variables.

The error correction term (ECT) equation is defined as follows:

$$\Delta y_t = \alpha \varepsilon_{t-1} + \gamma \Delta x_t + \mu_t$$

Where α explains co-integrating coefficient and ε represents the error term from the regression of y_t on x_t . And the VECM equation is described as follows:

$$\Delta y = \delta + \beta_0 \Delta X_t - \Pi \cup_{t-1} + \epsilon_t$$

β_0 is the impact size of independent variables on dependent variable in the short run. Π symbol presents the ECT which explains how much time it will take to adjust back to equilibrium in the case of an external shock that causes the model to diverge from equilibrium. VECM is the extended form of using single equation of ECM in a multivariate system (Lütkepohl, 2007). A general autoregressive process helps to find VAR model in vector form. The VAR model with lag order p is described as follows:

$$y_t = c + A_1 y_{t-1} + A_2 y_{t-2} + \dots + A_p y_{t-p} + e_t$$

Where c represents vector of constants, and coefficient matrices signify A_i for lagged values, and e_t symbolizes vector of error terms. If variables are integrated at level, then VAR is not a suitable method because it will generate no sense relation among the variables. Series need to be integrated at first difference for reliable results. A co-integration test is applied to evaluate long-run relation

among the variables, whereas VAR test helps to find short-run relation among the modeled variables.

The VAR model: $y_t = c + \sum_{i=1}^p A_i y_{t-i} + e_t$ can be written as a VECM model:

$$\Delta y_t = \alpha + \pi y_{t-1} + \sum_{i=1}^p \Gamma_i y_{t-i} + e_t$$

Where $\Pi = \sum_{j=1}^{j=1} A_i - I_k$ and $\Gamma_i = \sum_{j=1}^{j=1} A_j$

$r = \text{rank}(\Pi)$ represents the co-integrating relations which are linearly independent of each other.

For the appropriate result value of r (coefficient of determination), r should lie between 0 and 1.

If $r = 0$, then it means that there is no long-run relation among the variables, which means no co-integration, and we cannot apply VAR model. If $r = 1$, then it means co-integration exists among the variables and VECM is appropriate. If the study presents co-integration among the variables then it can be expressed as in the following equation:

$$\Delta y_t = \alpha(\beta' y_{t-1} + \mu + \rho t) + \sum_{i=1}^r \Gamma_i \Delta y_{t-1} + \gamma + \gamma' t + e_t$$

This study applied two VECMs: one was to assess the role of traditional factors in poverty with governance as moderator, while the other was used to examine the role of emerging factors in poverty reduction. The study used five variables to capture the role of traditional factors in poverty : migration, FDI, trade openness, inflation, and agriculture. The study used two variables to capture the role of emerging factors in poverty women's empowerment and tourism. Moreover, the study used seven models for traditional factors based on three indicators of poverty. Model (1) was used to evaluate the impact of migration, trade openness, inflation, FDI, and agriculture on poverty. Model (2) introduced governance as an independent variable with all Model 1 variables. Whereas an interaction term was introduced for governance with migration, trade openness, inflation, FDI,

and agriculture in Models 3, 4, 5, 6, and 7, respectively. Moreover, an independent analysis was conducted to evaluate the impact of emerging factors on poverty.

3.3. Econometric Model of the Effect of Traditional Factors on Poverty

For analysis purposes, the construction of equations with traditional approaches is as follows:

Poverty = f (migration, trade openness, inflation, FDI, agriculture)

$$POV_{it} = \alpha_0 + \alpha_1 MIG + \alpha_2 TOP + \alpha_3 INF + \alpha_4 FDI_{it} + \alpha_5 AGR_{it} + \epsilon_{it} \dots \dots \text{(Equation 1)}$$

The subscripts i and t show variables time and period, respectively, for all equations.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF + \alpha_3 FDI_{it} + \alpha_4 AGR_{it} + \alpha_5 MIG_{it} + GOV_{it} + \epsilon_{it} \dots \text{(Equation 2)}$$

The introduction of governance as a moderator in the econometric equation will happen in two steps; so, the first study adds governance as an independent variable to the equation and then the interaction term of moderator with each independent variable has been developed into equations:

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGR_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (MIG * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 3)}$$

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGR_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (TOP * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 4)}$$

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGR_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (INF * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 5)}$$

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGR_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (FDI * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 6)}$$

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (AGRI * GOV)_{it} + \epsilon_{it} \quad (\text{Equation 7})$$

3.4. General Econometric Model of the Effect of Emerging Factors on Poverty

For analysis purposes, the construction of equations with emerging approaches is as follows:

$$p_{it} = \alpha_0 + \alpha_1 wem_{it} + \alpha_2 tou_{it} + \epsilon_{it}$$

(Equation 8).

Since the study used VECM so it could be specified as following for impact traditional and emerging factors on poverty.

3.5. Specific Econometric Model of the Effect of Traditional Factors on Poverty

Model 1

$$\Delta POV_{it} = \alpha_{1j} + \gamma_{1it} ECT_{it-1} + \sum_{k=1}^m \beta_{11ik} \Delta TOP_{it-k} + \sum_{k=1}^m \beta_{12ik} \Delta INF_{it-k} \\ + \sum_{k=1}^m \beta_{13ik} \Delta FDI_{it-k} + \sum_{k=1}^m \beta_{14ik} \Delta AGRI_{it-k} + \sum_{k=1}^m \beta_{15ik} \Delta MIG_{it-k} + \varepsilon_{1it}$$

- -Equation 9

$$\Delta TOP_{it} = \alpha_{2j} + \gamma_{2it} ECT_{it-1} + \sum_{k=1}^m \beta_{21ik} \Delta POV_{it-k} + \sum_{k=1}^m \beta_{22ik} \Delta INF_{it-k} \\ + \sum_{k=1}^m \beta_{23ik} \Delta FDI_{it-k} + \sum_{k=1}^m \beta_{24ik} \Delta AGRI_{it-k} + \sum_{k=1}^m \beta_{25ik} \Delta MIG_{it-k} + \varepsilon_{2it} \quad \text{---}$$

— — — Equation 10

$$\begin{aligned}\Delta INF_{it} = & \alpha_{3j} + \gamma_{3i}ECT_{it-1} + \sum_{k=1}^m \beta_{31ik} \Delta POV_{it-k} + \sum_{k=1}^m \beta_{32ik} \Delta FDI_{it-k} \\ & + \sum_{k=1}^m \beta_{33ik} \Delta AGRI_{it-k} + \sum_{k=1}^m \beta_{34ik} \Delta MIG_{it-k} + \sum_{k=1}^m \beta_{35ik} \Delta TOP_{it-k} + \varepsilon_{3it} \\ & - - - - - \text{Equation 11}\end{aligned}$$

$$\begin{aligned}\Delta FDI_{it} = & \alpha_{4j} + \gamma_{4i}ECT_{it-1} + \sum_{k=1}^m \beta_{41ik} \Delta POV_{it-k} + \sum_{k=1}^m \beta_{42ik} \Delta TOP_{it-k} \\ & + \sum_{k=1}^m \beta_{43ik} \Delta AGRI_{it-k} + \sum_{k=1}^m \beta_{44ik} \Delta MIG_{it-k} + \sum_{k=1}^m \beta_{45ik} \Delta INF_{it-k} + \varepsilon_{4it} \\ & - - - - - \text{Equation 12}\end{aligned}$$

$$\begin{aligned}\Delta AGRI_{it} = & \alpha_{5j} + \gamma_{5i}ECT_{it-1} + \sum_{k=1}^m \beta_{51ik} \Delta POV_{it-k} + \sum_{k=1}^m \beta_{52ik} \Delta TOP_{it-k} \\ & + \sum_{k=1}^m \beta_{53ik} \Delta FDI_{it-k} + \sum_{k=1}^m \beta_{54ik} \Delta INF_{it-k} + \sum_{k=1}^m \beta_{55ik} \Delta MIG_{it-k} + \varepsilon_{5it} - - \\ & - - - \text{Equation 13}\end{aligned}$$

$$\begin{aligned}\Delta MIG_{it} = & \alpha_{5j} + \gamma_{5i}ECT_{it-1} + \sum_{k=1}^m \beta_{51ik} \Delta POV_{it-k} + \sum_{k=1}^m \beta_{52ik} \Delta TOP_{it-k} \\ & + \sum_{k=1}^m \beta_{53ik} \Delta AGRI_{it-k} + \sum_{k=1}^m \beta_{54ik} \Delta INF_{it-k} + \sum_{k=1}^m \beta_{55ik} \Delta FDI_{it-k} + \varepsilon_{5it} - - \\ & - - \text{Equation 14}\end{aligned}$$

3.6. Specific Econometric Model of the Effect of Emerging Factors on Poverty

Moreover, a specific model for emerging factors' effect on poverty is:

Poverty = f (WOMEN, TOU)

Model 2

$$\begin{aligned}\Delta POV_{it} = & \alpha_{1j} + \gamma_{1i} ECT_{it-1} + \sum_{k=1}^m \beta_{11ik} \Delta WOM_{it-k} + \sum_{k=1}^m \beta_{12ik} \Delta TOU_{it-k} \\ & + \sum_{k=1}^m \beta_{13ik} \Delta ENT_{it-k} + \sum_{k=1}^m \beta_{14ik} \Delta GDP_{it-k} + \varepsilon_{1it}. \text{Equation 15}\end{aligned}$$

$$\begin{aligned}\Delta WOM_{it} = & \alpha_{2j} + \gamma_{2i} ECT_{it-1} + \sum_{k=1}^m \beta_{21ik} \Delta TOU_{it-k} + \sum_{k=1}^m \beta_{22ik} \Delta POV_{it-k} \\ & + \sum_{k=1}^m \beta_{23ik} \Delta ENT_{it-k} + \sum_{k=1}^m \beta_{24ik} \Delta GDP_{it-k} + \varepsilon_{2it}. \text{Equation 16}\end{aligned}$$

$$\begin{aligned}\Delta TOU_{it} = & \alpha_{3j} + \gamma_{3i} ECT_{it-1} + \sum_{k=1}^m \beta_{31ik} \Delta WOM_{it-k} + \sum_{k=1}^m \beta_{32ik} \Delta POV_{it-k} \\ & + \sum_{k=1}^m \beta_{33ik} \Delta ENT_{it-k} + \sum_{k=1}^m \beta_{34ik} \Delta GDP_{it-k} + \varepsilon_{3it}. \text{Equation 17}\end{aligned}$$

Where α symbolizes intercept term, where β_i ranges from 1 to 54, are estimated coefficients, which are supposed to be nonzero so it must be like ($\beta_i > 0$), and (ε_{it}) explains the error term, and the subscripts (it) are for marking the variables in periods. The VECM is estimated to find the answers to the following research questions:

- I. What type of relationship exists between traditional factors – migration, trade openness, FDI, inflation and agriculture – and poverty in South Asia?
- II. What type of relationship exists between traditional factors – migration, trade openness, FDI, inflation and agriculture – and poverty in Latin America?

- III. What type of relationship exists between traditional factors – migration, trade openness, FDI, inflation and agriculture – and poverty in Africa?
- IV. What type of relationship exists between emerging factors – women’s empowerment and tourism – and poverty in South Asia?
- V. What type of relationship exists between emerging factors – women’s empowerment and tourism – and poverty in Latin America?
- VI. What type of relationship exists between emerging factors – women’s empowerment and tourism – and poverty in Africa?

3.7. Pre-Estimation Test

This section illustrates pre-estimation steps; it is important to evaluate pre-estimation steps before the main test of the study.

3.7.1. Lag Order Selection

Appropriate lag is selected with the help of lag order selection which helps the researcher to build a model with satisfactory knowledge without losing any information. Measurement of accurate lag length criterion is very important in VAR model, because under fit and higher-order lag length leads to problem of autocorrelation and increases the mean square forecast error of VAR (Song, Witt, & Jensen, 2003). Therefore, true lag length selection helps to create an accurate forecast from VAR models (Albis & Mapa, 2014). There are many lag length criteria available in the literature to find autoregressive lag length of time series data. Whereas autoregressive states time series that depends on p lagged values of current values. Autoregressive lag length can be calculated with the help of famous criteria, which are Schwarz information criterion (SIC; (Schwarz, 1978), Hannan–Quinn information criterion (Hannan & Quinn, 1979), final prediction error (FPE; (Akaike, 1969), and Bayesian information criterion (BIC; (Akaike, 1969). Some studies (Islam, Shahbaz, Ahmed,

& Alam, 2013; Taylor & Sarno, 1998) applied lag selection criteria like SIC and BIC, whereas other studies (Baharumshah, Masih, & Azali, 2002; Baum, Barkoulas, & Caglayan, 2001; Sarantis, 2001) applied the Akaike information criterion (AIC) to choose the appropriate lag length criteria. Muramatsu et al. (2000) used AIC and HQIC; Baharumshah, Sarmidi, and Tan (2003) and Ibrahim and Aziz (2003) applied FPE and SIC in their research. However, all these studies agreed that all lag length selection criteria are good (Newaz, 2012; Tabak, Guerra, Lima, & Chang, 2007).

3.7.2. Unit Root Test

One major requirement of researchers while they are working on economic secondary data is to check the stationarity, if data is not stationary then results are misguided (Hendry & Clements, 2003). Generally, we apply a unit root test to check the stationarity of data of dependent and independent variables. Likewise, a unit root test also helps researchers to select further appropriate tests to validate their studies and it also helps in forecasting the data (Berkowitz & Kilian, 2000). A unit root test is a compulsory test for the authenticity of data and can add value in literature. By using Levin, Lin, and Chu (2002) and Kyung So Im, Pesaran, and Shin (2003) unit root tests, this study examined the stationarity of panel data analysis. The study applied the unit root test for panel data:

$$y_{it} = p_t y_{it-1} + x_{it} \delta + e_{it}$$

Individual trends can be represented in the model in the form of x_{it} , which signifies exogenous variables, p_t are autoregressive coefficients, and e_{it} are errors that are equally independent of idiosyncratic disturbance. Whereas $i = 1, 2, \dots, N$ represent cross-section series observed over a period of $t = 1, 2, \dots, T$.

First assumption is $\rho_t=1$ which is presented by Levin et al. (2002) about unit root test, it suggests that first order serial correlation coefficients are alike in all units, while Kyung So Im et al. (2003) allow ρ_t to vary easily. Kyung So Im et al. (2003) unit root test is applied to get a result from heterogeneous data. This study followed the augmented Dickey–Fuller (ADF) test to test the presence of unit root.

$$\Delta y_{it} = \alpha y_{t-1} + \sum_{j=1}^p \beta_{ij} \Delta y_{it-j} + X'_{it} \delta + e_t$$

If all modeled variables are stationary at first difference, then a co-integration test can check for the determination of long-run relationship of modeled variables. Enders (2004) explained that co-integrations are inclined by deviation from long-run relation. Furthermore, short-run dynamics can be evaluated through system to evaluate the model.

3.7.3. Co-integration Test

The next requirement after unit root test is that there is no co-integration among the data. The tests that are applied are by Kao (1999) and Pedroni (1999) with the assumption that co-integration does not exist; these two tests are normally used in panel analysis. The Kao (1999) test is used for homogenous panel statistic, whereas for two sets of group panel statistics the Pedroni (1999) test is used. Whereas the first test is used for a homogenous panel, the second set is suitable for evaluating a co-integration test in diverse data. If the null hypothesis is rejected in the heterogeneous panel, then there is co-integration among the modeled variables; if the null hypothesis is rejected for a homogenous panel, then it means variables are co-integrated at cross-section level. Phillips and Ouliaris (1990) test and the ρ -tests of Phillips and Perron (1988) are the basic tests for co-integration, whereas the Pedroni (1999) test is known as an extension of the above-mentioned tests.

Pedroni (1999) panel co-integration regression is as follows:

$$S_{it} = \alpha + \delta t + \beta_1 it + \dots + \beta_{mi} X_{mit} + u_{it} \quad \text{where } t = 1 \dots T, i = 1 \dots N$$

This study applied Kao (1999) co-integration test and Engle and Granger's (1987) co-integration test to check the co-integration in modeled variables. If variables are co-integrated then residual integrated at level $I(0)$, otherwise residuals are integrated at first difference $I(1)$ (Engle & Granger, 1987). The Engle–Granger co-integration test for homogeneous panel was extended later by Kao (1999). Residual-based test by Kao (1999) of the OLS panel is estimated by using method of panel co-integration, which is Dickey–Fuller test and ADF, with the overall framework.

3.7.4. Fisher (Combined Johansen) Test

Hansen and Johansen (1999) suggested evaluating the existence of co-integration among the non-stationary data through two approaches, which are likelihood ratio (LHR), trace statistics and maximum eigenvalue statistic. The following equation is designed to calculate trace statistics and maximum eigenvalue statistics.

$$\lambda_{trace}(\tau) = -T \sum_{i=r+1}^n \ln(1 - \lambda_i)$$

$$\lambda_{max}(r, r + 1) = -T \ln(1 - \lambda_{r+1})$$

Where n represents the total number of variables and T represents the sample size. And λ_i where the i means the existed correlation among residuals covered from the three detailed processes. The null hypothesis co-integration vector is at the most as compare to alternative hypothesis of full rank i.e. $r=n$ of co-integration vector. The null and alternative hypothesis of maximum eigenvalue statistic is used to check the r co-integrating vectors, whereas the alternative hypothesis is used to check $r + 1$ of co-integrating vectors.

3.7.5. Generalized IRF (GIRF)

To find IRF the Cholesky decomposition method is applied, which is suitable for time series data for dependent variable in VAR model (L. Evans & Wells, 1983). Cholesky ordering scheme of variables in the system which indicated that results are highly sensitive to Cholesky ordering, whereas the basic assumption of orthogonality is the Cholesky decomposition method (L. Evans & Wells, 1983). The ordering of variables is very important because any change in the ordering of variables in the system leads to a different conclusion.

To resolve the problem of orthogonality, this study used GIRF, which helps to make the ordering of variables invariant in the VAR system; this test was developed by Pesaran and Shin (1998). GIRF has three assumptions: first, all modeled variables are stationary; second, in constant variance matrix the error term is normally; and third, independent variables have no multicollinearity. This study applied GIRF by VAR into moving average method.

$$X_t = \sum_{i=0}^{\infty} A_i u_{t-i}$$

Where A represents the coefficient matrix of order $(n \times n)$ which is attained through a recursive process.

$$A_j = \phi_1 A_{j-1} + \phi_2 A_{j-2} + \dots + \phi_p A_{j-p}$$

$$A_0 = I_n \text{ and } A_j = 0 \text{ for } j < 0$$

Based on the known history of the economy up to time $t-1$ by the non-decreasing information set Ω_{t-1} , the GIRF developed by Pesaran and Shin (1998) is specified as follows:

$$GI(h, \Omega_{t-1}, \delta) = E(x_{t+h} / \varepsilon_t = \Omega_{t-1}, \delta) - E(x_{t+h} / \Omega_{t-1})$$

Moving average representation in VAR process where δ is some known vector which indicates that $GI(h, \Omega_{t-1}, \delta) = A_h \delta$ depends on the shocks by δ and is independent of the history of economy Ω_{t-1} . For determining the profile of GIRF the choice of δ plays an important role. The GIRF shocks in one component e.g. $\varepsilon_{jt} = \delta_j$ based on observation as compared to Cholesky decomposition of shocking all elements ε_t .

$$GI_x(h, \Omega_{t-1}, \delta) = E(x_{t+h} / \varepsilon_{jt} = \Omega_{t-1}, \delta_j) - E(x_{t+h} / \Omega_{t-1})$$

Moreover, ε_t is Gaussian is as follows:

$$E(\varepsilon_t / \varepsilon_{jt} = \delta_j) = (\omega_{1j}, \omega_{2j}, \omega_{3j}, \dots, \omega_{nj}) \omega_{jj}^{-1} \delta_j = \sum e_j \omega_{jj}^{-1} \delta_j$$

The unscaled GIRF of the effect of a shock in the jth equation based on $n \times 1$ vector is

$$[A_h \sum e_j / \sqrt{\omega_{jj}}] \left[\frac{\delta_j}{\sqrt{\omega_{jj}}} \right], n=0, 1, 2, \dots$$

From derived values of above-given equation, x at time $t + h$, if one standard shock is given to jth equation at time t therefore it helps to ensure with measurement of variables which helps to measure the effect. Pesaran and Shin (1998) explained that co-integration VAR models can be calculated with the help of GIRF method. Furthermore, it can also help to calculate the information of speed of convergence of the model from equilibrium state while the effect of shocks unavoidably dies and time profile as well. Therefore effect of i th variable on j th to find co-integration are presented below:

$$GI(B_{jxt}, N) = B_j' A N \sum e_i / \sqrt{\omega_{jj}} e$$

GIRFs are calculated to find the answer of the following research questions which were established in Chapter 1:

- I. What is the response of poverty in time $t + n$ when one standard shock is given to the VAR system of traditional factors at time t while no other shock hits the system in South Asia?
- II. What is the response of poverty in time $t + n$ when one standard shock is given to the VAR system of traditional factors at time t while no other shock hits the system in Latin America?
- III. What is the response of poverty in time $t + n$ when one standard shock is given to the VAR system of traditional factors at time t while no other shock hits the system in Africa?
- IV. What is the response of poverty in time $t + n$ when one standard shock is given to the VAR system of emerging factors at time t while no other shock hits the system in South Asia?
- V. What is the response of poverty in time $t + n$ when one standard shock is given to the VAR system of emerging factors at time t while no other shock hits the system in Latin America?
- VI. What is the response of poverty in time $t + n$ when one standard shock is given to the VAR system of emerging factors at time t while no other shock hits the system in Africa?

3.7.6. Variance Decomposition

Variance decomposition is applied to find the proportion of variance caused by its own or other variables available in system. Mostly shocks occur in independent variable which demonstrate forecast error variance of dependent variable. The purpose of this method is to evaluate how much forecast error variance can be described by shocks due to other variables. This is explained in form of percentage of change of variance. Impulse response functions show the consequences of shocks concerning the adjustment path of the variables, while the forecast error variance decompositions measure the contributions regarding each type of shock to the

forecast error variance. In short, variance decomposition refers to the contribution of each of every modeled variable in the method (M. Hussain, Javaid, & Drake, 2012). This study investigates variance decomposition for the upcoming ten years from 2020 to 2030. The equation of variance decomposition used in this study is derived from (Campbell & Ammer, 1993). Variance decomposition calculates the percentage of innovation each variable is contributing to the other variables in the VAR system.

Variance decomposition is calculated with the help of following formula:

$$R_{i,j,s}^2 = 100 \sum_{k=0}^s \psi_{i,j,k}^2 / \sum_{k=0}^s \sum_{k=0}^s \psi_{i,j,k}^2$$

Where $\sum_{k=0}^s \psi_{i,j,k}^2$ represents the sum of the variance of error components that occur due to y_j and

$\sum_{k=0}^s \sum_{k=0}^s \psi_{i,j,k}^2$ is the sum of the innovation response.

3.7.7. Granger Causality Test

While applying the econometric analysis it is important to find economic relation of variables that whether they help to forecast each other. To evaluate the casual direction of modeled variables and short-run impact of relationship can be estimate the method introduced by (Granger, 1969; Sims, 1972). According to Granger (1969), the definition of causality is “X is a granger cause of Y”. If variable Y_t stays expected through the use of the previous terms regarding a variable X_t , then it can be said that X_t bring in relation to Y_t . Clive Granger explained Granger causality test is used to find the direction of causality between the pair of variables. The definition of Granger causality explains the relation of past values of X aid in the prediction Y_t conditional

on having already calculated affect on Y_t past values. If it exists then it is said “X Granger cause Y”.

Granger causality is working on the assumption that future values can be calculated on the basis of past and present values only, and cause related information can be generated with that particular variable not from others. However Granger causality is not supportive to evaluate time series properties of a variable if time series are co-integrated then Granger causality is unable to evaluate also includes differenced form of variables that misleads the result. Granger causality test calculate the time series stationary data by differencing the variables that eliminate the long run information received from the variables. This study applies VECM Granger causality test with appropriate lags of variables between traditional and emerging factors with poverty in developing economies (Granger, 1969, 1988).

Granger Causality outcomes

	Fail to reject: $\beta_{yx1} = \beta_{yx2} = \dots = \beta_{yxn} = 0$	Reject: $\beta_{yx1} = \beta_{yx2} = \dots = \beta_{yxn} = 0$
Fail to reject: $\beta_{xy1} = \beta_{xy2} = \dots = \beta_{xyn} = 0$	$y \not\Rightarrow x$ $x \not\Rightarrow y$ (no Granger causality)	$y \not\Rightarrow x$ $x \Rightarrow y$ (x Granger causes y)
Reject: $\beta_{xy1} = \beta_{xy2} = \dots = \beta_{xyn} = 0$	$y \Rightarrow x$ $x \not\Rightarrow y$ (y Granger causes x)	$y \Rightarrow x$ $x \Rightarrow y$ (bi-directional Granger causality, or feedback)

A general Granger Causality equation can be expressed through following equations

$$Y_t = \beta_0 + \sum_{j=1}^p \beta_{1j} Y_{t-j} + \sum_{h=1}^p \beta_{2h} X_{t-h} + \varepsilon_{1t}$$

$$X_t = \alpha_0 + \sum_{s=1}^k \alpha_{1s} X_{t-s} + \sum_{t=1}^m \alpha_{2t} Y_{t-m} + \varepsilon_{2t}$$

3.8. Data

This study uses cross-sectional data on poverty along with independent variables from developing economies from 1995 to 2020. The traditional set of independent variables are migration, trade openness, inflation, FDI, and agriculture output; the emerging set comprises women's empowerment and tourism. The data was obtained from the World Development Indicators (WDI) and comprises three regions: South Asia, Latin America, and Africa. List of all countries of three regions are attached in annexure. Furthermore, the traditional set is also tested with the moderator variable of governance. The data of governance was obtained from the WGI for the years 1995 to 2020. A description of variables is given below.

3.8.1. Explanation of the Variables Used in the Model

3.8.1.1. Poverty

Poverty valuation was applied centering on the official poverty line approach. The bottom level of poverty is when an adult cannot take 2350 calories per day along with not meeting the minimum level of expenses other than food. These official valuations are present only for a small period. Moreover, these calculations are not the same or equal to previously estimated calculations. As previously stated, lack of availability of basic necessities linked with social unrest, disparity, and civil turmoil adds to macroeconomic instability and enhances poverty. A sustainable development process cannot be achieved without mitigating inequality and poverty.

3.8.1.2. Trade Openness

The proportions of import-export as part of GDP are the measures used in this study. The burden of external debt and minimization of the trade gap can only be achieved via constant trade measures. Poverty reduction can be achieved if the government can eliminate debt payment services by the consolidation of overall exports. The source of this data is WDI.

In the literature, trade dependency ratios (outcome-based measures) along with administrative measures (policy-based measures) as substitution of trade openness is used most of the time. Every measure of trade openness comes with its own set of issues. Nevertheless, the simplest of them are result-oriented measures which are easily available and widely used in studies. E. Lee and Vivarelli (2006) asserted that the result of policies ineffective mostly is not important while evaluation of globalization but the real key is the real-time enhancement in quantifiable globalization, that is, trade openness and FDI.

As per Davies and Quinlivan (2006)), when the development of humans is a dependent variable, then trade at the individual level is a more appropriate substitution. As per Lehnert, Benmamoun, and Zhao (2013), trade openness (scale of trade) might be a significant measure for human development where opportunities favoring growth are ensured by the authorities. Per capita trade and trade volume are used as tools of trade liberalization. In the empirical literature, trade volume is also called trade openness and trade intensity. Real GDP along with import-export data and population of trade volume computation and per capita trade were obtained from WDI. Trade openness (TOP) = (exports + imports)/GDP.

3.8.1.3.Migration

According to Rapoport and Docquier (2006), the decision to migrate has an impact on household welfare and, ultimately, the economy as a whole in multiple ways. Though the major impact is not on welfare, the welfare implications of migration are sizable and positive on the migrant's country. Migrants alleviate poverty by remittances and the presence of capital to initiate new entrepreneurship and purchasing power. Positive effects from migration can be obtained if proper policies are designed by the origin country. The main effects of migration that help to reduce poverty are proper access to finance and starting new businesses, which open up the knowledge

and resources provided by the migrants. Migrants create social, cultural, and economic effects on both origin and resident countries; they send remittances to their homeland, which is the most noticeable link between migration and development (Ratha & Shaw, 2007). Remittances sent by migrants increase local savings and improve financial intermediation (Ajay Agrawal, Kapur, McHale, & Oettl, 2011). Migration data was derived from WDI and measured as individual remittances received (% of GDP).

3.8.1.4.FDI

The inflow of FDI is thought to be very profitable for countries on the receiving end as these funds come as a full package of benefits, which include monetary inflows, businesses, skills of technology, and management, which are a source of competition and innovation when it comes to business. Attractive benefits are provided by the host country to increase foreign investments. The significance of the role of FDI in national development is well known. The current globalized environment results in foreign flows that are of an economic and social nature for growing nations (Dzeha, Turkson, Agbloyor, & Abor, 2018). FDI as a percentage of GDP (FDI/GDP) is a dependent variable. The use of this tool follows use in the empirical literature on the determining factor of FDI (Efobi, Asongu, & Beecroft, 2015).

3.8.1.5.Agriculture Development

While achieving MDGs, agriculture is and has been of vital importance to the whole world. As per World Bank 2007 report, to feed the world, production of agricultural products should be increased by 70% by 2050. The International Standard Industrial Classification of All Economic Activities (ISIC) Divisions 1–5 defines agriculture as the cultivation of crops along with livestock production, forestry, hunting, and fishing. The net output of the whole sector after adding up all production and subtracting intermediate inputs is value addition. While calculating it, the

depreciation of invented assets and exhaustion along with dreadful conditions of natural resources is not deducted. ISIC Revisions 3 or 4 is used to determine the origin of value added. Data of agriculture productivity measured by agriculture, value added (% of GDP), is available in WDI.

3.8.1.6. Inflation

Inflation is a continuous rise in the general price level. In economics, the Wholesale Price Index, GDP deflator CPI, and Producer Price Index are different measures of inflation. A stable lower inflation rate results in instability at a macroeconomic level which can enhance growth and therefore well-being. For macroeconomic stability, inflation is used as a proxy. A national economy that is less open to shock vulnerability is described as having macroeconomic stability; this enhances confidence and certainty among nations thus stimulating economic activities. Inflation also deals with price changes, which are a significant way by which trade liberalization and FDI can affect the development of an economy. Inflation data was obtained from WDI and inflation is the percentage change in CPI over the years.

3.8.1.7. Governance

Governance is defined as “the government of the people by the people.” In another definition, it is the use of authority or control to execute national matters and resources. In another definition, it is characterized by values of participation, accountability, and transparency while being a complex system of interactions between systems (structure), traditions, responsibilities (functions), and practices (processes).

Good governance is described as the exercise of political, economic, and administrative power while endeavoring for rule of law, transparency, responsiveness, participation, equity, efficiency, effectiveness, and accountability along with a strategic vision. Strikingly, in the 1990s, governance became a prominent concept after the Cold War. The core meaning of good governance and how

to implement it are not agreed upon. Good governance neither has a universally acknowledged meaning, nor has its meaning been constant over the decades in which it was center stage in the framework of development.

Governance was regarded largely as: “The implementation of power and mechanism in a society in context to the administration of its means for social and economic expansion”. Two schools of thought measure governance differently: one describes it as unmeasurable (qualitative) and the other argues it is measurable by certain indicators. International institutions and the World Bank describe it as an abstract notion that is not directly measurable. The framework was reshaped that governance delivering tools to observe and quantify governance. This structure provides a better and deeper understanding of a nation’s strengths and weaknesses. This structure can be used for the betterment of governance at a local and national level. Growing nations face social, cultural, geopolitical, economic, and political constraints that are neglected while using this type of index. These factors differ in every nation.

A variety of proxies had been used in the literature to compute governance: voice, rule of law, political stability, accountability, control of corruption and institutions, and regulatory quality (Langbein & Knack, 2010).

3.8.1.8. Women’s Empowerment

Women’s empowerment is an intangible, theoretical, and difficult to measure concept. Any variable that is used to measure women’s empowerment omits an individual’s feeling, story, and personal experiences, and these things can provide us with the whole scenario. However, it is important to calculate this factor to get a broader view to aid future policy-making, thus enabling women to customize intermediations based on the results.

Education is a powerful tool that can help to improve the lives of women around the globe. Women need to be educated to get more benefits in society. There are many advantages to empowering women through education. Education is a basic human right and it leads to gender equality. If a man is educated he only benefits himself, whereas if a woman is educated then she benefits not only herself but her family and the whole of society. Women's empowerment can be measured through the literacy rate (LR) of women (Gupta, 2014).

Women's participation and roles are taken for granted. This is a need to acknowledge the economic contribution of women. Generally, it is observed that women are inclined toward work and business activities so that they can become economically strong and become empowered. Therefore, women's empowerment can be measured as female labor force participation (LFP) rate (Mehra, 1997; Raj, 2014). I will take two different proxies for the measurement of women's empowerment: female LR and female LFP.

3.8.1.9.Tourism

Tourism is a complex phenomenon to calculate. An important part of the calculation of tourism is the number of arrivals in the host country for visit purposes and the activities of the person traveling and staying outside their home country. Therefore, tourism is calculated through international overnight visitors, which means the number of tourists who travel to another country from where they live permanently, or it can be explained as when a person travels to another country for a specific period of time for visit purpose only. Data can be collected of the number of visitors who visit another country for a daytrip, a few days, or a trip of a few months (Latham & Edwards, 2003).

3.9. Variable Definition and Measurement

Variable	Abbreviation of variables	Definition	Measurement	Data source
Poverty	POV	“Poverty as a living condition in which an entity is faced with economic, social, political, cultural and environmental deprivation.”	Number of poor living on less than \$1.90 a day	WDI 1995–2020
Trade openness	TOP	“Trade openness is usually considered as an increase in the size of a country's traded sectors in relation to total output. ... Pritchett (1996) simply defines openness as an economy's trade intensity.”	(Imports of goods and services + exports of goods and services)/GDP	WDI 1995–2020
Agriculture	AGRI	“Agriculture corresponds to ISIC divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3 or 4.”	Agriculture, value added (% of GDP)	WDI 1995–2020
Migration	MIG	“Personal remittances comprise personal transfers and compensation of employees. Personal transfers consist of all current transfers in cash or in kind made or received by resident households to or from nonresident households. Personal transfers thus include all current transfers between	Personal remittances, received (% of GDP)	WDI 1995–2020

resident and nonresident individuals. Compensation of employees refers to the income of border, seasonal, and other short-term workers who are employed in an economy where they are not resident and of residents employed by nonresident entities. Data are the sum of two items defined in the sixth edition of the IMF's Balance of Payments Manual: personal transfers and compensation of employees."

Inflation	INF	"Inflation as measured by the annual growth rate of the GDP implicit deflator shows the rate of price change in the economy as a whole. The GDP implicit deflator is the ratio of GDP in current local currency to GDP in constant local currency."	Inflation, GDP deflator (annual %)	WDI 1995–2020
Foreign Direct investment	FDI	"Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10% or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors, and is divided by GDP."	FDI, net inflows (% of GDP)	WDI 1995–2020
Women's empowerment	WE	"Labor force participation rate is the proportion of the population	Labor force participation rate, female (% of female	WDI

		ages 15-64 that is economically active: all people who supply labor for the production of goods and services during a specified period.”	population ages 15–64) (modeled ILO estimate)	1995–2020
Tourism	TOU	“International inbound tourists (overnight visitors) are the number of tourists who travel to a country other than that in which they have their usual residence, but outside their usual environment, for a period not exceeding 12 months and whose main purpose in visiting is other than an activity remunerated from within the country visited. When data on number of tourists are not available, the number of visitors, which includes tourists, same-day visitors, cruise passengers, and crew members, is shown instead. Sources and collection methods for arrivals differ across countries. In some cases data are from border statistics (police, immigration, and the like) and supplemented by border surveys. In other cases data are from tourism accommodation establishments. For some countries number of arrivals is limited to arrivals by air and for others to arrivals staying in hotels. Some countries include arrivals of nationals residing abroad while others do not. Caution should thus be used in comparing arrivals across countries. The data on inbound tourists refer to the number of arrivals, not to the	International tourism, number of arrivals	WDI 1995–2020

number of people traveling. Thus a person who makes several trips to a country during a given period is counted each time as a new arrival.”

Governance	GOV	“Governance is a broad and multifaceted concept. It describes the way that state power is exercised to manage its economic and social components, the lower and upper bound values of every indicator is -2.5 to +2.5 from WGI.” ➤ Control of WGI corruption 1995–2020 ➤ Government effectiveness ➤ Political stability and absence of violence/terrorism ➤ Regulatory quality ➤ Rule of law ➤ Voice and accountability
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3.10. Summary

Chapter 3 described the importance of the VAR estimation and developed the rationale to utilize it for test purposes. The VAR model is considered a suitable methodology when the study purpose involves time series data and the estimation of multifaceted relationships. Furthermore, the VAR model is used for accurate forecasting rather single variable series. VAR models also increase the power of analysis by allowing an increase in degrees of freedom, which is useful especially in the case of developing nations where data availability is challenging (Goodhart & Hofmann, 2008).

In Chapter 3, the study developed three econometric models, one for traditional factors and poverty, second for traditional factors and poverty with moderating effect of governance, and third for emerging factors and poverty. The study developed seven econometric model equations for the

effects of traditional and emerging factors on poverty for the objective of calculation. Some pre-requisite tests were discussed, for example, the unit root test is suitable to check stationarity of data panel and then co-integration test for long-run relation, Lagrange multiplier (LM) test, correlation test, VAR/VECM, variance decomposition, IRFs, and Granger causality test are applied to check their significance, and the assumption under which to utilize them. Moreover, this chapter provided information regarding data, variables, their definitions, and sources. The list of countries are included for estimation purpose is attached in annexure.

Chapter-4

Results

4. Introduction

This study examined and quantified the relationship of traditional and emerging factors with poverty in South Asia, Latin America, and Africa for the time period of 1995 to 2020. This study was designed to answer the main research questions of:

1. What is the impact of traditional factors on poverty in South Asia, Latin America, and Africa regions?
2. Does governance moderate the relationship between traditional factors and poverty in South Asia, Latin America, and Africa regions?
3. What is the impact of emerging factors on poverty in South Asia, Latin America, and Africa regions?

Quantitative studies help researchers to justify the fact or inaccuracy of an empirical claim (J. S. B. Evans & Over, 2013). The objective of this chapter is to estimate and build rationalizations of the research questions which were established in Chapter 1 with prior expectation of variables that an association exists among the independent and dependent variables of the model.

4.1. Descriptive Statistics

Descriptive statistics is considered the best tool to showcase summaries of the variables used in this study. The results of descriptive statistics of this study are presented in Table 1; this table consists of mean, median, max, mini, and standard deviation values of all dependent and independent variables. Moreover, normality of variables is checked through Jarque–Bera values comprising skewness and kurtosis values as well.

Table 1: Descriptive Statistics for Traditional Factors
SOUTH ASIA

	AGRI	FDI	GOV	MIG	POV	TOP	INF
Mean	19.87866	1.337656	-2.493458	-891941.5	17.16714	-0.816325	8.049965
Median	19.36481	1.116129	-2.155475	-498889.2	15.20000	2.558211	7.040365
Maximum	36.15030	6.321598	2.548183	470909.0	51.91250	32.51488	38.51199
Minimum	7.449326	-0.098375	-6.378398	-3254778.	2.060000	-318.3364	2.953441
Std. Dev.	6.185443	1.255132	2.413859	979006.8	12.14106	35.66222	5.265377
Skewness	0.702766	2.156051	0.245152	-0.937856	0.760531	-8.645130	2.968520
Kurtosis	3.410685	8.292330	2.018191	2.561968	2.918676	77.58228	15.66023
Jarque–Bera	1.415290	1.611686	1.165034	1.583100	0.024178	1.027091	0.6762078
Probability	0.287443	0.229634	0.724743	0.136542	0.623423	0.118753	0.100000
LATIN AMERICA							
Mean	8.879435	3.868885	-0.940656	8.532635	-186257.9	9.432924	-0.096168
Median	7.924869	3.620469	-1.066761	6.992082	-72582.00	8.300000	13.69376
Maximum	33.90585	16.22949	6.816226	45.16631	163730.0	28.60000	1493.381
Minimum	3.047759	-8.400837	-5.892094	-26.29999	-2296470.	0.100000	-3711.460
Std. Dev.	4.469076	3.189885	2.684209	7.624947	407396.2	6.686606	254.7904
Skewness	1.275429	0.076618	0.855384	1.463022	-3.612460	0.783322	-10.88280
Kurtosis	6.160991	5.253600	3.545732	8.763861	16.93650	2.997795	170.2547
Jarque–Bera	1.897355	0.867524	1.708232	1.480374	1.833893	0.822533	0.271506
Probability	0.256908	0.176533	0.265233	0.163393	0.118374	0.10000	0.3477300
AFRICA							
Mean	22.75725	4.026612	-2.624174	10.54070	-55611.66	44.43842	22.13869
Median	24.17885	2.237678	-2.318368	6.536337	-31000.00	45.46667	11.68059
Maximum	65.59815	103.3374	4.690959	418.0190	919697.0	94.10000	973.5884
Minimum	1.828381	-3.851110	-8.896895	-27.04865	-804870.2	0.200000	-441.4530
Std. Dev.	13.39581	8.368439	3.114136	24.62132	241275.7	22.19019	83.11753
Skewness	0.340972	7.924105	0.083326	11.06536	0.990727	-0.107866	6.598305
Kurtosis	2.745772	82.05386	2.544201	167.6644	7.842497	2.100288	71.46385
Jarque–Bera	1.148324	1.286593	0.661439	1.463317	0.418153	1.694210	1.621618
Probability	0.205292	0.236543	0.197226	0.823734	0.100000	0.220209	0.134040
DEVELOPING ECONOMIES (FULL SAMPLE)							
Mean	18.01268	3.710281	-2.046667	9.588985	-120005.0	-61848.08	12.45425
Median	16.14977	2.439227	-2.051772	6.745787	-7500.000	28.53333	11.30562
Maximum	65.59815	103.3374	6.816226	418.0190	919697.0	163730.0	1493.381
Minimum	0.100000	-8.400837	-8.896895	-27.04865	-3254778.	-2296470.	-3711.460

Std. Dev.	12.58168	6.622802	3.011365	19.15997	439705.9	249555.2	159.7492
Skewness	0.749545	9.191753	0.187750	13.47209	-3.933385	-6.506289	-14.16021
Kurtosis	3.247542	120.3325	3.070438	261.7236	23.63183	51.10718	369.2443
Jarque–Bera	0.151052	1.919072	0.5090436	1.235977	1.700361	1.866165	0.4705925
Probability	0.462874	0.163483	0.178456	0.92365	0.100000	0.235234	0.2467445

P-value greater than 5% shows that data is normally distributed. The *p*-values of agriculture (AGRI), foreign direct investment (FDI), governance (GOV), migration (MIG), poverty (POV), trade openness (TOP), and inflation (INF) are more than 0.05, which indicates that these variables have a normal distribution of data.

Tables 1 and 2 show the summary of statistics for traditional factors and emerging factors with poverty for South Asia, Latin America, and Africa and full sample (South Asia plus Latin America plus Africa). In the case of South Asia, the results indicate a positive mean for all variables except MIG and TOP. Whereas in the case of Latin America and Africa, the results indicate a positive mean for all variables except POV and in the case of full sample results indicate a positive mean for all variables except POV and TOP.

Similarly, the value of standard deviation indicates low fluctuations for the traditional factors of AGRI, FDI, and INF, with high fluctuations in MIG, and TOP has a high standard deviation for all three regions and the full sample of developing economies as well.

Moreover, the results indicate that the skewness value of all variables in South Asia are positive except MIG and TOP, and in Latin America skewness value of all variables are positive except POV and INF, and in Africa, all are positive except TOP. Whereas in full sample size, POV, TOP, and INF are negative. The value of skewness can be zero, positive or negative. It gives information about the shape of the data. AGRI, MIG, FDI, and GOV have positive skewness values, which shows that data is unequally distributed with a long tail to the right, whereas TOP, INF, and POV

have negative values, which shows long tail to the left where data is presented in asymmetrical form. Furthermore, the kurtosis values of full sample are positive for all variables, which shows that distribution of data is peaked as compared to Gaussian distribution. It was also found that all variables have positive value for Jarque and Bera and all are significant at 0%; by checking the normality of full null hypothesis through Jarque and Bera (1980) test it means that we accept alternative hypothesis where the statistical distributions of all variables follow a normal process (Sinaga, Saudi, Roespinoedji, & Jabarullah, 2019). Moreover, it is a positive signal that indicates we can further process the model as it will lead to analysis without any disturbance (Konukoglu et al., 2009).

Table 2: Descriptive Statistics for Emerging Factors

SOUTH ASIA					
	LR	LFP	TOU	ENT	GDP
Mean	2.888466	40.37796	2.75E+09	63.27217	5.596781
Median	2.493000	34.43600	5.13E+08	64.42400	5.386673
Maximum	5.442000	81.66100	2.91E+10	85.05300	26.11149
Minimum	1.975000	14.84000	13000000	27.53500	-7.228841
Std. Dev.	0.879575	20.48502	5.94E+09	16.16426	3.250282
Skewness	1.173217	0.894762	2.844149	-0.484479	2.033671
Kurtosis	3.304765	2.516823	10.42459	2.266767	18.44140
Jarque–Bera	2.52661	1.89295	1.371164	1.259519	1.253652
Probability	0.374631	0.244415	0.116784	0.126523	0.264685
LATIN AMERICA					
Mean	2.567608	39.30830	41.53426	2.64E+09	3.551010
Median	2.527000	39.31189	40.71700	1.41E+09	3.848621
Maximum	4.699000	46.24232	69.60300	2.38E+10	18.28661
Minimum	1.649000	30.18880	22.16500	76000000	-10.89448
Std. Dev.	0.557023	3.552574	11.68002	3.44E+09	3.371572
Skewness	1.173854	-0.130630	0.368738	2.904019	-0.432824
Kurtosis	4.997657	2.208952	2.259679	13.84250	5.455039
Jarque–Bera	1.32867	1.75721	1.92517	2.345044	1.034367
Probability	0.100000	0.104614	0.264211	0.100000	0.463734
AFRICA					
Mean	5.060584	45.84453	4.02E+08	70.24974	4.584244
Median	5.221000	47.39196	1.21E+08	78.58800	4.580916
Maximum	7.716000	55.83591	1.05E+10	94.83300	15.32916
Minimum	1.360000	30.02234	700000.0	14.12900	-12.40797

Std. Dev.	1.214463	5.362172	1.01E+09	22.25994	3.352692
Skewness	-0.616357	-0.819389	7.430802	-1.040962	-0.379553
Kurtosis	3.717652	3.132465	67.41953	2.924832	5.547403
Jarque–Bera	1.67660	1.035643	0.597423	1.300501	0.781467
Probability	0.100000	0.176723	0.267444	0.107464	0.2543895
DEVELOPING ECONOMIES (FULL SAMPLE)					
Mean	4.690485	45.18921	8.61E+08	69.26243	43845319
Median	5.015000	47.12254	1.50E+08	78.33800	4.822626
Maximum	7.698000	81.66100	2.91E+10	94.83300	5.24E+09
Minimum	1.440000	14.84000	54.00000	14.86500	-36.39198
Std. Dev.	1.476459	9.641936	2.82E+09	22.43497	3.69E+08
Skewness	-0.305784	0.231763	6.289688	-1.021177	9.659821
Kurtosis	2.201739	6.828068	48.41222	2.894529	104.7051
Jarque–Bera	3.012638	1.429710	0.615270	1.245987	3.19282.2
Probability	0.2664895	0.1873655	0.278337	0.100000	0.273674

In the case of the emerging approach, the results indicate a positive mean for all variables in all three regions and in full sample as well. Similarly, the values of standard deviation indicate high fluctuations for the emerging factors of women's empowerment (LFP), tourism (TOU), and gross domestic product (GDP), while there are low fluctuations for another proxy of women's empowerment (LR) and another proxy of measurement of women empowerment is (LFP) and entrepreneurship (ENT). Similarly, the skewness value is positive for all variables in South Asia except ENT, in Latin America all variables are positive except LFP and GDP, in Africa all variables are negative except LFP, and in the case of full sample all variables are positive except LR and ENT. Table 2 shows that data is asymmetrically distributed, consisting of a long tail on the right side. Moreover, the value of kurtosis is positive; therefore, data is presenting as peaked as compared to Gaussian distribution. The Jarque and Bera values indicate positive and significant, which means that the statistical distribution of all modeled variables followed a normal process.

Table 3: Cross-Sectional Dependence for Traditional Factors

SOUTH ASIA			
Variables	Breusch–Pagan LM	Pesaran CD	Decision
AGRI	1.09237	0.28734	Cross-sectional independence exists
FDI	1.8244	0.8644	Cross-sectional independence exists
GOV	1.73445	1.42444	Cross-sectional independence exists
INF	0.38746	0.72454	Cross-sectional independence exists
MIG	1.36435	0.83455	Cross-sectional independence exists
POV	0.92644	0.11184	Cross-sectional independence exists
TOP	0.11734	1.73444	Cross-sectional independence exists
LATIN AMERICA			
AGRI	1.37645	0.67732	Cross-sectional independence exists
FDI	1.74753	0.87455	Cross-sectional independence exists
GOV	0.73345	1.29844	Cross-sectional independence exists
INF	1.54472	1.09835	Cross-sectional independence exists
MIG	1.73548	1.89346	Cross-sectional independence exists
POV	0.39336	0.67432	Cross-sectional independence exists
TOP	0.83734	1.98243	Cross-sectional independence exists
AFRICA			
AGRI	0.37455	0.26734	Cross-sectional independence exists
FDI	1.73536	0.34652	Cross-sectional independence exists
GOV	0.36432	1.06354	Cross-sectional independence exists
INF	1.54443	1.52455	Cross-sectional independence exists
MIG	1.33743	1.23674	Cross-sectional independence exists
POV	0.38744	0.24466	Cross-sectional independence exists
TOP	0.53434	1.76444	Cross-sectional independence exists
DEVELOPING ECONOMIES (FULL SAMPLE)			

AGRI	1.87434	0.16042	Cross-sectional independence exists
FDI	1.16536	0.02534	Cross-sectional independence exists
GOV	0.13661	1.12744	Cross-sectional independence exists
INF	0.26352	1.00363	Cross-sectional independence exists
MIG	1.12563	1.27635	Cross-sectional independence exists
POV	0.263644	0.118773	Cross-sectional independence exists
TOP	0.282653	1.427333	Cross-sectional independence exists

Table 3 consists of the result of cross-sectional independence of modeled variables of traditional factors data. For the testing of cross-sectional dependency of variables this study applied Pesaran cross-sectional dependence (CD) test and Breusch–Pagan LM test, where both tests are based on null hypothesis of cross-sectional independence. The result of the study indicates that all variables are cross-sectional independent, which means the null hypothesis is accepted at 1% level of significance; completion of this estimation can lead to further test of panel unit root test.

Table 4: Cross-Sectional Dependence for Emerging Factors

SOUTH ASIA			
Variables	Breusch–Pagan LM	Pesaran CD	Decision
LR	1.6563	1.3443	Cross-sectional independence exists
LFP	2.3744	0.2673	Cross-sectional independence exists
TOU	0.53264	1.9844	Cross-sectional independence exists
ENT	1.19828	2.7244	Cross-sectional independence exists
GDP	0.62343	0.97354	Cross-sectional independence exists

LATIN AMERICA			
LR	0.2365	1.26544	Cross-sectional independence exists
LFP	1.7645	0.28787	Cross-sectional independence exists
TOU	2.2745	1.21874	Cross-sectional independence exists
ENT	0.26733	2.08733	Cross-sectional independence exists
GDP	1.01174	0.99363	Cross-sectional independence exists
AFRICA			
LR	1.874552	1.197644	Cross-sectional independence exists
LFP	0.136561	0.086543	Cross-sectional independence exists
TOU	1.117835	1.983644	Cross-sectional independence exists
ENT	0.373554	1.118653	Cross-sectional independence exists
GDP	1.873475	0.98633	Cross-sectional independence exists
DEVELOPING ECONOMIES (FULL SAMPLE)			
LR	1.76235	0.267234	Cross-sectional independence exists
LFP	1.11783	1.276745	Cross-sectional independence exists
TOU	0.387453	1.365677	Cross-sectional independence exists
ENT	1.18736	1.398465	Cross-sectional independence exists

GDP	1.96534	1.88660	Cross-sectional independence exists
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Table 4 represents the outcome of cross-sectional independence tests among variables of emerging factors data. The study used Pesaran CD and Breusch–Pagan LM tests to test the dependency of modeled variables through cross-sectional test. Both tests have of cross-sectional independence of null hypothesis. The results of the study indicated that the null hypothesis could be accepted at a significance level of 1% and that all variables had cross-sectional independence; estimation can lead to further test of panel unit root test.

4.2. Results of Statistical Tests

The estimation of the study consist on the results of statistical analysis which was derived through EViews software. To accomplish the objective of the study the first portion of the study consist of chapter pre-estimation and secondly the result is consist of estimation of VECM.

4.2.1. Panel Unit Root Test

Chapter 3 discussed the complete process of analysis, first of all this study will apply panel unit root test to check the stationarity of data as non-stationary data leads to misguided results. Data differencing and de-trending series were developed in 2000 to check the unit root test and furthermore models were established for testing the panel unit root.

The model of panel unit root test is following:

$$y_{it} = \rho y_{it-1} + \delta_0 + n_i + v_t + \epsilon_{it}$$

This study used two of the most standard unit root test models for panel data (Kyung-So Im, Lee, & Tieslau, 2005; Levin et al., 2002). The model of Levin et al. (2002) is based on ADF test and

PP test, with null hypothesis of non-stationarity. Where the lag is selected on the basis of AIC. Results of panel unit root for traditional factors are given in Table 5.

Table 5: Panel Unit Root for Traditional Factors

SOUTH ASIA					
Variables	Common Root – Levin, Lin, Chu				Decision
	I(0)		I(1)		
	Intercept	Intercept and trend	Intercept	Intercept and trend	
AGR	0.5936	1.52042	-3.08837****	-4.06667****	I(1)
FDI	0.31963	1.02127	-7.90656****	-6.71830****	I(1)
GOV	0.91643	0.50020	-4.20744****	-3.74947****	I(1)
INF	2.92715	2.53908	-6.28826****	8.88217****	I(1)
MIG	0.62710	0.45221	-2.42765*	-5.03940****	I(1)
POV	0.80250	1.73272	-4.47676****	-5.16778****	I(1)
TOP	1.94894	1.32647	-7.88930****	-5.84941****	I(1)
Variables	Individual Root – Im, Pesaran, Shin				Decision
	I(0)		I(1)		
	Intercept	Intercept and trend	Intercept	Intercept and trend	
AGR	0.40610	0.10767	-2.85100**	-3.35263****	I(1)
FDI	1.04446	1.22080	-9.03071****	-7.97907****	I(1)
GOV	1.09290	0.93090	-4.32684****	-3.90538****	I(1)
INF	0.68621	0.78281	-9.50158****	-7.38885****	I(1)

MIG	0.23535	1.08157	-2.90155**	-4.22087***	I(1)
POV	1.05758	0.06866	-3.15728**	-4.10735***	I(1)
TOP	3.21150	2.14647	-9.85102***	-8.03593***	I(1)
LATIN AMERICA					
Variables	Common Root – Levin, Lin, Chu				
	I(0)		I(1)		
	Intercept	Intercept and trend	Intercept	Intercept and trend	Decision
AGR	1.35145	0.13090	-6.3764***	-8.8754***	I(1)
FDI	1.05701	0.87589	-13.3817***	-10.4227***	I(1)
GOV	0.93437	0.9933	-8.48991***	-7.79367***	I(1)
INF	1.20457	1.05774	-6.45483***	-2.90520***	I(1)
MIG	1.55943	2.43945	-7.94532***	-8.27024***	I(1)
POV	0.83459	0.10861	-7.71158***	-11.3723***	I(1)
TOP	0.1409	0.4279	-13.2953***	-9.75010***	I(1)
Variables	Individual Root – Im, Pesaran, Shin				Decision
	I(0)		I(1)		
	Intercept	Intercept and trend	Intercept	Intercept and trend	
AGR	2.70674	1.70162	-3.34645**	-7.4875***	I(1)
FDI	0.72616	1.66589	-13.9277***	-11.4130***	I(1)
GOV	1.67150	1.8935	-8.53101***	-8.00069***	I(1)
INF	0.99118	0.65004	-15.7223***	-13.0195***	I(1)

MIG	0.71842	1.31817	-4.50715**	-4.67884**	I(1)
POV	0.33700	1.59803	-8.58587***	-7.41700***	I(1)
TOP	0.98780	1.33565	-17.6121***	-14.5336***	I(1)
AFRICA					
Variables	Common Root – Levin, Lin, Chu				
	I(0)		I(1)		
	Intercept	Intercept and trend	Intercept	Intercept and trend	Decision
AGR	0.77499	1.81036	28.7360***	-25.9077***	I(1)
FDI	2.28823	1.65490	-38.2458***	-34.1515***	I(1)
GOV	0.01635	0.84794	-29.5665***	-27.1748***	I(1)
INF	2.07060	2.1646	-46.9498***	-41.1035***	I(1)
MIG	0.55035	2.10959	-6.84641**	-5.26404**	I(1)
POV	0.05635	1.70979	-1.77141**	-7.26080**	I(1)
TOP	0.3230	0.23581	-56.4933***	-49.354***	I(1)
Variables	Individual Root – Im, Pesaran, Shin				
	I(0)		I(1)		
	Intercept	Intercept and trend	Intercept	Intercept and trend	Decision
AGR	1.05996	1.15619	-25.6556***	-22.0334***	I(1)
EXPO	1.87795	1.59850	-25.0155***	-19.5019***	I(1)
FDI	0.1604	0.42116	-36.2401***	-33.0527***	I(1)

GDP	1.8316	1.23630	-41.2039***	-37.7361***	I(1)
GOV	0.45012	0.14457	-25.8560***	-23.7845***	I(1)
IMP	1.13552	0.06125	-26.2614***	-20.5124***	I(1)
INF	2.1970	2.9082	-44.9199***	-41.6384***	I(1)
MIG	0.59277	1.14747	-8.67366**	-2.51394**	I(1)
POV	0.62417	0.64539	-4.80354**	-7.88040**	I(1)
TOP	2.6543	2.7395	-51.1962***	-47.4860***	I(1)
DEVELOPING ECONOMIES (FULL SAMPLE)					
Variables	Common Root – Levin, Lin, Chu				
	Level		First difference		
	Intercept	Intercept and trend	Intercept	Intercept and trend	Decision
AGR	0.78053	1.72892	-3.8445***	-5.7954***	I(1)
FDI	1.0595	0.6864	-46.7550***	-41.4195***	I(1)
GOV	1.50873	0.10401	-36.5182***	-33.8419***	I(1)
INF	0.6843	0.5489	-57.9754***	-50.5259***	I(1)
MIG	0.47449	2.28317	-3.58772**	-4.23041***	I(1)
POV	0.05092	1.3872	-2.12653**	-4.12021***	I(1)
TOP	0.6543	1.7344	-3.7244***	-5.3874***	I(1)
Variables	Individual Root – Im, Pesaran, Shin				Decision
	Level		First difference		

	Intercept	Intercept and trend	Intercept	Intercept and trend	
AGR	1.14495	1.31498	-2.6896**	-4.6682***	I(1)
FDI	1.9271	0.80118	-43.5881***	-39.3564***	I(1)
GOV	1.61702	0.57219	-32.2221***	-29.9561***	I(1)
INF	0.66421	2.46220	-57.2923***	-53.0275***	I(1)
MIG	1.84559	1.56858	-5.53430***	-4.03933***	I(1)
POV	1.37863	1.5599	-2.58592**	-3.19223***	I(1)
TOP	0.0265	1.1163	-3.3744***	-4.8734***	I(1)

* Shows significance at 0%, ** shows significance at 5%, *** shows significance at 10%

The results of both unit root tests, Levin–Lin–Chu (LLC) test and Im–Pesaran–Shin (IPS) test, indicate that the null hypothesis can be accepted; the series are non-stationary at a level and is accepted at first difference the series are called integrated I(1) in South Asia, Latin America, and Africa and in the developing economies (full sample) as well.

Table 6: Panel Unit Root for Emerging Factors

SOUTH ASIA					
Variables	Common Root – Levin, Lin, Chu				Decision
	I(0)		I(1)		
	Intercept	Intercept and trend	Intercept	Intercept and trend	
<i>LR</i>	1.0056	0.5201	-7.3745***	-8.6534	I(1)
<i>LFP</i>	1.77056	1.38531	-3.05881***	-3.59135***	I(1)
<i>TOU</i>	1.66560	0.21968	-3.81886***	-3.55779***	I(1)
<i>ENT</i>	1.89580	1.23308	-3.71262***	-3.12753***	I(1)
<i>GDP</i>	1.47403	2.60980	-8.3719***	-6.84213***	I(1)
Variables	Individual Root – Im, Pesaran, Shin				Decision
	I(0)		I(1)		

	Intercept	Intercept and trend	Intercept	Intercept and trend	
<i>LR</i>	1.99287	1.3744	-6.3745***	-6.9374***	I(1)
<i>LFP</i>	0.16177	0.0503	-4.44496***	-3.78855***	I(1)
<i>TOU</i>	2.60355	2.21554	-3.99453***	-4.38032***	I(1)
<i>ENT</i>	2.50317	0.29631	-4.39349***	-3.56594***	I(1)
<i>GDP</i>	1.84317	2.89707	-8.96965***	-7.36943***	I(1)

LATIN AMERICA

Variables	Common Root – Levin, Lin, Chu				
	I(0)		I(1)		
	Intercept	Intercept and trend	Intercept	Intercept and trend	Decision
<i>LR</i>	2.18303	1.3645	-8.74758***	-7.50716***	I(1)
<i>LFP</i>	1.77636	1.75219	-6.4637***	-6.7201***	I(1)
<i>TOU</i>	1.50132	0.61429	-3.37710***	-5.38745***	I(1)
<i>ENT</i>	0.91562	0.30771	-5.8366***	-8.7222***	I(1)
<i>GDP</i>	1.9950	2.99185	-8.4205***	-9.0748***	I(1)
Variables	Individual Root – Im, Pesaran, Shin				Decision
	I(0)		I(1)		
	Intercept	Intercept and trend	Intercept	Intercept and trend	
<i>LR</i>	1.7065	1.1284	-5.3874***	-5.9836***	I(1)
<i>LFP</i>	0.10240	1.11491	-5.8119***	-5.1915***	I(1)
<i>TOU</i>	1.21424	1.24462	-4.0758***	-6.87455***	I(1)
<i>ENT</i>	0.05722	0.91371	-6.0117***	-8.7222***	I(1)
<i>GDP</i>	1.01989	6.69409	-7.6549***	-8.8745***	I(1)

AFRICA

Variables	Common Root – Levin, Lin, Chu				
	I(0)		I(1)		
	Intercept	Intercept and trend	Intercept	Intercept and trend	Decision
<i>LR</i>	1.38466	-0.89235	-3.26983***	-5.3745***	I(1)
<i>LFP</i>	0.1539	1.35526	-2.4819**	-5.97502***	I(1)
<i>TOU</i>	1.48487	1.75454	-5.7442***	-9.4833***	I(1)
<i>ENT</i>	1.48444	1.95965	-6.52531***	-5.88713***	I(1)

<i>GDP</i>	1.1533	2.6867	-9.7540***	-11.8372***	I(1)
Variables	Individual Root – Im, Pesaran, Shin				Decision
	I(0)		I(1)		
	Intercept	Intercept and trend	Intercept	Intercept and trend	
<i>LR</i>	2.1695	1.68154	-3.87455***	-5.9966***	I(1)
<i>LFP</i>	0.7700	1.53062	-3.94241***	-4.23922***	I(1)
<i>TOU</i>	1.25825	0.13013	-8.5123***	-9.3476***	I(1)
<i>ENT</i>	1.07958	1.35905	-7.60962***	-5.16215***	I(1)
<i>GDP</i>	0.5480	0.9659	-8.1590***	-9.8725***	I(1)
DEVELOPING ECONOMIES (FULL SAMPLE)					
Variables	Common Root – Levin, Lin, Chu				
	I(0)		I(1)		
	Intercept	Intercept and trend	Intercept	Intercept and trend	Decision
<i>LR</i>	0.3744	1.4725	-6.4875***	-10.8734***	I(1)
<i>LFP</i>	0.1953	1.31060	-10.1596***	-9.37666***	I(1)
<i>TOU</i>	1.51923	1.84424	-5.9839***	-9.04893***	I(1)
<i>ENT</i>	0.45835	1.53981	-3.4068***	-7.4079***	I(1)
<i>GDP</i>	0.49992	1.5837	-4.7864***	-6.5041***	I(1)
Variables	Individual Root – Im, Pesaran, Shin				Decision
	I(0)		I(1)		
	Intercept	Intercept and trend	Intercept	Intercept and trend	
<i>LR</i>	0.3644	1.3645	-6.74485***	-8.3874***	I(1)
<i>LFP</i>	1.3743	1.7646	-13.4729***	-11.4572***	I(1)
<i>TOU</i>	1.96676	0.47256	-9.8668***	-10.2971***	I(1)
<i>ENT</i>	2.73068	1.67841	-6.5055***	-8.2969***	I(1)
<i>GDP</i>	0.81814	1.5521	-3.4098***	-5.7876***	I(1)

* Shows significance at 0%, ** shows significance at 5%, *** shows significance at 10%.

In emerging set, the null hypothesis was accepted for unit root test by applying LLC and IPS. The results showed that data is non-stationary at level and it is accepted at first difference, which shows in $I(1)$ for South Asia, Latin America, and Africa regions and in the case of full sample as well.

4.2.2. Multicollinearity Test

In regression analysis, we find the correlation between predictors and response, but correlation among the predictors is not acceptable because it creates the problem of multicollinearity. Therefore, the researcher needs to check the relationship among the independent variables. Multicollinearity is a problem that occurs when two independent variables are correlated; if this exists then the standard error of coefficient will increase which creates the problem of overinflating standard errors. Multicollinearity problems make some variables statistically insignificant where indeed they are significant (Daoud, 2017).

Table 7: Multicollinearity Test for Traditional Factors

South Asia							
	AGRI	FDI	GOV	MIG	POV	TOP	INF
AGRI	1						
FDI	-0.37926	1					
GOV	-0.30954	0.123663	1				
INF	-0.0920212	-0.207108	0.056431	1			
MIG	0.1777663	0.122490	0.108835	0.030913	1		
POV	0.4276227	-0.063605	-0.37690	0.022405	-0.08474	1	
TOP	0.0192365	0.056431	0.096887	-0.04559	0.08073	-0.00892	1
Latin America							
AGRI	1						
FDI	-0.102492	1					
GOV	-0.30954	0.39416845	1				
INF	-0.0920212	-0.207108	-0.14556	1			
MIG	0.1777663	0.122490	0.108835	0.030913	1		
POV	0.4276227	-0.063605	-0.37690	0.022405	-0.08474	1	
TOP	0.01923654	0.056431	0.096887	-0.04559	0.08073	-0.00892	1
Africa							
AGRI	1						
FDI	0.047609	1					
GOV	-0.37812	-0.065414	1				
INF	-0.02074	0.063553	-0.179645	1			
MIG	-0.19980	0.074123	0.262042	0.07469	1		
POV	0.574929	0.009950	-0.223835	0.032996	-0.11397	1	
TOP	-0.05722	-0.003521	0.0099312	-0.02942	0.018257	-0.15030	1

DEVELOPING ECONOMIES (FULL SAMPLE)							
AGRI	1						
FDI	0.026522	1					
GOV	-0.437409	0.014810	1				
INF	0.009137	0.048634	-0.168432	1			
MIG	-0.121894	0.102451	0.2031290	0.04463	1		
POV	0.1458847	0.025519	-0.039686	0.021242	-0.067759	1	
TOP	0.0061388	0.017357	0.033499	-0.01633	0.0127434	0.088643	1

Multicollinearity is a test to check the high correlation among independent variables of model. If multicollinearity exists among the independent variables, then the interpretation of the results will be wrong and it will destroy the effect of multiple regression. The rule of thumb to check for the multicollinearity problem is results greater than 0.80 in the correlation matrix (Vatcheva, Lee, McCormick, & Rahbar, 2016). The results of correlation among traditional approaches for South Asia, Latin America, Africa, and full sample are represented in Table 7. The results show that correlation coefficient values are less than 0.7 for all modeled variables. The results show that no multicollinearity exists among the variables for South Asia, Latin America, and Africa region.

Table 8: Multicollinearity Test for Emerging Factors

SOUTH ASIA						
	POV	LR	LFP	TOU	ENT	GDP
POV	1					
LR	0.1256612	1				
LFP	0.1542796	-0.147417	1			
TOU	-0.3391243	-0.198534	-0.3105171	1		
ENT	0.25191247	0.3079740	0.3260185	0.275295	1	
GDP	-0.0942687	-0.2665012	0.00421763	0.129182	-0.041607	1
LATIN AMERICA						
POV	1					
LR	0.19695	1				
LFP	-0.14412	-0.33562	1			
ENT	0.12780	0.59331	0.105113	1		
TOU	-0.33811	-0.35837	-0.01182	-0.3217196	1	
GDP	0.01134	0.03318	-0.12022	0.0269541	-0.0427047	1
AFRICA						
POV	1					

LR	0.60951	1				
LFP	0.40438	0.19747	1			
TOU	-0.277686	-0.368937	-0.01107	1		
ENT	0.498224	0.796502	0.358250	-0.313261	1	
GDP	0.095823	0.074427	0.180489	-0.055454	0.13537	1
DEVELOPING ECONOMIES (FULL SAMPLE)						
POV	1					
LR	-0.065850	1				
LFP	-0.069656	0.181380	1			
TOU	0.0434405	-0.326786	-0.311655	1		
ENT	-0.082039	0.6944625	0.253635	-0.1193049	1	
GDP	0.024772	-0.1846870	-0.029440	-0.036329	-0.0835355	1

Table 8 shows South Asia, Latin America, Africa, and full sample correlation among the modeled variables of emerging approach. Results indicate no strong correlation among modeled variables. Data lies between 0.00421763 and 0.19695 in South Asia, Latin America, and Africa, which shows no correlation exists in coefficients, whereas in the full sample of the data, the correlation values are between the values of -0.065850 and 0.181380, which is less than 0.8, which means no problem of multicollinearity exists in traditional and emerging factors so we can proceed with our analysis.

4.2.3. Lag Length Criteria

To calculate exact lag length criteria this study utilized automatic bandwidth parameter methods for appropriate lag length selection criteria recommended by (Newey & West, 1994). The results were derived by using different criteria like likelihood ratio (LHR), sequential modified LR statistics, FPE, AIC, HQIC, and SIC to select appropriate lag length. If the lag length is not selected at its best, then the error term may not be Gaussian and the policy implications of the study may be worthless.

For optimal lag selection, the use of a large number of lags in the estimation might lead to errors in the result. On the other hand, if we use fewer lags than actually required in the study, then some important information could be left behind. A researcher can select optimal lag length by applying theory and experience, but there are specific criteria like SBIC, AIC, and HQIC, which help to determine the lag length for reliable results. Table 9 shows the determination of optimal lags. AIC, SIC, HQIC, and FPE criteria indicate that three lags are optimal for reliable results while LR suggests that eight lags are optimal. This study selected three lags for estimation purposes because well-reputed criteria like AIC, SIC, HQIC, and FPE suggest that three optimal lags are enough in the case of Africa. Similarly, in the case of South Asia, LR, AIC, and HQIC suggest two lags are optimal for reliable results. Whereas, in the case of Latin America, FPE, AIC, and HQIC suggest two lags are optimum for accurate results. Lastly, LR, SIC, and HQIC suggest two lags for appropriate results.

Table 9: VAR Lag Order Selection Criteria for Traditional Factors

AFRICA						
Lag	Log L	LR	FPE	AIC	SIC	HQIC
0	-6282.390	NA	3.22e+23	73.99282	74.12194	74.04521
1	-4814.996	2796.680	1.82e+16	57.30583	58.33880	57.72500
2	-4526.033	526.9320	1.09e+15*	54.48274*	56.41956*	55.26868*
3	-4481.468	77.59569	1.15e+15	54.53492	57.37558	55.68762
4	-4431.568	82.77484	1.15e+15	54.52433	58.26884	56.04381
5	-4389.349	66.55674	1.28e+15	54.60411	59.25247	56.49036
6	-4349.045	60.21978	1.46e+15	54.70641	60.25862	56.95943
7	-4299.575	69.83988	1.53e+15	54.70088	61.15694	57.32067
8	-4248.306	68.15714*	1.58e+15	54.67419	62.03409	57.66075
SOUTH ASIA						
0	-1739.946	NA	1.01e+20	65.92250	66.18273	66.02257
1	-1339.496	680.0100	1.78e+14	52.66022	54.74204*	53.46079
2	-1256.890	118.4534*	5.50e+13	51.39208*	55.29549	52.89315*
3	-1209.420	55.53129	7.57e+13	51.44981	57.17481	53.65137
4	-1133.455	68.79816	4.82e+13*	50.43228	57.97887	53.33433
5	-1075.841	36.95994	1.09e+14	50.10722*	59.47540	53.70977

LATIN AMERICA						
0	-4194.920	NA	2.80e+19	64.64493	64.79934	64.70767
1	-3242.434	1787.743	2.58e+13	50.74514	51.98039*	51.24707
2	-3149.024	165.2644	1.31e+13*	50.06191*	52.37799	51.00301*
3	-3107.389	69.17804	1.49e+13	50.17522	53.57214	51.55550
4	-3083.388	37.29428	2.26e+13	50.55981	55.03758	52.37928
5	-3051.259	46.46366	3.08e+13	50.81937	56.37797	53.07801
6	-3015.490	47.87551	4.08e+13	51.02292	57.66236	53.72075
7	-2909.913	129.9402*	1.91e+13	50.15251	57.87280	53.28952
8	-2866.045	49.26769	2.41e+13	50.23146	59.03258	53.80765
DEVELOPING ECONOMIES (FULL SAMPLE)						
1	-12676.54	NA	2.33e+24	75.97340	76.53128	76.19581
2	-12354.53	617.1168*	4.57e+23	74.34345	75.45923*	74.78828*
3	-12329.77	46.41793	5.28e+23	74.48816	76.16182	75.15540
4	-12287.37	77.70378	5.51e+23	74.52759	76.75914	75.41725
5	-12252.65	62.19199	6.01e+23	74.61282	77.40226	75.72489
6	-12180.61	126.0196	5.26e+23	74.47526	77.82258	75.80974
7	-11973.61	353.4453	2.06e+23*	73.53197*	77.43719	75.08887
8	-11931.39	70.30945*	2.16e+23	73.57250	78.03561	75.35181

Table 10: VAR Lag Order Selection Criteria for Emerging Factors

SOUTH ASIA						
Lag	LogL	LR	FPE	AIC	SIC	HQIC
0	-2375.434	NA	9.29e+25	76.82045	77.02630	76.90127
1	-1448.408	1644.724	3.07e+13	48.07767	49.51863	48.64342
2	-1311.126	216.9937*	1.21e+12*	44.81051*	47.48659	45.86121
3	-1226.318	117.6363	2.72e+11	43.23607	47.14726	44.77170
4	-1189.020	44.51788	3.09e+11	43.19418	48.34047	45.21474
5	-1132.117	56.90205	2.13e+11	42.51992	48.90132	45.02542
6	-1073.333	47.40698	1.69e+11	41.78493	49.40144	44.77537
7	-980.7413	56.74969	6.30e+10	39.95940	48.81102	43.43477
8	-769.3273	88.65745	9.36e+08	34.30088	44.38762*	38.26119*
LATIN AMERICA						
0	-7821.642	NA	2.34e+23	70.83839	70.93065	70.87564
1	-5483.067	4529.006	2.09e+14	50.00060	50.64641	50.26137
2	-5102.788	715.8178*	9.28e+12	46.88496*	48.08431*	47.36924
3	-4923.614	327.5412	2.54e+12	45.58926	47.34216*	46.29705*
4	-4902.921	36.70288	2.93e+12	45.72780	48.03424	46.65910
5	-4855.448	81.62832	2.66e+12	45.62397	48.48396	46.77878
6	-4813.228	70.30299	2.53e+12*	45.56768	48.98121	46.94600
7	-4776.755	58.75336*	2.55e+12	45.56339*	49.53048	47.16523
8	-4749.128	43.00238	2.79e+12	45.63917	50.15980	47.46452
AFRICA						

0	-7892.832	NA	1.67e+24	72.80030	72.89375	72.83805
1	-4927.585	5739.187	3.14e+12	45.80263	46.45680	46.06689
2	-4362.999	1061.528*	2.41e+10	40.93086*	42.14576*	41.42163
3	-4331.329	57.79255	2.51e+10	40.97078	42.74639	41.68805
4	-4291.995	69.60469	2.44e+10	40.94005	43.27638	41.88383
5	-4255.081	63.28134	2.44e+10	40.93163	43.82868	42.10192
6	-4176.628	130.1534	1.66e+10	40.54035	43.99812	41.93715
7	-3990.058	299.1991	4.20e+09	39.15261	43.17111	40.77592*
8	-3937.949	80.68603*	3.67e+09*	39.00413*	43.58335	40.85395
DEVELOPING ECONOMIES (FULL SAMPLE)						
0	-15638.05	NA	4.72e+34	96.86717	96.93734	96.89518
1	-11021.58	9032.839	2.27e+22	68.50514	68.99636	68.70123
2	-10495.40	1010.016*	1.09e+21	65.46994*	66.38219*	65.83410
3	-10451.53	82.56140	1.04e+21	65.42127	66.75455	65.95350
4	-10412.16	72.64940	1.02e+21	65.40039	67.15471	66.10069
5	-10304.60	194.4867	6.57e+20	64.95725	67.13261	65.82563
6	-10215.86	157.1474	4.75e+20	64.63069	67.22709	65.66714
7	-9618.791	1035.160	1.48e+19	61.15660	64.17404*	62.36113*
8	-9565.373	90.62816*	1.33e+19	61.04875*	64.48723	62.42135

Table 10 exhibits the determination of optimal lags for emerging factors. In the case of South Asia, AIC, LR, and FPE criteria indicate that two lags are optimal for reliable results, while HC and HQIC suggest that eight lags are optimal. Therefore, on the basis of majority test, two lags have been selected for better results. For the case of Latin America, this study selected two lags on the basis of LR, AIC, and SIC for estimation purpose because well-reputed criterion like AIC, SIC, HQIC, and FPE indicated that three optimal lags are enough in the case of Africa. Similarly, in the case of South Asia, LR, AIC, and HQIC suggest two lags are optimal for reliable results. Whereas in the case of Latin America, FPE, AIC, and HQIC suggest two lags are optimum for accurate results. Lastly, LR, SIC, and HQIC suggest two lags for appropriate results.

4.2.4. Co-integration Test

To investigate whether a relation exists among the stationary variables, the co-integration technique was applied. The co-integration technique was applied to evaluate the long-run relation among the modeled variables with the help of Johansen, Pedroni and Kao test. VECM is the next

step in examining the model, once all the variables are stationary and have co-integration. In Table 11, the results of Kao (1999) panel cointegration of homogenous data are presented with null hypothesis that no co-integration exists. According to Kao (1999) test, the null hypothesis has been rejected for traditional factors in given table.

Moreover, to investigate the long-run relation among the modeled variables this study also applied Johnson-Fisher-type co-integration test to evaluate the long run co-integration (Fatai, 2014). To investigate the co-integration test among variables from individual Johnson co-integration test to combining test of individual cross-section test of full panel by applying Fisher's result. Co-integration test expressed the aggregate p -value of Johansen maximum eigenvalues and trace statistic on an individual basis.

$$-2 \sum_{i=1}^n \log p_i \sim \chi^2_{2n}$$

The above given equation presents the null hypothesis with no co-integration where p_i symbolizes the p -value from an individual co-integration test for cross-section i , and MacKinnon, Haug, and Michelis (1999) for the panel and χ^2_{2n} is a chi-square distribution with N degrees of freedom based on values for Johansen's co-integration trace test and maximum eigenvalue test.

Table 11: Co-integration Test for Africa								
Padroni (1999) co-integration with intercept								
	Within dimension (Panel)				Between dimension (Panel)			Decision
	v	rho	PP	ADF	rho	PP	ADF	
Statistic	-5.17**	1.66	-5.8**	-11.9*	1.72	-4.1**	-9.5**	
P-value	0.0235	0.1000	0.0456	0.000	0.146	0.0223	0.000	Co-integration exists
Padroni (1999) co-integration with intercept and trend								
	Within dimension (Panel)				Between dimension (Panel)			Co-integration exists
	v	rho	PP	ADF	Rho	PP	ADF	
Statistic	8.23**	0.382	-2.0*	-3.2**	-9.0	-2.6**	1.1077	
P-value	0.000	0.1327	0.0463	0.0094	0.000	0.0023	0.1263	
Notes: The null hypothesis, no co-integration, is rejected. * indicates the rejection of the null hypothesis at 0%, ** indicates rejection of null hypothesis at 5% and *** represents rejection of null hypothesis at 10% level of significance.								
Kao (1999) co-integration								
ADF								
Statistic	-9.260101**							Co-integration exists
Residual variance	0.235965							
HAC variance	1.411140							
P-value	0.0374							
Note: Probability values are given in brackets.								
Johnsen co-integration test								
Hypothesized No. of CE(s)	Fisher Statistics from trace test			Fisher Statistics from max-Eigen test			Co-integration exists	
	Statistics		P-value	Statistics		P-value		
None	14.159*		0.0552	14.159*		0.0552		
At most 1	38.38***		0.0000	20.47***		0.0023		
At most 2	58.65***		0.0000	51.97***		0.0000		

At most 3	45.81***	0.0000	45.48***	0.0000
At most 4	49.71***	0.0000	50.65***	0.0000
At most 5	7.531	0.2745	7.531	0.2745

Table 12: Co-integration Test for South Asia
Padroni (1999) co-integration with intercept

	Within dimension (Panel)				Between dimension (Panel)			<i>Decision</i>
	<i>v</i>	<i>rho</i>	<i>PP</i>	<i>ADF</i>	<i>rho</i>	<i>PP</i>	<i>ADF</i>	
<i>Statistic</i>	-4.28*	-5.3*	2.51*	0.427	-4.3**	-0.408	1.5234	Co-integration exists
<i>P-value</i>	0.0254	0.002	0.0863	0.1000	0.0122	0.1000	0.1753	

Padroni (1999) co-integration with intercept and trend

	Within dimension (Panel)				Between dimension (Panel)			
	<i>v</i>	<i>rho</i>	<i>PP</i>	<i>ADF</i>	<i>Rho</i>	<i>PP</i>	<i>ADF</i>	
<i>Statistic</i>	-4.9**	-3.2*	-1.01	3.6**	-6.0**	1.213	5.403	Co-integration exists
<i>P-value</i>	0.0264	0.063	0.1551	0.0321	0.0011	0.8876	0.06*	

Kao (1999) co-integration

	ADF	
<i>Statistic</i>	-12.2634***	Co-integration exists
<i>Residual</i>		
<i>Variance</i>	1.7624	
<i>HAC variance</i>	0.2734	
<i>P-value</i>	0.0011	

Johnsen co-integration test

Hypothesized	<i>Fisher Statistics from trace test</i>		<i>Fisher Statistics from max-Eigen test</i>	
No. of CE(s)	<i>Statistics</i>	<i>P-value</i>	<i>Statistics</i>	<i>P-value</i>

None	59.1452***	0.000	64.88540***	0.000	<i>Co- integration exists</i>
At most 1	94.25980***	0.000	39.58021***	0.000	
At most 2	54.67960***	0.000	33.24737***	0.000	
At most 3	21.43223***	0.0032	11.00579***	0.003	
At most 4	10.42644***	0.0001	7.839955***	0.002	
At most 5	2.586484	0.12844	1.529866	0.100	
At most 6	1.056618	0.1483	1.056618	0.128	

Table 13: Co-integration Test for Latin America

Padroni (1999) co-integration with intercept								Decision	
	Within dimension (Panel)				Between dimension (Panel)				
	v	ρ	PP	ADF	ρ	PP	ADF		
Statistic	-2.0*	4.76	-3.7*	-3.38**	-6.3***	-6.4***	2.028	Co-integration exists	
P-value	0.0354	0.142	0.000	0.0252	0.000	0.000	0.1423		
Panel B: Padroni (1999) co-integration with intercept and trend									
	Within dimension (Panel)				Between dimension (Panel)			Decision	
	v	ρ	PP	ADF	ρ	PP	ADF		
Statistic	-0.392	- 6.1*	-4.4*	1.437	-7.17**	-8.57**	-0.516	Co-integration exists	
P-value	0.145	0.003	0.025	0.1423	0.000	0.000	1.000		
Panel C: Kao (1999) co-integration									
ADF									
Statistic	-7.469036***								Co-integration exists
Residual Variance	1.037400								
HAC variance	1.359269								
P-value	0.00421								
Panel D: Johansen co-integration test									
Hypothesized Fisher Statistics from trace test					Fisher Statistics from max-Eigen test				

No. of CE(s)	Statistics	P-value	Statistics	P-value	Co-integration exists
None	75.3380***	0.0000	88.00131***	0.000	
At most 1	87.3367***	0.0000	76.77962***	0.000	
At most 2	60.5570***	0.0000	40.86955***	0.006	
At most 3	69.68749***	0.0001	28.93859**	0.033	
At most 4	40.74890***	0.0019	24.38074**	0.016	
At most 5	16.36816**	0.0369	15.28388**	0.034	
At most 6	1.084275	0.2977	1.084275	0.297	

P value significant at 0%, 5%, and 10%

Table 14: Co-integration Test for Developing Economies

Padroni (1999) co-integration with intercept

	Within dimension (Panel)				Between dimension (Panel)			Decision
	<i>v</i>	<i>rho</i>	<i>PP</i>	<i>ADF</i>	<i>rho</i>	<i>PP</i>	<i>ADF</i>	
Statistic	6.905**	-7.807**	2.264	-10.1*	1.9421	0.932	-3.607*	Co-integration exists
P-value	0.0000	0.0001	0.9143	0.0012	0.1636	0.145	0.0382	

Padroni (1999) co-integration with intercept and trend

	Within dimension (Panel)				Between dimension (Panel)			Co-integration exists
	<i>v</i>	<i>rho</i>	<i>PP</i>	<i>ADF</i>	<i>rho</i>	<i>PP</i>	<i>ADF</i>	
Statistic	3.317**	-11.88**	-13.0*	1.1857	-12.3*	2.227	-4.66**	Co-integration exists
P-value	0.0000	0.00252	0.0001	0.1000	0.0012	0.143	0.0263	

Kao (1999) co-integration

	ADF
Statistic	-3.460833**
Residual Variance	7.62E+08

<i>HAC</i>	1.93E+09	<i>Co-</i>
<i>variance</i>		<i>integrati</i>
<i>P-value</i>	0.02453	<i>on exists</i>

Panel D: Johansen co-integration test

Hypothesized No. of CE(s)	<i>Fisher Statistics from trace test</i>		<i>Fisher Statistics from max-Eigen test</i>		<i>Co-</i>
	<i>Statistics</i>	<i>P-value</i>	<i>Statistics</i>	<i>P-value</i>	
None	85.894***	0.0001	43.3958***	0.0001	<i>Co-</i>
At most 1	72.4987***	0.0001	48.4116***	0.0001	<i>integrati</i>
At most 2	24.0871***	0.0001	53.9348***	0.0001	<i>on exists</i>
At most 3	30.1523***	0.0000	34.7110***	0.0000	
At most 4	15.44138	0.1463	7.45488	0.1516	
At most 5	7.986502	0.4669	5.339431	0.6985	
At most 6	2.647071	0.1037	2.647071	0.1037	

P-value significant 0%, 5%, and 10%

The results of co-integration between traditional factors and poverty are reported in Tables 11, 12, 13 and 14. In this study, Padroni co-integration with intercept and Padroni co-integration with intercept and trend were utilized to examine long-run co-integration among modeled variables. However, Kao and Johansson co-integration tests were applied to check the robustness of long-run co-integration results. The results of panel co-integration tests indicate the presence of a long-run relationship between traditional factors and poverty for South Asia, Latin America, SSA, and full sample. The value of probability indicates that the null hypothesis, no co-integration, has been rejected. The results confirm that co-integration among modeled variables exists at 0%, 5%, and 10% significance level for South Asia, Latin America, SSA, and full sample.

Emerging Factors

**Table 15: Co-integration Test for South Asia
Padroni (1999) co-integration with intercept**

Within dimension (Panel)					Between dimension (Panel)			Decision
V	rho	PP	ADF	rho	PP	ADF		
Statistic	-3.3*	-4.4*	0.358	-4.1*	2.946	-3.64*	-4.2**	
P-value	0.040	0.0000	0.1736	0.0000	0.19376	0.00263	0.0034	Co-integration exists
Padroni (1999) co-integration with intercept and trend								
Within dimension (Panel)					Between dimension (Panel)			Co-integration exists
V	rho	PP	ADF	Rho	PP	ADF		
Statistic	-3.9*	-3.3**	-2.25**	-3.8**	1.3745	1.8724	-3.3**	
P-value	0.000	0.0254	0.02574	0.0000	0.16837	0.2534	0.000	
Kao (1999) co-integration								
ADF								
Statistic	-4.3744***							Co-integration exists
Residual Variance	0.76233							
HAC variance	0.68475							
P-value	0.0026							
Johnsen co-integration test								
Hypothesized No. of CE(s)	Fisher Statistics from trace test			Fisher Statistics from max-Eigen test				Co-integration exists
	Statistics		P-value	Statistics		P-value		
None	93.0***		0.0000	70.75***		0.0000		
At most 1	87.44***		0.0000	41.61***		0.0000		
At most 2	65.77***		0.0000	32.90***		0.0000		
At most 3	39.12***		0.0000	23.97***		0.0005		
At most 4	22.22***		0.0011	16.69**		0.0205		

At most 5	16.28**	0.0253	16.28**	0.0223
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P-value significant 0%, 5%, and 10%

Table 16: Co-integration Test for Latin America
Padroni (1999) co-integration with intercept

	Within dimension (Panel)				Between dimension (Panel)			<i>Decision</i>
	<i>v</i>	<i>rho</i>	<i>PP</i>	<i>ADF</i>	<i>rho</i>	<i>PP</i>	<i>ADF</i>	
<i>Statistic</i>	-2.2**	1.41	-4.33*	-4.91*	1.341	-3.2**	0.178	<i>Co-integration exists</i>
<i>P-value</i>	0.037	0.118	0.06	0.003	0.1073	0.0246	0.1063	

Padroni (1999) co-integration with intercept and trend

	Within dimension (Panel)				Between dimension (Panel)			<i>Co-integration exists</i>
	<i>v</i>	<i>rho</i>	<i>PP</i>	<i>ADF</i>	<i>Rho</i>	<i>PP</i>	<i>ADF</i>	
<i>Statistic</i>	-3.4**	2.7**	-4.2**	-5.7**	-2.2**	-7.0**	1.452*	<i>Co-integration exists</i>
<i>P-value</i>	0.0000	0.165	0.0000	0.0000	0.0358	0.0003	0.1783	

Kao (1999) co-integration

	ADF	Co- integration exists
<i>Statistic</i>	-5.5832***	
<i>Residual</i>		
<i>Variance</i>	1.3745	
<i>HAC variance</i>	1.9936	
<i>P-value</i>	0.00022	

Johnsen co-integration test

Hypothesized No. of CE(s)	<i>Fisher Statistics from trace test</i>		<i>Fisher Statistics from max-Eigen test</i>		<i>Co-integration exists</i>
	<i>Statistics</i>	<i>P-value</i>	<i>Statistics</i>	<i>P-value</i>	
None	45.6555***	0.0000	66.36361***	0.0000	<i>Co-integration exists</i>
At most 1	46.2919***	0.0000	42.73392***	0.0034	
At most 2	33.55797***	0.0016	9.36529**	0.0292	

At most 3	31.19268**	0.0260	4.19241*	0.0673
At most 4	12.00028	0.1569	1.99823	0.1107
At most 5	0.002041	0.9605	0.002041	0.9605

P-value significant 0%, 5%, and 10%

Table 17: Co-integration Test for Africa								
Padroni (1999) co-integration with intercept								Decision
Statistic	Within dimension (Panel)				Between dimension (Panel)			
	v	ρ	PP	ADF	ρ	PP	ADF	
	-4.3**	-1.37	0.17	-3.3**	1.117*	-4.8**	-2.3*	
P-value	0.0223	0.1623	0.1000	0.002	0.0000	0.000	0.068	
Padroni (1999) co-integration with intercept and trend								Co-integration exists
Statistic	Within dimension (Panel)				Between dimension (Panel)			
	v	ρ	PP	ADF	ρ	PP	ADF	
	-2.7344*	-2.8*	1.186	-3.4**	-5.87**	-7.7**	-4.3*	
P-value	0.0654	0.024	0.135	0.000	0.0000	0.000	0.024	
Kao (1999) co-integration								
ADF								
Statistic	-7.4755***							
Residual								
Variance	0.2563							
HAC								
variance	1.11744							
P-value	0.00237							
Johnsen co-integration test								
Hypothesized	Fisher Statistics from trace test				Fisher Statistics from			
No. of CE(s)					max-Eigen test			

	<i>Statistics</i>	<i>p-value</i>	<i>Statistics</i>	<i>P-value</i>	
None	19.8741***	0.0000	36.771***	0.000	
At most 1	28.5996***	0.0000	25.612***	0.000	<i>Co-integration exists</i>
At most 2	29.1244***	0.0000	27.725***	0.000	
At most 3	17.8961***	0.0000	21.9220***	0.000	
At most 4	19.640***	0.0000	16.974***	0.000	
At most 5	10.6224***	0.0000	16.284***	0.000	

Table 18: Co-integration Test for Developing Economies of Emerging Factors
Padroni (1999) co-integration with intercept

	Within dimension (Panel)				Between dimension (Panel)			<i>Decision</i>
	<i>v</i>	<i>rho</i>	<i>*PP</i>	<i>ADF</i>	<i>rho</i>	<i>PP</i>	<i>ADF</i>	
Statistic	-3.38*	-2.847	1.276	-4.37**	-5.4**	-2.37*	1.18736	<i>Co-integration exists</i>
P-value	0.0364	0.0786	0.163	0.0036	0.0000	0.074	1.98378	

Padroni (1999) co-integration with intercept and trend

	Within dimension (Panel)				Between dimension (Panel)			<i>Co-integration exists</i>
	<i>v</i>	<i>rho</i>	<i>PP</i>	<i>ADF</i>	<i>Rho</i>	<i>PP</i>	<i>ADF</i>	
Statistic	-3.3**	-3.6**	1.834	-5.8***	-8.7**	1.7346	-3.76**	<i>exists</i>
P-value	0.035	0.022	0.173	0.000	0.0245	0.23645	0.03452	

Kao (1999) co-integration

	ADF	
Statistic	-9.38756***	
Residual Variance	1.187374	<i>Co-integration exists</i>
HAC variance	0.387675	

P-value 0.0000

Johnsen co-integration test				
Hypothesized	Fisher Statistics from trace test		Fisher Statistics from	
No. of CE(s)			max-Eigen test	
	<i>Statistics</i>	<i>P-value</i>	<i>Statistics</i>	<i>P-value</i>
None	73.5***	0.0000	44.1***	0.0000
At most 1	85.6***	0.0000	80.1***	0.0000
At most 2	90.0***	0.0000	58.0***	0.0000
At most 3	77.8***	0.0000	98.4***	0.0000
At most 4	79.4***	0.0000	50.6***	0.0000
At most 5	88.99***	0.0000	78.68***	0.0000

The results of co-integration between emerging factors and poverty are reported in Tables 15, 16, 17, and 18. In this study, Padroni co-integration with intercept and Padroni co-integration with intercept and trend, are utilized to examine the long-run co-integration among modeled variables. However, Kao and Johansson co-integration tests were applied to check the robustness of long-run co-integration results. The results of the panel co-integration tests indicate the presence of a long-run relationship between emerging factors and poverty for South Asia, Latin America, SSA, and full sample. The value of probability indicates that the null hypothesis, no co-integration, has been rejected. The results confirm that co-integration among modeled variables exists at 0%, 5%, and 10% significance level for South Asia, Latin America, SSA, and full sample.

Table 19: Lag Exclusion

AFRICA							
	POV	INF	TOP	MIG	AGRI	FDI	GOV
Lag 1	5642.750	24.7652	14.2855	3744.814	316.3076	197.5927	285.3903
	[0.0000]	[0.0008]	[0.0463]	[0.0000]	[0.0000]	[0.0000]	[0.0000]

Lag 2	1233.077	161.472	11.5235	636.2444	8.387882	38.76288	5.026229
	[0.0000]	[0.0000]	[0.1174]	[0.0000]	[0.2996]	[0.0000]	[0.6568]
df	7	7	7	7	7	7	7
SOUTH ASIA							
	POV	MIG	FDI	TOP	AGRI	INF	GOV
Lag 1	177.0183	167.068	3.49790	7.129409	40.22135	6.709661	45.95331
	[0.0000]	[0.0000]	[0.8354]	[0.4155]	[0.0000]	[0.4597]	[0.0000]
Lag 2	30.12285	12.0114	4.91346	4.200713	4.997636	5.491421	8.291984
	[0.0001]	[0.1002]	[0.6705]	[0.7564]	[0.6603]	[0.6002]	[0.3076]
Lag 3	5.831291	5.20330	11.2890	2.767936	4.073221	12.51768	15.59913
	[0.5596]	[0.6352]	[0.1265]	[0.9056]	[0.7713]	[0.0848]	[0.0290]
df	7	7	7	7	7	7	7
LATIN AMERICA							
	POV	AGRI	INF	FDI	MIG	TOP	GOV
Lag 1	237.8350	187.394	55.0569	92.98018	2218.408	2.020666	189.9574
	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.9587]	[0.0000]
Lag 2	4.269057	10.1830	15.4248	4.968379	478.0328	2.361799	13.18158
	[0.7483]	[0.1784]	[0.0309]	[0.6638]	[0.0000]	[0.9371]	[0.0678]
df	7	7	7	7	7	7	7
Developing Economies							
	POV	AGRI	INF	FDI	MIG	TOP	GOV
Lag 1	2586.270	293.707	43.4942	238.8874	2227.226	17.47158	319.4101
	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0000]	[0.0146]	[0.0000]

Lag 2	980.8260	23.7453	75.1930	12.39420	726.0341	17.89339	8.535827
	[0.0000]	[0.0013]	[0.0000]	[0.0883]	[0.0000]	[0.0125]	[0.2877]
df	7	7	7	7	7	7	7

For lag selection Lag exclusion test is applied for each lag in VAR. In Table 19, Wald statistics for all significant variables are reported for each of seven equations independently. The results reported in [] are *p*-values. The results show that two lags are appropriate and we get a significant impact on the variables. Therefore this test endorsed that we have to utilize two lags as an ideal lag length for all traditional factors, which are migration, inflation, FDI, trade openness, agriculture, poverty and governance for South Asia, Latin America, and Africa.

Table 20: LM Test for Autocorrelation for Traditional Factors

	SOUTH ASIA	LATIN AMERICA	AFRICA	FULL SAMPLE	Decision
Lag	LM-Statistics Prob.	LM-Statistics Prob.	LM- Statistics Prob.	LM-Statistics Prob.	
1	59.73198 (0.000)	76.35006 (0.0074)	64.68653 (0.0659)	13.2467 (0.0000)	No autocorrelation
2	18.85738 (0.0019)	17.38878 (0.1922)	82.53678 (0.0019)	5.58197 (0.2408)	
3	5.82423 (0.1404)	9.94559 (0.9855)	16.08098 (0.2266)	25.07181 (0.2558)	

The results of LM to check for autocorrelation among the modeled variables are reported in Table 20. The results indicate that a problem of autocorrelation will exist if we utilize one lag in the estimation. Therefore, to get optimum results we need to increase optimal lag length to three, which represents that no autocorrelation exists among the variables. According to given results, three lags are ideal to avoid serial correlation among modeled variables for South Asia, Latin America, Africa, and developing economies.

Table 21: LM Test for Autocorrelation for Emerging Factors

	SOUTH ASIA	LATIN AMERICA	AFRICA	Developing Econmies	
Lag	LM- Statistics Prob.	LM-Statistics Prob.	LM- Statistics Prob.	LM-Statistics Prob.	Decision
1	11.5933*** (0.0000)	7.13652 (0.03491)	14.3745** (0.0234)	31.71326** (0.03422)	No autocorrelation
2	10.2508** (0.0020)	4.93144 (0.6453)	3.8755* (0.0787)	22.0729* (0.06834)	
3	5.54813 (0.1449)	2.49836 (0.8645)	1.98554 (0.16533)	16.7657 (0.18364)	

Results show that we accept the null hypothesis, no serial correlation, at 3rd lag order in emerging factor cases. According to given results, lag 3 is ideal to avoid serial correlation among modeled variables for the case of emerging factors and South Asia, Latin America, Africa, and full sample.

4.3. VAR Analysis

Table 22: VAR Coefficients for Long Run in the Case of Africa

AFRICA							
Dependent variable: Poverty							
Variables/models	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Constant	-13.12514	-14.69674	-18.2338	-45.51678	-7.91702	-22.3862	-32.7132
MIG	1.60E-05*	1.17E-05*	6.11E-07**	-4.89E-06*	3.50E-06*	1.13E-05***	4.24E-06**
	[2.02844]	[2.71422]	[3.0358]	[-2.25226]	[2.2296]	[6.62941]	[4.24758]
TOP	-0.652***	-0.1569***	-0.626***	-1.30254	-0.62***	-0.746***	-0.563***
	[-13.770]	[-13.9951]	[-14.056]	[-14.356]	[-14.32]	[-14.946]	[-11.67]
INF	3.63169***	3.526936***	3.37606***	2.6094***	4.6236***	3.35782***	4.19540***
	[12.2542]	[11.9255]	[11.982]	[7.4800]	[14.328]	[10.5216]	[13.7042]
AGRI	0.716235*	0.83903*	0.72511*	0.42845*	0.70080*	0.35477**	0.69757**
	[2.37405]	[2.47198]	[2.1630]	[2.0725]	[2.1914]	[3.6841]	[3.9824]

FDI	-0.80390*	-0.7932*	-0.84985*	-0.6006*	-0.88493*	-0.92503*	2.88634*
	[-2.6822]	[-2.6722]	[-2.8800]	[-2.27585]	[-2.0106]	[-2.81756]	[2.2668]
GOV	--	-1.2087***	-0.63610***	-3.45085**	-2.600***	-2.85357**	-4.5886*
		[-12.520]	[-7.4263]	[-4.8323]	[-7.5656]	[-3.3223]	[-2.4379]
GOV*MIG	--	--	-5.61E-06*	--	--	--	--
			[-2.39431]				
GOV*TOP	--	--	--	0.23666***	--	--	--
				[8.36576]			
GOV*INF	--	--	--	--	-0.4545**	--	--
					[-5.0830]		
GOV*AGRI	--	--	--	--	--	-0.14420*	--
						[-2.31869]	
GOV*FDI	--	--	--	--	--	--	1.00401**
							[3.4919]

Note: *indicates significance level at 5%, ** less than 5%, *** less than 1%; *t* value is in []

The study investigates the impact of traditional factors on poverty in long-run period by applying the VAR model. Traditional factors are migration, FDI, agriculture, inflation, and trade openness. Moreover, this study also investigates the role of governance as a moderator between traditional factors and poverty. VECM is a renowned method that studies the long-run relationship between stationary variables, with the condition that they must be integrated at first difference (i.e., $I(1)$), and their short-run adjustment behavior can be studied as well. VAR/VECM is preferred to simultaneous equations models (SEM) because SEM divides the variables among two distinct groups that are independent and dependent variables, whereas VECM treats all variables in a similar balance. All variables in this study are stationary at first difference and they have long-term co-integration. VECM is a fitting model to investigate whether a long-run as well as a short-run relationship exists among the variables. Table 22 exhibits the long-run results of VECM.

Co-integration exists among the modeled variables which allows us to study the long-run relationships among the variables. The long-run relationships among migration, inflation, trade openness, FDI, and agriculture with poverty by applying VECM for Africa for the period 1995 to 2020 are displayed in Table 22. The results of Model 1 indicated that MIG [$1.60E-05$ (2.02844)], TOP [-0.65206*** (-13.7705)], INF [3.63169*** (12.2542)], AGRI [0.716235 (2.37405**)], and FDI [-0.80390 (-2.6822*)] have a statistically significant long-term relationship with poverty in Africa. Although FDI and TOP have negative association with poverty in Africa region and inflation, migration, and agriculture development have a positive relationship with poverty. This study shows that migration has a significant and positive long-run relationship with poverty: if we increase migration by one unit, poverty will increase by $1.60E-05$ units. Inflation has a significant and positive long-run relationship with poverty: if we increase inflation by one unit, poverty will increase by 3.63169 units. Agriculture also has a significant and positive long-run relationship with poverty, if we increase agriculture by one unit,

poverty will increase by 0.716235 units. Trade openness has a significant and negative long-run relationship with poverty: if we increase trade openness by one unit, poverty will decrease by 0.65206 units. FDI has a significant and negative long-run relationship with poverty: if we increase FDI by one unit, then, in response, poverty will decrease by 0.80390 units.

$$POV_{it} = \alpha_0 + \alpha_1 MIG + \alpha_2 TOP + \alpha_3 INF + \alpha_4 FDI_{it} + \alpha_5 AGRI_{it} + \epsilon_{it} \dots \dots \text{(Equation 1)}$$

$$POV_{it} = -13.12514 + 1.60E-05MIG - 0.65206 TOP - 3.63169 INF - 0.80390 FDI_{it} + 0.716235 AGRI_{it} + \epsilon_{it} \dots \dots \text{(Equation 1 for Africa)}$$

Model 2 introduces governance as an independent variable, which shows a negative relationship with poverty, GOV [-1.2087*** (-12.520)], and it changed the value of β s but did not affect the signs.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \epsilon_{it} \dots \text{(Equation 2)}$$

$$POV_{it} = -14.69674 + 6.11E-07MIG - 0.15693TOP + 3.526936INF - 0.7932 FDI_{it} + 0.83903AGRI_{it} - 1.2087GOV_{it} + \epsilon_{it}$$

In Model 3, governance plays a role as a moderator between migration and poverty. An interaction term is introduced by multiplying GOV and MIG. According to the result in the case of Africa, governance weakens the relation between migration and poverty, as the value given as GOV * MIG [-5.61E-06 (-2.39431)] shows a significant and negative relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (MIG * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 3)}$$

$$POV_{it} = -18.2338 + 1.60E-05MIG - 0.62681TOP + 3.37606INF - 0.84985FDI_{it} + 0.72511AGRI_{it} - 0.63610GOV_{it} - 5.61E - 06(MIG * GOV)_{it} + \epsilon_{it}$$

Whereas in Model 4 governance strengthens the relation between trade openness and poverty. Trade openness already has a negative relation with poverty. The value is GOV * TOP [0.23666*** (8.36576)] showing a significant and positive relationship.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (TOP * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 4)}$$

$$POV_{it} = -45.51678 - 4.89E-06 MIG - 1.30254 TOP + 2.6094 INF - 0.6006 FDI_{it} + 0.42845 AGRI_{it} - 1.2087 GOV_{it} - 0.23666 (TOP * gov)_{it} + \epsilon_{it}$$

Moreover, in Model 5, governance weakens the relation between inflation and poverty. Inflation and poverty already have a positive relationship. The value of GOV * INF is [-0.4545 (-5.0830)] which shows a significant and negative relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (INF * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 5)}$$

$$POV_{it} = -7.91702 + 3.50E-06MIG - 0.6236TOP + 4.6236INF - 0.88493FDI_{it} + 0.70080AGRI_{it} - 2.6007GOV_{it} - 0.4545 (INF * GOV)_{it} + \epsilon_{it}$$

Furthermore, in Model 6, governance as a moderator weakens the relation between agriculture and poverty, whereas earlier, agriculture had a positive relation with poverty. The value of GOV * AGRI [-0.14420 (-2.31869)] shows a significant and negative relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (AGRI * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 7)}$$

$$POV_{it} = -22.3862 + 1.13E-05MIG - 0.74646 TOP + 3.35782INF - 0.92503FDI_{it} + 0.35477AGRI_{it} - 2.85357GOV_{it} - 0.14420 (AGRI * GOV)_{it} + \epsilon_{it}$$

And last, but not least, in Model 7, governance as a moderator strengthened the relation between FDI and poverty, whereas earlier, FDI had a negative relation with poverty. The value of GOV * FDI [1.00401 (3.4919)] ** shows a significant and negative relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (FDI * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 7)}$$

$$POV_{it} = -32.7132 + 4.24E-06MIG - 0.56386TOP + 4.19540 INF - 2.88634FDI_{it} + 0.69757AGRI_{it} - 4.5886GOV_{it} + 1.00401 (FDI * GOV)_{it} + \epsilon_{it}$$

The overall analysis of the Africa region in the case of traditional factors suggests that the role of governance as a moderator weakens the relation of migration, inflation, and agriculture with poverty, whereas governance as a moderator strengthens the relation of trade openness and FDI with poverty.

Table 23: VAR Model Short-Run Results for Africa

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
ECM TERM	-0.13549 (0.0106) [-12.782]	-0.35140 (0.0107) [-32.841]	-0.14606 (0.0112) [-13.0410]	-0.202035 (0.0108) [-18.7069]	-0.133533 (0.02113) [-6.31959]	-0.173068 (0.02100) [-8.24133]	-0.203160 (0.03103) [-6.54721]
D(POV(-2))	0.824847 (0.07525) [10.9608]	0.829093 (0.0755) [10.972]	0.819532 (0.07628) [10.7433]	0.834768 (0.07641) [10.9250]	0.819018 (0.07430) [11.0234]	0.834948 (0.07554) [11.0536]	0.834705 (0.07564) [11.0355]
D(POV(-3))	-0.154376 (0.07437) [-2.07580]	-0.155022 (0.0748) [-2.0725]	-0.154584 (0.07512) [-2.05787]	-0.155630 (0.07568) [-2.05646]	-0.149262 (0.07346) [-2.03179]	-0.156116 (0.07492) [-2.08375]	-0.156562 (0.07491) [-2.08999]
D(INF(-2))	0.013010 (0.00506) [2.57358]	0.013478 (0.00512) [2.63114]	0.012855 (0.00514) [2.50181]	0.012266 (0.00516) [2.37880]	0.041352 (0.00906) [4.56313]	0.014216 (0.00514) [2.76653]	0.014235 (0.00517) [2.75313]
D(INF(-3))	0.010126 (0.00379) [2.67388]	0.010269 (0.00381) [2.69819]	0.010590 (0.00380) [2.79027]	0.008958 (0.00381) [2.35290]	0.022020 (0.00882) [2.49535]	0.009991 (0.00378) [2.64304]	0.013168 (0.00415) [3.16924]

D(TOP(-2))	-0.000260						
	(0.00075)	-0.000233	-0.000406	9.24E-05	-0.000106	-9.27E-05	-0.000225
	[-0.34505]	(0.00076)	(0.00075)	(0.00123)	(0.00074)	(0.00076)	(0.00076)
		[-0.30751]	[-0.53891]	[0.07537]	[-0.14283]	[-0.12211]	[-0.29704]
D(TOP(-3))	-0.000298						
	(0.00082)	-0.000305	-0.000408	-0.000306	-0.000249	-0.000220	-0.000204
	[-0.36333]	(0.00082)	(0.00082)	(0.00140)	(0.00081)	(0.00082)	(0.00083)
		[-0.37074]	[-0.49853]	[-0.21816]	[-0.30746]	[-0.26719]	[-0.24713]
D(MIG(-2))	-6.00E-06						
	(4.2E-06)	-5.81E-06	-8.80E-06	-5.59E-06	-5.92E-06	-6.10E-06	-5.81E-06
	[-1.41539]	(4.3E-06)	(4.5E-06)	(4.3E-06)	(4.2E-06)	(4.3E-06)	(4.3E-06)
		[-1.36567]	[-1.94586]	[-1.29618]	[-1.41631]	[-1.42765]	[-1.36367]
D(MIG(-3))	4.77E-06						
	(3.7E-06)	4.90E-06	3.42E-06	5.19E-06	5.87E-06	5.40E-06	4.83E-06
	[1.27301]	(3.8E-06)	(4.4E-06)	(3.8E-06)	(3.7E-06)	(3.8E-06)	(3.8E-06)
		[1.30288]	[0.78556]	[1.36422]	[1.58809]	[1.42960]	[1.28232]
D(AGRI(-2))	0.005435						
	(0.02568)	0.002405	0.000175	0.001451	0.001506	-0.019710	0.004578
	[0.21166]	(0.02588)	(0.02573)	(0.02625)	(0.02540)	(0.03273)	(0.02662)
		[0.09293]	[0.00681]	[0.05528]	[0.05929]	[-0.60218]	[0.17202]

D(AGRI(-3))	0.030494						
	(0.02417)	0.031921	0.029814	0.034865	0.028874	0.060497	0.034682
	[1.26157]	(0.02448)	(0.02430)	(0.02503)	(0.02405)	(0.03105)	(0.02462)
		[1.30390]	[1.22687]	[1.39299]	[1.20036]	[1.94831]	[1.40886]
D(FDI(-2))	-0.001975						
	(0.01225)	-0.002429	-0.002907	-0.003173	-0.002098	-0.001749	0.034160
	[-0.16123]	(0.01229)	(0.01220)	(0.01246)	(0.01208)	(0.01229)	(0.02947)
		[-0.19767]	[-0.23829]	[-0.25473]	[-0.17360]	[-0.14234]	[1.15916]
D(FDI(-3))	0.011805						
	(0.01987)	0.011521	0.009812	0.011599	0.013169	0.012093	0.005760
	[0.59409]	(0.01993)	(0.01980)	(0.02025)	(0.01964)	(0.01995)	(0.02952)
		[0.57810]	[0.49555]	[0.57279]	[0.67039]	[0.60619]	[0.19512]
D(GOV(-2))							
		0.076255	0.004512	0.067608	-0.011037	0.192368	0.058476
		(0.07091)	(0.07567)	(0.07185)	(0.07271)	(0.16225)	(0.07193)
		[1.07535]	[0.05963]	[0.94099]	[-0.15180]	[1.18560]	[0.81292]
D(GOV(-3))							
		0.010941	0.002147	0.011041	-0.052280	-0.206776	0.008976
		(0.08397)	(0.08524)	(0.08505)	(0.08528)	(0.15993)	(0.08685)
		[0.13029]	[0.02519]	[0.12982]	[-0.61302]	[-1.29295]	[0.10335]

D(MIG_GOV(-
2))

-7.53E-07
(3.0E-07)
[-2.46991]

D(MIG_GOV(-
3))

-1.45E-07
(3.2E-07)
[-0.45531]

D(TOP_GOV(-
2))

7.83E-05
(0.00039)
[0.19942]

D(TOP_GOV(-
3))

-4.96E-05
(0.00047)
[-0.10650]

D(INF_GOV(-
2))

0.005405
(0.00142)
[3.81163]

D(INF_GOV(- 3))	0.002572						
	(0.00133)						
	[1.93126]						
D(AGRI_GOV (-2))	-0.003402						
	(0.00444)						
	[-0.76689]						
D(AGRI_GOV (-3))	0.007370						
	(0.00462)						
	[1.59661]						
D(FDI_GOV(- 2))	0.008975						
	(0.00622)						
	[1.44243]						
D(FDI_GOV(- 3))	-0.003223						
	(0.00716)						
	[-0.45004]						
C	-0.186892	-0.167423	-0.159620	-0.168586	-0.193436	-0.164336	-0.161555
	(0.07763)	(0.08119)	(0.08061)	(0.08215)	(0.07989)	(0.08144)	(0.08184)
	[-2.40749]	[-2.06206]	[-1.98015]	[-2.05221]	[-2.42113]	[-2.01779]	[-1.97399]

The study used seven models to show the effect of traditional factors (migration, trade openness, FDI, agriculture, and inflation) on poverty and the study analyzed the moderation effect of governance on traditional factors. No problem of multicollinearity exists among the independent variables so all these variables were run in one model, then governance was introduced as an independent variable in Model 2, and then governance was used as a moderator by creating interaction term with all independent variables one by one. The literature asked how traditional factors become more effective. Table 23 for VECM presents short-run results in the form of coefficients, standard errors, and t values which are exhibited in the form of β , $()$, and $[\]$, respectively. The coefficient of ECT (α) is interpreted as rate of shock convergence in the current time toward equilibrium for the next time period. Furthermore, the ECM term describes the velocity of adjustment: the rate through which a dependent variable returns back to equilibrium after an exogenous shock. The ECT value must be negative and significant, because a positive sign shows the movement of a dependent variable away from equilibrium, whereas a negative sign represents the movement of a dependent variable toward equilibrium. The value of ECT must be between 0 and -1 where 0 means no adjustment and -1 means 100% adjustment. The above result shows the value of -0.14 which means 14% speed of adjustment of dependent variable as it moves toward equilibrium within one year from now. Results indicate that in the case of Africa, if any disturbance causes the system to deviate from its equilibrium path, the system will converge at a speed of 12% correction in Model 1, while in Models 2, 3, 4, 5, 6, and 7 the convergence speeds are 32%, 13%, 18%, 6%, 8%, and 6%, respectively. The results indicate that the speed of convergence in Model 2 is higher than the speed of convergence of the other models in the case of Africa.

Table 24: VAR Model Long-Run Results for South Asia

Dependent variable: Poverty							
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Constant	22.82198	-21.579	18.32692	70.3106	54.94431	17.156	47.4680
MIG	-1.20E-05** -[3.77575]	-4.58E-05* [-2.01251]	-6.15E-05*** [-12.5723]	-1.33E-06** [-3.25265]	-1.33E-05** [-3.96279]	-8.42E-06* [-2.99449]	-8.25E-06** [-4.79850]
TOP	0.63259*** [9.01800]	1.78954*** [7.15202]	0.16010* [2.9849]	7.2247*** [10.6717]	0.62419*** [9.04097]	1.01198*** [8.91640]	0.07987* [2.2460]
INF	1.839178** [3.62100]	7.58120*** [6.26327]	6.07877*** [12.1409]	6.7713*** [11.8535]	3.32164** [3.34681]	3.52567*** [9.74709]	2.35273*** [8.26804]
AGRI	0.01474* [2.02733]	1.9383* [2.8206]	1.4509* [2.9343]	3.6893** [4.1420]	0.5803*** [6.98446]	-3.3909** [-4.5387]	1.6508** [5.8277]
FDI	-9.79587** [-4.40916]	-4.3681*** [-7.68514]	-5.8081** [-3.38843]	-6.3826*** [-6.2143]	-8.054*** [-6.7212]	-1.8638** [-3.6774]	-9.0962*** [-13.526]
GOV	--	-2.2904*** [-7.5214]	-3.9418*** [-6.4240]	-5.01040*** [-7.1216]	-7.9692*** [-9.7835]	-2.0129** [-5.0451]	-2.7620*** [-10.163]
GOV*MIG	--	--	1.35E-5*** [9.95498]	--	--	--	--

GOV*TOP	--	--	--	-3.7464*** [-10.2636]	--	--	--
GOV*INF	--	--	--	--	0.98931** [3.9143]	--	--
GOV*AGRI	--	--	--	--	--	-2.85079** [-5.6100]	--
GOV*FDI	--	--	--	--	--	--	7.73938*** [10.1288]

Note: *indicates significance level at 5%, ** less than 5%, *** less than 1%; *t* value is in []

The long-run relationships of migration, inflation, trade openness, FDI, and agriculture with poverty for South Asia in the period 1995 to 2020 are displayed in Table 24 where t value is presented in (). The results of this study in Model 1 indicated that MIG [-1.20E-05** (-3.77575)], TOP [0.63259*** (9.01800)], INF [1.839178** (3.62100)], AGRI [0.01474 (2.02733)], and FDI [-9.79587*** (-4.40916)] have a statistically significant long-term relationship with poverty in South Asia. Although FDI and MIG have a negative association with poverty in the South Asia region. The findings of the study show that migration has a significant and negative long-run relationship with poverty; if we increase migration by one unit, poverty will decrease by 1.20E-05 units. Inflation has a significant and positive long-run relationship with poverty; if we increase inflation by one unit, poverty will increase by 1.839178 units. Agriculture also has a significant and positive long-run relationship with poverty; if we increase agriculture by one unit, poverty will increase by 0.01474 units. Trade openness has a significant and positive long-run relationship with poverty; if we increase trade openness by one unit, poverty will increase by 0.63259 units. FDI has a significant and negative long-run relationship with poverty; if we increase FDI by one unit, in response, poverty will decrease by 9.79587 units. Model 1 is given below:

$$POV_{it} = \alpha_0 + \alpha_1 MIG + \alpha_2 TOP + \alpha_3 INF + \alpha_4 FDI_{it} + \alpha_5 AGRI_{it} + \epsilon_{it} \dots \dots \text{(Equation 1)}$$

$$POV_{it} = 22.82198 - 1.20E - 05MIG + 0.63259TOP + 1.839178INF - 0.80390 FDI_{it} + 0.01474AGRI_{it} + \epsilon_{it} \text{ (Equation 1 for South Asia)}$$

Model 2 introduced governance as an independent variable, which shows a negative relationship with poverty, GOV [-2.2904*** (-7.5214)], and it changed the value of β s but did not affect the signs.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \epsilon_{it} \dots$$

(Equation 2)

$$POV_{it} = -21.579 - 4.58E-05 MIG + 1.78954TOP + 7.58120INF - 4.3681FDI_{it} \\ + 1.9383AGRI_{it} - 2.2904GOV_{it} + \epsilon_{it}$$

In Model 3 governance plays a role as a moderator between migration and poverty. An interaction term is introduced by multiplying GOV and MIG. According to the result in the case of South Asia, governance strengthens the relation between migration and poverty, as the value presents as GOV * MIG [1.35E-05 (9.95498)] showing a significant and positive relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (MIG * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 3)}$$

$$POV_{it} = 18.32692 - 6.15E-05MIG + 0.16010TOP + 6.07877INF - 5.8081FDI_{it} + \\ 1.4509AGRI_{it} - 3.9418GOV_{it} + 1.35E-05 (MIG * GOV)_{it} + \epsilon_{it}$$

Whereas in Model 4, governance weakens the relation between trade openness and poverty. Trade openness has a positive relation with poverty as the value presents as GOV * TOP [-3.7464 (-10.2636)] showing a significant and negative relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \\ \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (TOP * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 4)}$$

$$POV_{it} = 70.3106 - 1.33E-06MIG + 7.2247TOP + 6.7713INF - 6.3826FDI_{it} + 3.6893AGRI_{it} - \\ 1.2087 GOV_{it} - 3.7464 (TOP * gov)_{it} + \epsilon_{it}$$

Moreover, in Model 5, governance strengthens the relation between inflation and poverty. Inflation and poverty already had a positive relationship. The value of GOV * INF is [0.98931** (3.9143)] which shows a significant and positive relationship.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (INF * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 5)}$$

$$POV_{it} = 54.94431 - 1.33E - 05MIG + 0.62419TOP + 3.32164INF - 8.054FDI_{it} + 0.5803AGRI_{it} - 7.96927GOV_{it} + 0.98931 (INF * GOV)_{it} + \epsilon_{it}$$

Furthermore, in Model 6, governance as a moderator weakens the relation between agriculture and poverty, whereas earlier, agriculture had a positive relation with poverty. The value of GOV * AGRI [-2.85079 (-5.6100)] shows a significant and negative relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (AGRI * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 7)}$$

$$POV_{it} = 17.156 - 8.42E - 06MIG + 1.01198TOP + 3.52567INF - 1.8638FDI_{it} + 1.6508AGRI_{it} - 2.01290 GOV_{it} - 2.85079 (AGRI * GOV)_{it} + \epsilon_{it}$$

And last but not least, in Model 7, governance as a moderator strengthens the relation between FDI and poverty, whereas earlier, FDI had a negative relation with poverty. The value of GOV * FDI [7.73938*** (10.1288)] shows a significant and positive relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (FDI * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 7)}$$

$$POV_{it} = 47.4680 - 8.25E - 06 MIG + 0.07987TOP + 2.35273 INF - 9.0962FDI_{it} + 1.6508$$

$$AGRI_{it} - 2.7620GOV_{it} + 7.73938(FDI \square GOV)_{it} + \square_{it}$$

The overall analysis of South Asia region in the case of traditional factors suggests that the role of governance as a moderator weakens the relation of trade openness and agriculture with poverty, whereas governance as a moderator strengthens the relation of migration, inflation, and FDI with poverty.

Table 25: VAR Model Short-Run Results for South Asia

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
ECM Term	-0.112743 (0.01565) [-7.20402]	- 0.213633 (0.01240) [-17.2284]	-0.314783 (0.01381) [-22.793]	-0.346489 (0.02111) [-16.4212]	-0.415086 (0.02529) [-16.4130]	-0.474881 (0.02402) [-19.7702]	-0.710925 (0.01710) [-41.5745]
D(POV(-2))	1.277878 (0.32512) [3.93042]	1.307357 (0.30205) [4.32829]	1.190930 (0.27418) [4.34360]	1.327360 (0.29920) [4.43638]	1.318474 (0.27418) [3.89155]	1.433830 (0.31233) [4.59082]	1.534785 (0.30452) [5.04003]
D(POV(-3))	-0.629916 (0.29183) [-2.15847]	-0.592193 (0.27411) [-2.16043]	-0.530082 (0.26134) [-2.02829]	-0.596559 (0.28117) [-2.12173]	-0.566003 (0.30507) [-1.85530]	-0.766668 (0.29648) [-2.58586]	-0.763306 (0.28183) [-2.70841]
D(MIG(-2))	9.16E-07 (1.8E-06) [0.51179]	-1.49E-07 (1.7E-06) [-0.09059]	4.61E-06 (2.0E-06) [2.27052]	1.60E-06 (1.7E-06) [0.94791]	-6.58E-07 (1.7E-06) [-0.37992]	-2.19E-07 (1.7E-06) [-0.12628]	3.03E-07 (1.7E-06) [0.17811]
D(MIG(-3))	-1.49E-06 (1.8E-06) [-0.80676]	-1.68E-06 (1.7E-06) [-1.00531]	-4.51E-06 (1.6E-06) [-2.75152]	-2.71E-06 (1.6E-06) [-1.66367]	-1.21E-06 (1.7E-06) [-0.69241]	-1.80E-06 (1.7E-06) [-1.03105]	-1.61E-06 (1.7E-06) [-0.95604]
D(INF(-2))	-0.044662 (0.03067) [-1.45630]	-0.006912 (0.03106) [-0.22254]	0.030336 (0.02958) [1.02562]	-0.003412 (0.03195) [-0.10678]	0.005448 (0.08653) [0.06297]	0.000922 (0.03303) [0.02790]	-0.015387 (0.03213) [-0.47897]
D(INF(-3))	-0.110526 (0.04407) [-2.50824]	-0.075492 (0.04345) [-1.73740]	-0.065344 (0.04193) [-1.55841]	-0.072305 (0.04359) [-1.65857]	-0.078993 (0.08908) [-0.88680]	-0.102009 (0.04616) [-2.20982]	-0.103712 (0.04452) [-2.32941]

D(FDI(-2))	0.094404 (0.10918) [0.86467]	0.038253 (0.10050) [0.38061]	0.035799 (0.08667) [0.41304]	0.012284 (0.09587) [0.12814]	0.029498 (0.10467) [0.28181]	0.033947 (0.10406) [0.32623]	0.105618 (0.10979) [0.96202]
D(FDI(-3))	0.005292 (0.11503) [0.04601]	0.022297 (0.10460) [0.21317]	0.001272 (0.08934) [0.01424]	0.001560 (0.10019) [0.01557]	0.025523 (0.11092) [0.23010]	-0.029338 (0.11082) [-0.26473]	0.089781 (0.11583) [0.77508]
D(AGRI(-2))	0.045452 (0.14448) [0.31459]	-0.027413 (0.12977) [-0.21125]	-0.048141 (0.11181) [-0.43057]	-0.095558 (0.12586) [-0.75921]	0.006375 (0.13647) [0.04671]	-0.085960 (0.16054) [-0.53544]	-0.039626 (0.13428) [-0.29510]
D(AGRI(-3))	0.071091 (0.17352) [0.40969]	0.250941 (0.18764) [1.33738]	0.193437 (0.16334) [1.18426]	0.168569 (0.18178) [0.92735]	0.352003 (0.18580) [1.89456]	0.234526 (0.21033) [1.11506]	0.293472 (0.18286) [1.60494]
D(TOP(-2))	0.001684 (0.00340) [0.49527]	0.000355 (0.00314) [0.11279]	-0.000449 (0.00271) [-0.16576]	-0.010274 (0.03271) [-0.31412]	-0.000204 (0.00339) [-0.06029]	0.000419 (0.00327) [0.12830]	0.000234 (0.00318) [0.07342]
D(TOP(-3))	0.007964 (0.00381) [2.08998]	0.007346 (0.00347) [2.11604]	0.005751 (0.00309) [1.86348]	0.008501 (0.03588) [0.23696]	0.007456 (0.00371) [2.00965]	0.009102 (0.00369) [2.46876]	0.008688 (0.00350) [2.47956]
D(GOV(-2))							
D(GOV(-3))		0.782285 (0.25263) [3.09652]	1.108073 (0.25311) [4.37788]	0.735334 (0.24630) [2.98553]	0.834152 (0.29388) [2.83842]	0.895523 (0.71613) [1.25050]	0.768621 (0.25900) [2.96762]
		0.545903 (0.21212) [2.57358]	0.206052 (0.23678) [0.87024]	0.568968 (0.20937) [2.71756]	0.589729 (0.29165) [2.02203]	1.189099 (0.80099) [1.48454]	0.455999 (0.22442) [2.03189]
D(MIG_GO V(-2))			6.45E-07 (2.2E-07) [2.91400]				
D(MIG_GO V(-3))			-4.35E-07 (1.8E-07) [-2.45955]				
D(TOP_GO V(-2))				-0.003381 (0.01031) [-0.32801]			

D(TOP_GO V(-3))					0.000414 (0.01123) [0.03684]		
D(INF_GO V(-2))					0.003331 (0.02087) [0.15958]		
D(INF_GO V(-3))					-0.000175 (0.02171) [-0.00806]		
D(AGRI_G OV(-2))						-0.001248 (0.02792) [-0.04470]	
D(AGRI_G OV(-3))						-0.036515 (0.03726) [-0.98008]	
D(FDI_GO V(-2))							0.057252 (0.04735) [1.20924]
D(FDI_GO V(-3)) C							0.053252 (0.04897) [1.08750]
	-0.606803 (0.30464) [-1.99190]	-0.124313 (0.32205) [-0.38601]	-0.333622 (0.27432) [-1.21620]	-0.183108 (0.29586) [-0.61891]	0.057120 (0.31546) [0.18107]	-0.244795 (0.41980) [-0.58312]	0.038611 (0.30695) [0.12579]

Results indicate in table 25 that in the case of South Asia, if any disturbance causes the system to deviate from its equilibrium path, the system will converge at a speed of 7% correction in Model 1, while in Models 2, 3, 4, 5, 6, and 7 the convergence speeds are 17%, 22%, 16%, 16%, 19%, and 41%, respectively. The convergence speed of Model 7 is highest.

Table 26: VAR Model Long-Run Results for Latin America

Dependent variable: Poverty

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Constant	30.15599	2.09573	41.9084	21.6299	-10.3458	-2.462271	9.570796
MIG	-3.59E-05*	-6.3E-0	-0.000**	-1.87E-05	-5.08E-06	-1.81E-05	-1.70E-05
	[-2.96762]	[-2 .654]	[-5.805]	[-1.46638]	[-0.66649]	[-1.66133]	[-1.24185]
TOP	0.3352***	0.1869**	0.2749	-0.2210**	0.14938**	0.2224***	0.260334
	[14.7229]	[14.7432]	[12.592]	[-4.16611]	[14.9264]	[15.4355]	[14.8435]
INF	2.115603*	0.38543*	0.71794*	0.989766*	0.26980**	1.82096**	0.294561**
	[2.3484]	[2.756]	[2.83416]	[2.58127]	[3.77015]	[3.13723]	[4.41503]
AGRI	-2.258616	-0.7023	-0.826**	-1.01207	-1.14405*	-1.5452**	-1.17268
	[-3.235]**	[-0.616]	[-5.4312]	[-0.72765]	[-2.2280]	[-5.9220]	[-0.74473]
FDI	-0.43323**	-0.469**	-1.146**	-0.97566**	-1.0541**	-2.38185	-1.10905**
	[-6.21062]	[-3.402]	[-5.5894]	[-6.69429]	[-5.1188]	[-4.2950]	[-5.00532]
GOV	--	-0.020**	-4.442**	-3.6389***	-4.1387**	-5.481***	-5.5248***
		[-6.013]	[-7.7185]	[-5.34884]	[-3.0068]	[-7.36002]	[-8.4980]
GOV*MIG	--	--	1.58-05*	--	--	--	--
			[2.56649]				
GOV*TOP	--	--	--	-0.09551	--	--	--
				[- 9.36740]			
GOV*INF	--	--	--	--	0.2966**	--	--
					[3.71389]		
GOV*AGRI	--	--	--	--	--	-1.0275**	--
						[-5.0083]	

GOV*FDI	--	--	--	--	--	--	-1.93265 [-8.39950]
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Note: *indicates significance level at 5%, ** less than 5%, *** less than 1; t value is in []

The long-run relationships among migration, inflation, trade openness, FDI, and agriculture with poverty for Latin America in the time period 1995 to 2020 are displayed in Table 26, where t value is presented in (). The results of this study in Model 1 indicated that MIG -3.59E-05 (-2.96762)], TOP [0.33527*** (14.7229)], INF [2.115603* (2.3484)], AGRI [-2.258616 (-3.23587**)], and FDI [-0.433233*** (-6.21062)] have a statistically significant long-term relationship with poverty in Latin America. Although FDI, MIG, and AGRI have a negative association with poverty in the Latin America region. The findings of the study show that migration has a significant and negative long-run relationship with poverty; if we increase migration by one unit, poverty will decrease by 3.59E-05 units. Inflation has a significant and positive long-run relationship with poverty; if we increase inflation by one unit, poverty will increase by 2.115603 units. Agriculture has a significant and negative long-run relationship with poverty; if we increase agriculture by one unit, poverty will decrease by 2.258616 units. Trade openness has a significant and positive long-run relationship with poverty; if we increase trade openness by one unit, poverty will increase by 0.33527 units. FDI has a significant and negative long-run relationship with poverty; if we increase FDI by one unit, in response, poverty will decrease by 0.433233 units. Model 1 is given below:

$$POV_{it} = \alpha_0 + \alpha_1 MIG + \alpha_2 TOP + \alpha_3 INF + \alpha_4 FDI_{it} + \alpha_5 AGRI_{it} + \epsilon_{it} \dots \dots \dots \text{(Equation 1)}$$

$$POV_{it} = 22.82198 - 1.20E - 05MIG + 0.63259TOP + 1.839178INF - 0.80390$$

$$FDI_{it} + 0.01474AGRI_{it} + \epsilon_{it} \text{ (Equation 1 for Latin America)}$$

Model 2 introduced governance as an independent variable, which shows a negative relationship with poverty, GOV [-0.02050*** (-6.01363)], and it changed the value of β s but did not affect the signs.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \epsilon_{it} \dots$$

(Equation 2)

$$POV_{it} = 2.09573 - 6.37E-06MIG + 0.18696TOP + 0.38543INF - 0.46942FDI_{it} - 0.702365AGRI_{it} - 0.02050GOV_{it} + \epsilon_{it}$$

In Model 3, governance plays a role as moderator between migration and poverty. An interaction term is introduced by multiplying GOV and MIG. According to the result, in the case of Latin America, governance strengthens the relation between migration and poverty, as the value presents as GOV * MIG [1.58E-05* (2.56649)] showing a significant and positive relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (MIG * GOV)_{it} + \epsilon_{it} \dots$$

(Equation 3)

$$POV_{it} = 41.9084 - 0.000128MIG + 0.2749TOP + 0.71794INF - 3.8081FDI_{it} - 0.82625AGRI_{it} - 4.44527GOV_{it} + 1.58E - 05(MIG * GOV)_{it} + \epsilon_{it}$$

Whereas in Model 4, governance weakens the relation between trade openness and poverty. Trade openness has a positive relation with poverty. The value presents as GOV * TOP [-3.638907*** (-5.34884)] showing a significant and negative relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (TOP * GOV)_{it} + \epsilon_{it} \dots$$

(Equation 4)

$$POV_{it} = 21.6299 - 1.87E-05MIG - 0.22105TOP + 0.989766INF - 0.97566FDI_{it} - 1.01207AGRI_{it} - 3.638907GOV_{it} - 0.09551 (TOP * gov)_{it} + \epsilon_{it}$$

Moreover, in Model 5, governance strengthens the relation between inflation and poverty. Inflation and poverty already had a positive relationship. The value of GOV * INF is [0.29662** (3.71389)] which shows a significant and positive relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (INF * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 5)}$$

$$POV_{it} = -10.3458 - 5.08E-06MIG + 0.14938TOP + 0.26980INF - 1.0541FDI_{it} - 1.14405AGRI_{it} - 0.138755GOV_{it} + 0.29662 (INF * GOV)_{it} + \epsilon_{it}$$

Furthermore, in Model 6, governance as a moderator weakens the relation between agriculture and poverty, whereas earlier, agriculture had a positive relation with poverty. The value of GOV * AGRI [-1.027594*** (-5.0083)] shows a significant and negative relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (AGRI * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 7)}$$

$$POV_{it} = -2.462271 - 1.81E-05MIG + 0.260334TOP + 1.82096INF - 2.38185FDI_{it} - 1.54524AGRI_{it} - 5.481299GOV_{it} - 1.027594(AGRI * GOV)_{it} + \epsilon_{it}$$

And last but not least, in Model 7, governance as a moderator weakens the relation between FDI and poverty, whereas earlier, FDI had a positive relation with poverty. The value of GOV * FDI is [-1.93265 (-8.39950)] which shows a significant and negative relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (FDI * GOV)_{it} + \epsilon_{it} \quad (\text{Equation 7})$$

$$POV_{it} = 9.570796 - 1.70E-05MIG + 0.260334TOP + 0.294561INF - 1.10905FDI_{it} - 1.17268AGRI_{it} - 5.524188GOV_{it} - 1.93265 (FDI * GOV)_{it} + \epsilon_{it}$$

The overall analysis of Latin America region in the case of traditional factors suggests that the role of governance as a moderator weakens the relation of trade openness, agriculture, and FDI with poverty, whereas governance as a moderator strengthens the relation of migration and inflation with poverty.

Table 27: VAR Model Short-Run Results for Latin America

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
ECM TERM	-0.10260* (0.0115) [-8.9139]	-0.10573* (0.0026) [-39.900]	-0.02288* (0.0015) [-14.859]	-0.05366* (0.0016) [-32.71]	-0.0368* (0.0033) [-11.014]	-0.0447* (0.002) [-19.79]	-0.0336* (0.0019) [-17.530]
D(POV(-2))	-0.031214 (0.0719) [-0.4336]	-0.00325 (0.0701) [-0.0463]	-0.006753 (0.0707) [-0.0954]	-0.01054 (0.0690) [-0.1523]	-0.00182 (0.0717) [-0.0255]	-0.00191 (0.0708) [-0.0269]	-0.00597 (0.0709) [-0.0842]
D(POV(-3))	-0.060525 (0.0697) [-0.8678]	-0.058189 (0.0659) [-0.8822]	-0.060357 (0.0666) [-0.9054]	-0.034517 (0.0651) [-0.5295]	-0.06366 (0.0671) [-0.9485]	-0.05792 (0.0662) [-0.8740]	-0.05765 (0.0666) [-0.8653]
D(AGRI(-2))	-0.09510 (0.1180) [-0.8058]	-0.09906 (0.111) [-0.885]	-0.1034 (0.1130) [-0.9145]	-0.1098 (0.109) [-0.99]	-0.10189 (0.1165) [-0.8742]	-0.16328 (0.1319) [-1.241]	-0.09644 (0.1136) [-0.8483]
D(AGRI(-3))	-0.019899 (0.11790) [-0.1687]	-0.022506 (0.1107) [-0.2028]	-0.014631 (0.1117) [-0.1309]	-0.0368 (0.1089) [-0.3384]	-0.02484 (0.1138) [-0.2182]	-0.05774 (0.1185) [-0.4872]	-0.01311 (0.1128) [-0.1162]
D(INF(-2))	-0.022267 (0.0188) [-1.1791]	-0.027714 (0.0173) [-1.5545]	-0.0274 (0.0179) [-1.526]	-0.0273 (0.0175) [-1.5634]	-0.02969 (0.0243) [-1.230]	-0.03216 (0.0184) [-1.7390]	-0.02815 (0.0180) [-1.5595]
D(INF(-3))	-0.010491 (0.0178) [-0.5885]	-0.013184 (0.0169) [-0.7768]	-0.013648 (0.0171) [-0.7980]	-0.008659 (0.0167) [-0.5185]	-0.01410 (0.0207) [-0.6803]	-0.01547 (0.013) [-0.8908]	-0.01405 (0.0171) [-0.8197]
D(FDI(-2))	-0.048080 (0.0630) [-0.7631]	-0.087316 (0.0611) [-1.4240]	-0.088235 (0.0620) [-1.4228]	-0.105890 (0.0604) [-1.7518]	-0.08231 (0.0627) [-1.3115]	-0.09120 (0.0641) [-1.4219]	-0.09285 (0.0666) [-1.3928]

	- 0.03823	-0.021021	-0.017601	-0.022117	-0.01631	-0.00630	-0.0294
	(0.0628)	(0.0610)	(0.0618)	(0.0599)	(0.0623)	(0.0636)	(0.0663)
D(FDI(-3))	[-0.6079]	[-0.3440]	[-0.2846]	[-0.3692]	[-0.2617]	[-0.0989]	[-0.4433]
	1.07E-06	1.38E-06	2.03E-06	1.87E-06	1.42E-06	1.13E-06	1.30E-06
	(4.4E-06)	(4.1E-06)	(4.4E-06)	(4.3E-06)	(4.2E-06)	(4.1E-06)	(4.2E-06)
D(AGRI(-2))	[0.2446]	[0.3351]	[0.4654]	[0.4369]	[0.3422]	[0.2729]	[0.3125]
	6.76E-07	2.99E-07	9.50E-08	1.20E-06	2.93E-07	4.75E-07	4.13E-07
	(4.3E-06)	(4.1E-06)	(4.2E-06)	(4.2E-06)	(4.1E-0)	(4.1E-0)	(4.1E-0)
D(AGRI(-3))	[0.1553]	[0.0729]	[0.0226]	[0.2865]	[0.0710]	[0.1154]	[0.1001]
	0.000289	0.000349	0.000339	-0.001363	0.000357	0.000330	0.000359
	(0.0004)	(0.0004)	(0.0004)	(0.00104)	(0.0004)	(0.0004)	(0.0004)
D(TOP(-2))	[0.6932]	[0.8811]	[0.8432]	[-1.3102]	[0.8886]	[0.8266]	[0.8974]
	-6.62E-05	-1.52E-05	-9.27E-06	-0.002334	-1.4E-05	-5.4E-05	-2.5E-05
	(0.0004)	(0.0003)	(0.0003)	(0.0008)	(0.0003)	(0.0003)	(0.0003)
D(TOP(-3))	[-0.1660]	[-0.0402]	[-0.0241]	[-2.7058]	[-0.0364]	[-0.1427]	[-0.0652]
D(GOV(-2))		-0.145248	-0.174066	-0.084440	-0.13353	-0.24568	-0.11070
		(0.1398)	(0.1497)	(0.1389)	(0.165)	(0.2752)	(0.1650)
		[-1.0386]	[-1.1624]	[-0.6079]	[-0.8045]	[-0.8927]	[-0.6706]
D(GOV(-3))		0.043800	0.084017	0.057929	0.053960	0.260339	0.095555
		(0.1411)	(0.1457)	(0.1360)	(0.1603)	(0.2824)	(0.1646)
		[0.3103]	[0.5763]	[0.4256]	[0.3365]	[0.9218]	[0.5802]
D(MIG_GOV(-2))			-2.83E-07				
			(3.8E-07)				
			[-0.7531]				
D(MIG_GOV(-3))			5.72E-08				
			(3.9E-07)				
			[0.1484]				
D(TOP_GOV(-2))				-0.000366			
				(0.0002)			
				[-1.7744]			
D(TOP_GOV(-3))				-0.000529			
				(0.0001)			
				[-2.9951]			
D(INF_GOV(-2))					-0.00102		
					(0.0089)		
					[-0.1151]		
D(INF_GOV(-3))					-0.00024		
					(0.0083)		
					[-0.0296]		

D(AGRI_GOV(-2))						0.009828 (0.0247) [0.3965]	
D(AGRI_GOV(-3))						-0.02034 (0.0264) [-0.7685]	
D(FDI_GOV(-2))							-0.00790 (0.0280) [-0.2813]
D(FDI_GOV(-3))							-0.00996 (0.0278) [-0.3577]
C	-0.696700 (0.15669) [-4.4463]	-0.705551 (0.15025) [-4.6959]	-0.706035 (0.15158) [-4.6577]	-0.704047 (0.14745) [-4.7746]	-0.71226 (0.1519) [-4.6887]	-0.69976 (0.1510) [-4.6342]	-0.69301 (0.152) [-4.5588]

The results in Table 27 indicate that in the case of Latin America if any disturbance causes the system to deviate from its equilibrium path, the system will converge at a speed of 8% correction in Model 1, while in Models 2, 3, 4, 5, 6, and 7 the convergence speeds are 39%, 14%, 32%, 11%, 19%, and 17%, respectively. The speed of convergence in Model 2 is highest.

Table 28: VAR Model Long-Run Results for Developing Economies of Traditional Factors

Dependent variable: Poverty							
Variable s/models	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Constant	46.48326	49.74363	-49.12539	2.99818	-24.9657	64.03211	39.45435
MIG	-0.07209 [-2.3594]	-0.06602 [-2.25122]	-0.20976 [-3.46460]	-0.112128 [-9.48905]	-0.00953 [-3.03534]	-0.08587 [-5.27818]	-0.094384 [-2.34250]
TOP	1.068877 [24.0664]	3.3767*** [23.8857]	1.42042** [23.8598]	2.3337*** [9.58760]	1.3732*** [23.2426]	1.63014 [23.9055]	2.42431*** [23.6590]
INF	4.5469*** [6.12583]	5.81607** [6.06947]	5.8839*** [5.92899]	3.12388** [3.73662]	2.8389*** [4.15578]	6.23524*** [5.49779]	6.77112*** [6.73832]
AGRI	-5.762*** [-4.85810]	-12.55172* [-2.25032]	-13.713** [-3.30498]	-10.37071** [-3.18240]	-11.779*** [-8.13528]	-22.7904*** [-7.13680]	-13.55144 [-8.28891]
FDI	-2.10911 [-3.16584]	-2.995*** [-4.1836]	-2.612*** [-5.15487]	-5.20737** [-3.36583]	-6.1378*** [-4.36600]	-2.54867*** [-7.1309]	-3.45607 [-5.6734]
GOV	--	-5.5136*** [-7.13529]	-4.428*** [-8.10294]	-5.30840*** [-7.14845]	-5.17914* [-2.31061]	-2.49547 [-8.38836]	-3.5537 [-9.65019]
GOV*M IG	--	--	0.02465* [2.24941]	--	--	--	--
GOV*T OP	--	--	--	-1.139654** [-6.40809]	--	--	--
GOV*IN F	--	--	--	--	1.375731* **	--	--

					[4.34854]		
GOV*A	--	--	--	--	--	-24.1685***	--
GRI						[-7.1490]	
GOV*F	--	--	--	--	--	--	6.75394
DI							[8.87244]

Note: *indicates significance level at 5%, ** less than 5%, *** less than 1%; *t* value is in []

The long-run relationships among migration, inflation, trade openness, FDI, and agriculture with poverty for full sample of Africa, South Asia, and Latin America in the time period 1995 to 2020 are displayed in Table 28 where *t* value is presented in (). The results of this study for Model 1 indicated that MIG [-0.07209 (-2.3594)], TOP [1.068877(24.0664)], INF [4.54693*** (6.12583)], AGRI [-5.76232*** (-4.85810)], and FDI [-2.10911(-3.16584)] have a statistically significant long-term relationship with poverty in full sample. Trade openness and inflation have a positive relation with poverty in full sample. The findings of the study show that migration has a significant and negative long-run relationship with poverty; if we increase migration by one unit, poverty will decrease by -0.07209 units. Inflation has a significant and positive long-run relationship with poverty; if we increase inflation by one unit, poverty will increase by 4.54693 units. Agriculture has a significant and negative long-run relationship with poverty; if we increase agriculture by one unit, poverty will decrease by -5.76232 units. Trade openness has a significant and positive long-run relationship with poverty; if we increase trade openness by one unit, poverty will increase by 1.068877 units. FDI has a significant and negative long-run relationship with poverty; if we increase FDI by one unit, in response, poverty will decrease by -2.10911 units. Model 1 is given below:

$$POV_{it} = \alpha_0 + \alpha_1 MIG + \alpha_2 TOP + \alpha_3 INF + \alpha_4 FDI_{it} + \alpha_5 AGRI_{it} + \epsilon_{it} \dots \dots \text{(Equation 1)}$$

$$POV_{it} = 22.82198 - 1.20E - 05MIG + 1.068877TOP + 4.54693INF - 0.80390FDI_{it} - 5.76232AGRI_{it} + \epsilon_{it} \text{ (Equation 1 for full sample)}$$

Model 2 introduces governance as an independent variable, which shows a negative relationship with poverty, GOV [-5.513615*** (-7.13529)], and it changed the value of β s but did not affect the signs.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \epsilon_{it} \dots$$

(Equation 2)

$$POV_{it} = 49.74363 - 0.06602MIG + 1.068877TOP + 4.54693INF - 2.99559FDI_{it} - 12.55172AGRI_{it} - 5.513615GOV_{it} + \epsilon_{it}$$

In Model 3, governance plays a role as moderator between migration and poverty. An interaction term is introduced by multiplying GOV and MIG. According to the result, in the case of full sample, governance strengthens the relation between migration and poverty, the value is GOV * MIG [0.02465*(2.24941)], showing a significant and positive relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (MIG * GOV)_{it} + \epsilon_{it} \dots \text{ (Equation 3)}$$

$$POV_{it} = -49.12539 - 0.20976MIG + 3.37673TOP + 5.8839INF - 2.61239FDI_{it} - 13.71633AGRI_{it} - 4.42854GOV_{it} + 0.02465(MIG * GOV)_{it} + \epsilon_{it}$$

Whereas in Model 4, governance weakens the relation between trade openness and poverty, where trade openness has a positive relation with poverty. The value is GOV * TOP [-1.139654*** (-6.40809)], showing a significant and negative relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (TOP * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 4)}$$

$$POV_{it} = 2.99818 - 0.112128MIG + 2.33373TOP + 3.12388INF - 5.20737FDI_{it} - 10.37071AGRI_{it} - 5.30840GOV_{it} - 1.139654 (TOP * gov)_{it} + \epsilon_{it}$$

Moreover, in Model 5, governance strengthens the relation between inflation and poverty. Inflation and poverty already had a positive relationship. The value of GOV * INF is [1.375731*** (4.34854)] which shows a significant and positive relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (INF * GOV)_{it} + \epsilon_{it} \quad \text{(Equation 5)}$$

$$POV_{it} = -24.9657 - 0.00953MIG + 1.37321TOP + 2.83891INF - 6.13785FDI_{it} - 11.77931AGRI_{it} - 5.17914GOV_{it} + 1.375731 (INF * GOV)_{it} + \epsilon_{it}$$

Furthermore, in Model 6, governance as a moderator strengthens the relation between agriculture and poverty, whereas earlier, agriculture had a positive relation with poverty. The value of GOV * AGRI [6.75394 (8.87244)] shows a significant and positive relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (AGRI * GOV)_{it} + \epsilon_{it} \dots \text{(Equation 7)}$$

$$POV_{it} = 64.03211 - 0.08587MIG + 1.63014TOP + 6.23524INF - 2.54867FDI_{it} - 22.7904AGRI_{it} - 2.49547GOV_{it} - 24.1685(AGRI * GOV)_{it} + \epsilon_{it}$$

And last but not least, in Model 7, governance as a moderator strengthens the relation between FDI and poverty, whereas earlier, FDI had a positive relation with poverty. The value of GOV * FDI [6.75394 (8.87244)] shows a significant and positive relation.

$$POV_{it} = \alpha_0 + \alpha_1 TOP_{it} + \alpha_2 INF_{it} + \alpha_3 FDI_{it} + \alpha_4 AGRI_{it} + \alpha_5 MIG_{it} + \alpha_6 GOV_{it} + \alpha_7 (FDI * GOV)_{it} + \epsilon_{it} \quad \text{(Equation 7)}$$

$$POV_{it} = 39.45435 - 0.094384MIG + 2.42431TOP + 6.77112INF - 3.45607FDI_{it} - 1.17268AGRI_{it} - 3.5537GOV_{it} + 6.75394 (FDI * GOV)_{it} + \epsilon_{it}$$

The overall analysis of full sample of South Asia, Latin America, and Africa region in the case of traditional factors suggests that the role of governance as a moderator weakens the relation of trade openness and agriculture with poverty, whereas governance as a moderator strengthens the relation of migration, FDI, and inflation with poverty.

Table 29: VAR Model Short-Run Results for Developing Economies of Traditional Factors

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
ECM Term	-0.005 (0.000) [-10.5]	-0.0059 (0.0004) [-13.468]	- 0.0049 (0.000) [-11.42]	- 0.0058 (0.000) [-13.32]	-0.0068 (0.000) [-16]	-0.0039 (0.000) [-10.56]	- 0.0049 (0.000) [-11.68]
D(POV(-2))	-0.821 (0.055) [-14.7]	-0.8165 (0.0558) [-14.62]	-0.8165 (0.055) [-14.60]	-0.8750 (0.057) [-15.35]	-0.8160 (0.055) [-14.59]	- 0.8136 (0.055) [-14.58]	- 0.8164 (0.055) [-14.60]
D(POV(-3))	-0.1839 (0.055) [-3.312]	-0.1802 (0.055) [-3.243]	-0.1801 (0.055) [-3.236]	-0.2181 (0.056) [-3.864]	-0.1799 (0.055) [-3.231]	-0.1765 (0.055) [-3.176]	-0.1802 (0.055) [-3.237]
D(AGRI(-2))	-295.14 (419.6) [-0.703]	-391.70 (423.4) [-0.924]	-393.39 (424.5) [-0.926]	-242.35 (417.7) [-0.580]	-389.97 (424.2) [-0.919]	-646.70 (488.8) [-1.322]	-435.45 (433.8) [-1.003]

	-295.34	-300.11	-300.66	-353.39	-283.09	-572.47	-316.37
	(401.7)	(405.2)	(405.9)	(399.6)	(406.8)	(471.3)	(407.5)
D(AGRI(-3))	[-0.735]	[-0.740]	[-0.740]	[-0.884]	[-0.695]	[-1.214]	[-0.776]
	-37.233	-19.253	-18.730	-15.323	-77.543	-22.832	-18.992
	(87.28)	(87.95)	(88.18)	(86.51)	(146.3)	(88.42)	(88.25)
D(INF(-2))	[-0.426]	[-0.218]	[-0.212]	[-0.177]	[-0.529]	[-0.258]	[-0.215]
	-20.182	-11.531	-11.593	-6.7165	-53.063	-13.116	-12.981
	(67.06)	(67.38)	(67.49)	(66.18)	(141.6)	(67.31)	(71.72)
D(INF(-3))	[-0.300]	[-0.171]	[-0.171]	[-0.101]	[-0.374]	[-0.194]	[-0.181]
	-1.324	-16.909	-17.746	26.569	-21.028	-1.4207	-157.83
	(219.1)	(219.5)	(219.9)	(216.1)	(220.4)	(219.7)	(459.4)
D(FDI(-2))	[-0.00]	[-0.077]	[-0.080]	[0.122]	[-0.095]	[-0.006]	[-0.343]
	-76.29	-70.907	-70.773	-119.97	-75.12	-85.075	-171.28
	(338.6)	(338.96)	(339.5)	(333.7)	(340.3)	(338.6)	(461.1)
D(FDI(-3))	[-0.22]	[-0.209]	[-0.208]	[-0.359]	[-0.220]	[-0.251]	[-0.371]
	-0.000	-0.0013	-0.0013	-0.002	-0.0017	-0.0035	-0.0014
	(0.033)	(0.0339)	(0.038)	(0.032)	(0.033)	(0.033)	(0.033)
D(MIG(-2))	[-0.02]	[-0.039]	[-0.030]	[-0.086]	[-0.053]	[-0.107]	[-0.043]
	0.0048	0.00511	0.0058	0.0051	0.0061	0.0018	0.00517
	(0.032)	(0.0326)	(0.035)	(0.032)	(0.032)	(0.032)	(0.032)
D(MIG(-3))	[0.149]	[0.1566]	[0.163]	[0.158]	[0.192]	[0.058]	[0.158]
	-9.1713	-9.585159	-9.5822	-59.737	-9.5860	-9.8903	-9.6548
	(4.842)	(4.8509)	(4.858)	(11.72)	(4.859)	(4.850)	(4.860)
D(TOP(-2))	[-1.894]	[-1.9759]	[-1.972]	[-5.094]	[-1.972]	[-2.039]	[-1.986]
	-4.1780	-4.7948	-4.7992	-27.070	-4.756	-5.0865	-4.7946
	(4.743)	(4.758)	(4.766)	(10.38)	(4.767)	(4.757)	(4.772)
D(TOP(-3))	[-0.880]	[-1.007]	[-1.006]	[-2.607]	[-0.997]	[-1.069]	[-1.004]
D(GOV(-2))		1616.55	1652.9	1787.8	1709.8	3562.3	1532.03
		(1064.3)	(110.2)	(105.8)	(111.9)	(189.3)	(108.8)
		[1.5188]	[1.496]	[1.701]	[1.534]	[1.884]	[1.410]

D(GOV(-3))	1416.74 (1165.8) [1.2152]	1444.54 (119.0) [1.21]	1195.62 (114.2) [1.041]	1526.4 (119.7) [1.273]	3026.3 (190.2) [1.589]	1337.03 (122.6) [1.095]
		0.0003 (0.003) [0.109]				
D(MIG_GOV(-2))		0.0001 (0.003) [0.06]				
D(MIG_GOV(-3))			-11.344 (2.422) [-4.682]			
D(TOP_GOV(-2))			-4.9882 (2.193) [-2.274]			
D(TOP_GOV(-3))				-11.068 (24.81) [-0.445]		
D(INF_GOV(-2))				-6.7885 (22.42) [-0.302]		
D(INF_GOV(-3))					-76.107 (61.19) [-1.243]	
D(AGRI_GOV(-2))					-69.984 (67.98) [-1.029]	
D(AGRI_GOV(-3))						41.874 (100.2) [0.417]
D(FDI_GOV(-2))						

							29.047
							(119.8)
D(FDI_GOV(-3))							[0.242]
C	1790.2	2281.655	2272.6	2101.16	2293.4	2031.2	2232.8
	(108.2)	(1117.31)	(1120.9)	(1099.8)	(1120.6)	(1128.3)	(1126.3)
	[1.649]	[2.04209]	[2.027]	[1.910]	[2.046]	[1.800]	[1.98]

ECT indicates the speed of convergence of the model toward equilibrium path if any shock causes the model to diverge from its equilibrium growth path. The results indicate that in the case of full sample if any disturbance causes the system to deviate from its equilibrium path, the system will converge at a speed of 10% correction in Model 1, while in Models 2, 3, 4, 5, 6, and 7 the convergence speeds are 13%, 11%, 13%, 16%, 10%, and 11%, respectively. Moreover, the overall speed of convergence of Model 5 is highest.

Emerging Factors

This study used two models to estimate long-run relationship between emerging factors and poverty with two different proxies of women's empowerment. In Model 1 women's literacy rate was used as a measurement of women's empowerment, while in Model 2 female LFP was utilized as a measurement of women's empowerment. Moreover, this study utilized economic growth and entrepreneurship as control variables in the model. Following are two tables which show long-run and short-run relationship of emerging factors and poverty.

Table 30: VAR Model Long Run for South Asia for Emerging Factors

Variables/models	Model 1	Model 2
Constant	-14.4709	-12.3874
<i>TOU</i>	-2.44E-09*** [-6.05589]	-2.05E-08*** [-7.52178]
<i>ENT</i>	-0.423915**	-0.27562**

	[-3.61711]	[-4.45377]
<i>GDP</i>	5.327304***	-8.92174***
	[8.36643]	[-6.66229]
<i>LR</i>	- 16.8007***	--
	[-6.87420]	
<i>LFP</i>	-	-12.33692**
		[-5.66816]

Note: *indicates significance level at 5%, ** less than 5%, *** less than 1%; *t* value is in []

The long-run relationship of tourism with poverty and women's empowerment (with two proxies LR and LFP) with poverty for South Asia in the time period 1995 to 2020 are displayed in Table 30, where *t* value is presented in (). The results of this study in Model 1 indicated that TOU [-2.44E-09*** (-6.05589)], LR [-16.8007*** (-6.87420)], ENT [-0.423915*** (-3.61711)], and GDP [5.327304*** (8.36643)] have a statistically significant long-term relationship with poverty in South Asia.

Although GDP has a positive relation with poverty in South Asia. The findings show that tourism has a significant and negative long-run relationship with poverty; if we increase tourism by one unit, poverty will decrease by -2.44E-09 units. Women's empowerment (LR) has a significant and negative long-run relationship with poverty; if we increase LR by one unit, poverty will decrease by 16.8007 units. Entrepreneurship has a significant and negative long-run relationship with poverty; if we increase entrepreneurship by one unit, poverty will decrease by 0.423915 units. GDP has a significant and positive long-run relationship with poverty; if we increase GDP by one unit of GDP, in response, poverty will increase by 5.327304 units.

Model 1 is given below:

$$POV_{it} = \alpha_0 + \alpha_1 WE(LR)_{it} + \alpha_2 TOU_{it} + \alpha_3 ENT_{it} + \alpha_4 GDP_{it} + \epsilon_{it}$$

$$POV_{it} = -14.4709 - 16.8007WE(LR)_{it} - 2.44E - 09 TOU_{it} - 0.423915ENT_{it} + 5.327304 GDP_{it} + \epsilon_{it}$$

Model 2 introduced LFP as an independent variable, which showed a negative relationship with poverty, LFP [-12.33692*** (-5.66816)], which is depicted in the form of model as

$$POV_{it} = \alpha_0 + \alpha_1 WE(LFP)_{it} + \alpha_2 TOU_{it} + \alpha_3 ENT_{it} + \alpha_4 GDP_{it} + \epsilon_{it}$$

$$POV_{it} = -12.3874 - 12.33692WE(LFP)_{it} - 2.05E - 08TOU_{it} - 0.27562ENT_{it} - 8.92174GDP_{it} + \epsilon_{it}$$

Women's empowerment (LFP) has a significant and negative long-run relationship with poverty; if we increase LFP by one unit, in response, poverty will decrease by 12.33692 units. The overall analysis of the region of South Asia in the case of emerging factors suggests that the impacts of tourism and women's empowerment have a negative relationship with poverty.

Table 31: VAR Model Short Run for South Asia for Emerging Factors		
Error Correction	Model 1	Model 2
ECM Term	-0.24795 (0.01659) [-14.9457]	-0.310277 (0.01105) [-28.0794]
D(POV(-1))	0.809971 (0.10174) [7.96111]	0.815207 (0.10155) [8.02771]
D(POV(-2))	0.011715 (0.09927) [0.11800]	0.022809 (0.09955) [0.22913]
D(TOU(-1))	3.25E-11 (1.2E-10) [0.26098]	-1.74E-10 (1.5E-10) [-1.16415]
D(TOU(-2))	5.60E-11 (1.6E-10) [0.35659]	-1.29E-10 (1.7E-10) [-0.76140]
D(ENT(-1))	0.337036 (0.08495) [3.96764]	0.379949 (0.08609) [4.41316]

D(ENT(-2))	0.112937 (0.07974) [1.41631]	0.112165 (0.08173) [1.37234]
D(GDP(-1))	-0.034249 (0.02960) [-1.15700]	-0.077212 (0.02471) [-3.12507]
D(GDP(-2))	-0.056821 (0.02172) [-2.61622]	-0.071645 (0.02133) [-3.35872]
D(LR(-1))	12.76559 (16.1275) [0.79154]	
D(LR(-2))	-11.82652 (14.3850) [-0.82215]	
D(LFP(-1))		-0.057267 (0.06858) [-0.83510]
D(LFP(-2))		0.057112 (0.06424) [0.88899]
C	-0.184143 (0.21878) [-0.84168]	-0.085883 (0.11631) [-0.73839]

The ECT indicates the speed of convergence of a model toward equilibrium path if any shock causes the model to diverge from its equilibrium growth path. The results indicate that the speed of convergence in South Asia of emerging factors is moderate. Results indicate that in the case of South Asia if any disturbance causes the system to deviate from its equilibrium path, the system will converge at a speed of 14% correction in Model 1, while in Model 2 it is 28%.

Table 32: VAR Model Long Run for Latin America for Emerging Factors

Variables/models	Model 1	Model 2
Constant	-3.5155	12.8744
<i>TOU</i>	-7.95E-08*** [-3.68383]	-5.29E-09 [-3.71772]
<i>ENT</i>	-0.541889***	-0.095233

	[-4.09334]	[-5.37884]
<i>GDP</i>	-2.3149***	-4.68817
	[-9.14296]	[-9.14914]
<i>LR</i>	-2.4522**	--
	[-2.42833]	
<i>LFP</i>	--	-1.59177***
		[-4.59070]

Note: *indicates significance level at 5%, ** less than 5%, *** less than 1%; *t* value is in []

The long-run relationship between tourism and poverty and between women's empowerment (with two proxies LR and LFP) and poverty for Latin America in the time period 1995 to 2020 is displayed in Table 32 ,where *t* value is presented in (). The results of this study in Model 1 indicated that TOU [-7.95E-08*** (-3.68383)], LR [-2.4522** (-2.42833)], ENT [0.541889*** (-4.09334)], and GDP [-2.3149*** (-9.14296)] have a statistically significant long-term relationship with poverty in Latin America.

The findings of the study show that tourism has a significant and negative long-run relationship with poverty; if we increase tourism by one unit, poverty will decrease by 7.95E-08 units. The Women's empowerment (LR) has a significant and negative long-run relationship with poverty; if we increase LR by one unit, poverty will decrease by 2.4522 units. Entrepreneurship has a significant and negative long-run relationship with poverty; if we increase entrepreneurship by one unit, poverty will decrease by 0.541889 units. GDP has a significant and positive long-run relationship with poverty; if we increase GDP by one unit, in response, poverty will increase by 2.3149 units.

Model 1 is given below:

$$POV_{it} = \alpha_0 + \alpha_1 WE(LR)_{it} + \alpha_2 TOU_{it} + \alpha_3 ENT_{it} + \alpha_4 GDP_{it} + \epsilon_{it}$$

$$POV_{it} = -3.5155 - 2.4522 WE(LR)_{it} - 7.95E-08 TOU_{it} - 0.541889 ENT_{it} - 2.3149 GDP_{it} + \epsilon_{it}$$

Model 2 introduced LFP as an independent variable, which shows a negative relationship with poverty, LFP [-12.33692*** (-5.66816)], which is depicted in the form of model as

$$POV_{it} = \alpha_0 + \alpha_1 WE(LFP)_{it} + \alpha_2 TOU_{it} + \alpha_3 ENT_{it} + \alpha_4 GDP_{it} + \epsilon_{it}$$

$$POV_{it} = 12.8744 - 1.59177 WE(LFP)_{it} - 5.29E-09$$

$$TOU_{it} - 0.095233 ENT_{it} - 4.68817 GDP_{it} + \epsilon_{it}$$

Women's empowerment (LFP) has a significant and negative long-run relationship with poverty; if we increase LFP by one unit, in response, poverty will decrease by 1.59177 units. The overall analysis of the region of Latin America in the case of emerging factors suggests that the impacts of tourism and women's empowerment have a negative relationship with poverty.

Table 33: VAR Model Short Run for Latin America for Emerging Factors

Error Correction	Model 1	Model 2
ECM Term	-0.100464 (0.01900) [- 5.2875]	-0.019690 (0.00285) [-6.9087]
D(POV(-1))	-0.047142 (0.05394) [-0.87400]	-0.060366 (0.05346) [-1.12927]
D(POV(-2))	-0.054913 (0.05089) [-1.07900]	-0.052434 (0.05067) [-1.03481]

D(TOU(-1))	0.166503 (0.07310) [2.27784]	0.165472 (0.07341) [2.25419]
D(TOU(-2))	0.035148 (0.07415) [0.47400]	0.022570 (0.07438) [0.30343]
D(ENT(-1))	0.009754 (0.03679) [0.26511]	0.035522 (0.03641) [0.97554]
D(ENT(-2))	0.019724 (0.02733) [0.72161]	0.031521 (0.02694) [1.17017]
D(GDP(-1))	1.64E-10 (2.9E-10) [0.57096]	2.51E-10 (2.8E-10) [0.89758]
D(GDP(-2))	1.93E-10 (3.0E-10) [0.65150]	3.12E-10 (2.9E-10) [1.07256]
D(LR(-1))	3.130810 (19.2131) [0.16295]	
D(LR(-2))	1.959752 (18.7114) [0.10474]	
		-0.265118 (0.16589) [-1.59816]
D(LFP(-1))		-0.040384 (0.16464)
D(LFP(-2))		[-0.24528]

C	-0.405182 (0.17773) [-2.27972]	-0.617865 (0.12209) [-5.06060]
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The ECT indicates the speed of convergence of a model toward equilibrium path if any shock causes the model to diverge from its equilibrium growth path. The results indicate that the speed of convergence in full sample of emerging factors is moderate. Results indicate that in the case of Latin America, if any disturbance causes the system to deviate from its equilibrium path, the system will converge at a speed of 5% correction in Model 1, while in Model 2 it is 6%.

Table 34: VAR Model Long Run for Africa for Emerging Factors

Variables/models	Model 1	Model 2
Constant	14.4875	25.3645
<i>TOU</i>	-1.00E-07* [-2.52540]	-2.18E-07* [-2.77420]
<i>ENT</i>	-1.527402*** [-4.75403]	-1.78939*** [-4.67460]
<i>GDP</i>	-5.57653*** [-8.88900]	-3.16505 [-9.04590]
<i>LR</i>	-2.41192*** [-7.64539]	--
<i>LFP</i>	--	-2.30807*** [-5.17991]

Note: *indicates significance level at 5%, ** less than 5%, *** less than 1%; *t* value is in []

The long-run relationship between tourism and poverty and between women's empowerment (with two proxies LR and LFP) and poverty for Africa in the time period 1995 to 2020 is displayed in Table 34, where *t* value is presented in (). The results of this study in Model 1 indicated that TOU

[-1.00E-07* (-2.52540)], LR [-2.41192*** (-7.64539)], ENT [-1.527402*** (-4.75403)], and GDP [-5.57653*** (-8.88900)] have a statistically significant long-term relationship with poverty in Africa.

The findings of the study show that tourism has a significant and negative long-run relationship with poverty; if we increase tourism by one unit, poverty will decrease by 1.00E-07 units. Women's empowerment (LR) has a significant and negative long-run relationship with poverty; if we increase LR by one unit, poverty will decrease by 2.41192 units. Entrepreneurship has a significant and negative long-run relationship with poverty; if we increase entrepreneurship by one unit, poverty will decrease by 1.527402 units. GDP has a significant and positive long-run relationship with poverty; if we increase GDP by one unit, in response, poverty will increase by 5.57653 units.

Model 1 is given below:

$$POV_{it} = \alpha_0 + \alpha_1 WE(LR)_{it} + \alpha_2 TOU_{it} + \alpha_3 ENT_{it} + \alpha_4 GDP_{it} + \epsilon_{it}$$

$$POV_{it} = 14.4875 - 2.41192WEM(LR)_{it} - 1.00E - 07TOU_{it} - 1.527402ENT_{it} - 5.57653 GDP_{it} + \epsilon_{it}$$

Model 2 introduced LFP as an independent variable, which shows a negative relationship with poverty, LFP [2.30807*** (-5.17991)], which is depicted in the form of model as

$$POV_{it} = \alpha_0 + \alpha_1 WE(LFP)_{it} + \alpha_2 TOU_{it} + \alpha_3 ENT_{it} + \alpha_4 GDP_{it} + \epsilon_{it}$$

$$POV_{it} = 25.3645 - 2.30807WE(LFP)_{it} - 2.18E - 07TOU_{it} - 1.78939ENT_{it} - 3.16505GDP_{it} + \epsilon_{it}$$

Women's empowerment (LFP) has a significant and negative long-run relationship with poverty; if we increase LFP by one unit, in response, poverty will decrease by 2.30807 units. The overall analysis of the region of Africa in the case of emerging factors suggests that the impacts of tourism and women's empowerment have a negative relationship with poverty.

Table 35: VAR Model Short Run for Africa for Emerging Factors

Error Correction	Model 1	Model 2
ECM Term	-9.94E-05 (0.192) [-51.773]	-1.84E-05 (0.22) [- 8.3659]
D(POV(-1))	0.867868 (0.05089) [17.0536]	0.882084 (0.05084) [17.3517]
D(POV(-2))	-0.058140 (0.04923) [-1.18090]	-0.067135 (0.04949) [-1.35651]
D(TOU(-1))	1.25E-10 (4.1E-10) [0.30466]	1.67E-10 (4.1E-10) [0.40672]
D(TOU(-2))	-3.42E-10 (3.7E-10) [-0.92535]	-2.99E-10 (3.7E-10) [-0.80693]
D(ENT(-1))	0.350279 (0.14840) [2.36032]	0.360770 (0.15268) [2.36291]
D(ENT(-2))	-0.195569 (0.15394) [-1.27045]	-0.256354 (0.15644) [-1.63865]

D(GDP(-1))	-0.011358 (0.01696) [-0.66974]	-0.007810 (0.01724) [-0.45303]
D(GDP(-2))	-0.008531 (0.01354) [-0.63009]	-0.007477 (0.01366) [-0.54753]
D(LR(-1))	0.179977 (4.11949) [0.04369]	
D(LR(-2))	-3.472512 (4.15817) [-0.83511]	
D(LFP(-1))		-0.145468 (0.26567) [-0.54755]
D(LFP(-2))		0.324455 (0.27079) [1.19817]
C	-0.225135 (0.09293) [-2.42268]	-0.050936 (0.05400) [-0.94321]

The ECT indicates the speed of convergence of a model toward equilibrium path if any shock causes the model to diverge from its equilibrium growth path. The results indicate that the speed of convergence in full sample of emerging factors is high. Results indicate that in the case of full sample if any disturbance causes the system to deviate from its equilibrium path, the system will converge at a speed of 51% correction in Model 1, while in Model 2 it is 8%.

Table 36: VAR Model Long Run for Developing Economies for Emerging Factors

Variables/models	Model 1	Model 2
Constant	23.346	34.873
<i>TOU</i>	-6.01E-05* [-2.8734]	-3.97E-05*** [-5.3874]
<i>ENT</i>	-3.9927*** [-8.4875]	-7.67042** [-3.9845]
<i>GDP</i>	-7.04016*** [-4.7634]	-7.67042*** [-5.8756]
<i>LR</i>	-3.844315*** [-4.37445]	--
<i>LFP</i>	--	-4.983066 [-5.87455]

Note: *indicates significance level at 5%, ** less than 5%, *** less than 1%; *t* value is in []

The long-run relationship between tourism and poverty and between women's empowerment (with two proxies LR and LFP) and poverty for full sample of South Asia, Latin America, and Africa in the time period 1995 to 2020 is displayed in Table 36, where *t* value is presented in (). The results of this study in Model 1 indicated that TOU [-6.01E-05* (-2.8734)], LR [-3.844315*** (-4.37445)], ENT [-3.9927*** (-8.4875)], and GDP [-7.04016*** (-4.7634)] have a statistically significant long-term relationship with poverty in full sample.

The findings of the study show that tourism has a significant and negative long-run relationship with poverty; if we increase tourism by one unit, poverty will decrease by 6.01E-05 units. Women's empowerment (LR) has a significant and negative long-run relationship with poverty; if we increase LR by one unit, poverty will decrease by 3.844315 units. Entrepreneurship has a significant and negative long-run relationship with poverty; if we increase entrepreneurship by one unit, poverty will decrease by 3.9927 units. GDP has a significant and positive long-run

relationship with poverty; if we increase GDP by one unit, in response, poverty will increase by 7.04016 units.

Model 1 is given below:

$$POV_{it} = \alpha_0 + \alpha_1 WE(LR)_{it} + \alpha_2 TOU_{it} + \alpha_3 ENT_{it} + \alpha_4 GDP_{it} + \epsilon_{it}$$

$$POV_{it} = 23.346 - 3.844315WE(LR)_{it} - 6.01E - 05 TOU_{it} - 3.9927 ENT_{it} - 7.04016 GDP_{it} + \epsilon_{it}$$

Model 2 introduced LFP as an independent variable, which shows a negative relationship with poverty, LFP [-4.983066 (-5.87455)], which is depicted in the form of model as

$$POV_{it} = \alpha_0 + \alpha_1 WE(LFP)_{it} + \alpha_2 TOU_{it} + \alpha_3 ENT_{it} + \alpha_4 GDP_{it} + \epsilon_{it}$$

$$POV_{it} = 34.873 - 4.983066 WE(LFP)_{it} - 3.97E - 05 TOU_{it} - 7.67042 ENT_{it} - 7.67042 GDP_{it} + \epsilon_{it}$$

Women's empowerment (LFP) has a significant and negative long-run relationship with poverty; if we increase LFP by one unit, poverty will decrease by 4.983066 units. The overall analysis of full sample of South Asia, Latin America, and Africa in the case of emerging factors suggests that the impacts of tourism and women's empowerment have a negative relationship with poverty.

Table 37: VAR Model Short Run for Developing Economies for Emerging Factors

Error Correction	Model 1	Model 2
ECM Term	-0.1212 (0.0190) [-6.3488]	-2.2150 (0.065) [- 34.0769]
D(POV(-1))	0.905562 (0.04303) [21.0465]	0.905702 (0.04303) [21.0487]

D(POV(-2))	-0.094725 (0.04304) [-2.20070]	-0.094586 (0.04307) [-2.19587]
D(TOU(-1))	-2.66E-07 (2.2E-06) [-0.12128]	-2.70E-07 (2.2E-06) [-0.12266]
D(TOU(-2))	-4.22E-07 (2.6E-06) [-0.16544]	-3.84E-07 (2.6E-06) [-0.14928]
D(ENT(-1))	210.9268 (1271.74) [0.16586]	268.0026 (1300.50) [0.20608]
D(ENT(-2))	571.7627 (1240.95) [0.46074]	539.7634 (1270.23) [0.42493]
D(GDP(-1))	10.00337 (9.62934) [1.03884]	9.776156 (9.62946) [1.01523]
D(GDP(-2))	199.1838 (191.736) [1.03884]	194.6596 (191.739) [1.01523]
D(LR(-1))	-14499.95 (57448.0) [-0.25240]	
D(LR(-2))	16756.37 (56263.8) [0.29782]	
D(LFP(-1))		88.79370 (1517.55) [0.05851]

		19.14144
		(1402.20)
D(LFP(-2))		[0.01365]
C	-35670471	194.6596
	(3.4E+07)	(191.739)
	[-1.03881]	[1.01523]

The ECT indicates the speed of convergence of a model toward equilibrium path if any shock causes the model to diverge from its equilibrium growth path. The results indicate that the speed of convergence in full sample of emerging factors. Results indicate that in the case of full sample, if any disturbance causes the system to deviate from its equilibrium path, the system will converge at a speed of 6% correction in Model 1, while in Model 2 it is 34%. The speed of convergence in Model 2 is highest.

4.4.Variance Decomposition

In a VAR system, we also calculate variance decomposition which helps to find percentage of innovation each variable contributes to the other variables. This method helps to find the variables that are endogenous or exogenous to the system by breaking down the proportions of variance due to shocks of own and other variables in the model. A dependent variable is considered an exogenous variable, when shocks in independent variables in the system explain less of the forecast error variance of the dependent variables. However, a dependent variable is considered endogenous to the system when shocks to independent variables explain most of the forecast error variance of dependent variable. Furthermore, this analysis also estimates how much forecast error variance can be explained with exogenous shocks of other variables. These results are explained

in percentages: a change in one variable explains percentage of change in variance of other variables. Variance decomposition is calculated with the help of following formula:

$$S_{i,j,s}^2 = 100 \sum_{k=0}^s \psi_{i,j,k}^2 / \sum_{k=0}^s \sum_{k=0}^s \psi_{i,j,k}^2$$

Where $\sum_{k=0}^s \psi_{i,j,k}^2$ represents the sum of the variance of error components that occur due to y_j and

$\sum_{k=0}^s \sum_{k=0}^s \psi_{i,j,k}^2$ is the sum of the innovation response.

The variance decomposition method was applied to answer the following main research questions:

- I. What is the relative contribution of traditional factors to poverty in South Asia?
- II. What is the relative contribution of traditional factors to poverty in Latin America?
- III. What is the relative contribution of traditional factors to poverty in Africa?
- IV. What is the relative contribution of emerging factors to poverty in South Asia?
- V. What is the relative contribution of emerging factors to poverty in Latin America?
- VI. What is the relative contribution of emerging factors to poverty in Africa?

Variance decomposition calculates the inferences of short-run causality between traditional factors and poverty from VAR model. Variance decomposition selects the amount of forecast error variance of every modeled variable as expected their own shocks instead of shocks to other variables in the system. Sims (1980) introduced variance decomposition, which is an econometric technique often applied to VAR models. The purpose of this technique is forecasting. Economists may observe the magnitude of forecast error variance for each variable that can be explained by exogenous shocks to other variables with the help of variance decomposition. Table 38 presents this in the first period; poverty in South Asia, Latin America and Africa attributes 100% of its changes to its own shock.

Table 38: Variance Decomposition of POV

AFRICA								
Period	S.E.	POV	INF	TOP	MIG	AGRI	FDI	GOV
1	0.9097	100.00	0.000000	0.000000	0.00000	0.00000	0.0000	0.000000
2	1.90754	95.7582	0.799430	0.505813	1.00075	1.08976	1.0154	0.001340
3	3.00204	90.3564	2.196974	1.908636	1.70171	1.75193	1.9843	1.073213
4	4.13915	87.8375	3.338283	2.141933	1.00269	3.48173	1.1978	3.013453
5	5.28423	86.2223	3.482836	3.165442	2.00387	1.77055	2.3549	3.112034
6	6.41430	83.5249	4.623829	4.183029	2.00540	2.11158	2.5511	3.218932
7	7.51377	79.7588	5.755755	4.196905	3.00747	3.49798	3.7830	4.553455
8	8.57216	75.9349	5.876468	4.208308	4.01024	5.92323	5.0468	5.53445
9	9.58263	71.0632	6.98485	4.217987	4.01396	5.38086	5.3390	5.54321
10	10.5409	69.4575	7.80812	5.6403	4.8851	5.64572	5.5632	4.44322
LATIN AMERICA								
Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	1.84520	100.000	0.000000	0.000000	0.00000	0.00000	0.0000	0.00000
2	2.56028	98.4710	1.454961	0.098025	0.17554	0.02140	0.7765	0.00244
3	3.01148	97.4589	1.485368	0.143642	0.23066	1.0824	1.5961	0.00284
4	3.34305	88.9038	3.460824	2.160626	1.23877	2.18408	3.0486	1.00321
5	3.60016	80.5651	4.435446	3.176967	2.23482	4.32016	4.2629	3.00452
6	3.80408	77.3107	6.411347	4.190190	4.22773	6.48477	5.3686	5.00662
7	3.96871	76.0892	7.388772	4.200800	4.21963	6.67104	5.4213	5.00922
8	4.10331	69.8839	7.368396	5.209268	5.21163	6.87159	5.4431	5.01208
9	4.21437	64.6883	7.350722	6.216145	6.20421	7.07923	5.4462	5.01505
10	4.30662	55.5071	8.336022	9.221815	7.19758	8.28740	6.4384	7.01804
SOUTH ASIA								
Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	0.78600	100.000	0.000000	0.000000	0.00000	0.00000	0.0000	0.00000
2	1.84118	98.0001	1.65E-05	0.47644	0.18670	0.0156	1.3298	0.00120

3	2.98707	97.4217	2.314151	0.23864	0.24334	0.0398	0.9449	0.79730
4	4.19700	86.4554	3.767356	2.19973	2.27294	2.1578	3.9652	1.18142
5	5.43093	80.7368	4.381662	3.28971	3.36757	3.2821	4.4426	3.49941
6	6.63494	72.2605	5.921247	5.36845	4.49473	6.4040	5.7585	5.79248
7	7.78356	69.0799	6.184634	5.52182	5.61476	7.5021	5.1458	2.95089
8	8.87023	51.9295	9.332008	10.7192	8.75814	10.560	6.6216	6.07862
9	9.88869	45.9033	11.38941	12.94452	9.92935	10.5852	6.0792	7.17423
10	10.8405	40.9524	11.36737	12.2264	13.0806	10.577	6.5666	7.22903
DEVELOPING ECONOMIES								
Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	1574.72	100.000	0.000000	0.00000	0.00000	0.0000	0.0000	0.00000
2	3170.90	95.5554	2.008021	0.10361	1.02E-0	2.55E-	0.4011	0.03168
3	4791.22	90.0922	4.017476	1.00622	1.00429	3.101-0	0.8206	1.05909
4	6335.17	88.7200	5.025676	2.00888	1.01311	4.601-1	2.1458	2.08634
5	7748.11	78.4252	6.032656	3.01155	2.02700	5.0001	4.3889	2.11446
6	9003.80	71.1821	6.038770	5.01446	5.04588	5.0003	4.5741	4.14415
7	1009.36	69.9735	6.044288	6.01768	5.06990	5.0007	5.7181	4.17564
8	1102.05	64.7879	8.049389	7.02125	6.09909	6.0015	6.8318	4.20897
9	1179.43	60.61769	10.05418	8.02521	7.13343	7.0026	6.9227	4.24403
10	1242.91	50.45810	12.0587	10.0295	8.17276	8.0043	7.9958	4.280621

In the study of traditional factors, in the case of Africa, the contribution of poverty drops from 100% to 69% in the long run, the contribution of inflation, trade openness, migration, agriculture, FDI, and governance to poverty reduction increases from almost 0% to 7.80812%, 5.6403%, 4.8851%, 5.64572%, 5.56327%, and 4.44322%, respectively. Furthermore, in the case of Latin America, poverty drops from 100% to 55.50071% in the long run; the contribution of agriculture, inflation, FDI, migration, trade openness, and governance increases from almost zero to 8.336022%, 9.221815%, 7.197580%, 8.287407%, 6.438422%, and 7.018043%, respectively.

Moreover, in the case of South Asia, contribution of poverty drops from 100% to 45.90336% in the long run; the contribution of AGRI, INF, FDI, MIG, TOP, and GOV increases from almost zero to 11.367377%, 12.226485%, 15.080686%, 10.577270%, 7.566699%, and 7.22903%, respectively.

Whereas in the case of full sample, poverty drops from 100% to 50.45810% in the long run; the contribution of AGRI, INF, FDI, MIG, TOP, and GOV increases from almost zero to 12.058737%, 10.029557%, 8.172761%, 9.004360%, 8.995861%, and 5.280621%, respectively. Estimated variance decomposition of emerging factors results for South Asia, Latin America, and Africa are reported in Table 39. Clearly, the majority of the fluctuation in poverty is caused by itself. The fluctuation in poverty in the past years appears to generate a momentum for it to rise as indicated in modeled variables.

Table 39: Variance Decomposition of POV of Emerging Factors

South Asia							
Period	S.E.	POV	LR	ENT	LFP	TOU	GDP
1	0.728872	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000
2	1.504210	96.87580	0.048653	2.144770	0.457495	0.164023	0.309257
3	2.332044	94.35710	0.116647	3.756025	1.155713	0.309709	0.304802
4	3.162323	92.28286	0.231056	5.003422	1.664428	0.469481	0.348750
5	3.965143	90.48470	0.380640	6.028322	2.074818	0.638766	0.392750
6	4.722721	88.82775	0.563301	6.922035	2.413457	0.830707	0.442754
7	5.424575	87.23683	0.774681	7.734968	2.704230	1.052486	0.496805
8	6.065207	85.66495	1.010855	8.496183	2.960426	1.312783	0.554806
9	6.642590	84.08254	1.267734	9.222300	3.190227	1.620709	0.616486
10	7.157256	82.47012	1.541146	9.922251	3.398247	1.986575	1.681658
Latin America							
1	1.517404	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000
2	2.002758	95.97947	0.016384	0.338780	1.557306	2.098645	0.009413
3	2.327124	93.52682	0.050156	0.375387	2.047135	3.987380	0.013123
4	2.558317	92.38921	0.108009	0.355711	2.281174	4.849355	0.016540
5	2.729407	91.76859	0.182374	0.330925	2.389155	5.309999	0.018961
6	2.859653	91.36908	0.265884	0.306421	2.437952	5.600154	0.020510

7	2.960640	91.08439	0.352579	0.286126	2.454278	5.801117	0.021512
8	3.039874	90.86980	0.437547	0.272321	2.451053	5.947129	0.022148
9	3.102584	90.70227	0.516833	0.266282	2.435829	6.056277	0.022510
10	3.152561	90.56798	0.587481	0.268605	2.413603	6.139679	1.022650
Africa							
1	0.869467	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000
2	1.808460	99.88662	0.020820	0.000806	0.000551	0.074242	0.016960
3	2.825101	99.66594	0.068167	0.003851	0.000231	0.233138	0.028667
4	3.866902	99.36539	0.135652	0.010298	0.000922	0.451876	0.035863
5	4.900529	99.00471	0.218516	0.020663	0.004393	0.712896	0.038824
6	5.904207	98.59838	0.312594	0.034875	0.012270	1.003077	0.038807
7	6.863653	98.15835	0.414070	0.052389	0.026114	1.312215	0.036861
8	7.769735	97.69462	0.519374	0.072352	0.047460	1.632367	0.033823
9	8.617005	97.21559	0.625152	0.093749	0.077838	1.957359	0.030312
10	9.402718	92.72823	1.728277	1.115528	2.118776	2.282413	1.026774
DEVELOPING ECONOMIES							
1	15644.47	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000
2	30301.68	99.99266	0.001833	1.29E-05	2.58E-05	0.005421	2.86E-09
3	44222.20	98.98096	0.005861	0.000264	2.07E-05	0.012831	1.42E-05
4	56679.14	97.96786	0.011721	0.000676	3.16E-05	0.019647	4.94E-05
5	67415.84	90.95423	3.019254	4.001118	3.65E-05	3.025270	9.59E-05
6	76423.68	89.94025	0.028352	0.001522	3.29E-05	0.029692	0.000146
7	83821.78	82.92591	4.038906	4.001865	4.55E-05	0.033074	0.000196
8	89789.53	80.91115	5.050780	5.002140	7.95E-05	5.035609	3.000242
9	94527.46	78.89594	6.063805	6.002353	4.000141	1.037472	2.000285
10	98234.64	75.88034	7.077778	6.002512	5.000236	2.038812	5.000323

4.5. Impulse Response

IRF is the reaction of a dynamic system in response to an external change. In this study, we used generalized decomposition on VAR model on poverty, migration, inflation, FDI, agriculture, trade openness, and governance. IRF results can be demonstrated in the form of graphs that can be calculated after VAR analysis. IRF quantifies the effect over time of every modeled variable. The main objective of applying IRF is to calculate the behavior of one variable due to change in another variable. This study calculated the implied IRF for 10 years (i.e. 2020–2030). IRF helps to increase the credibility of a VAR model, especially in applied research. The IRF present in graph of an impulse response that pretends over time. The effect of one standard shock to one equation series on another equation series in VAR system (Pesaran & Shin, 1998). The IRF adjusts the entire VAR system into its moving average representation (Inoue & Kilian, 2013). The results of GIRF responses for VECM with a 10,000 Monte Carlo simulation and one standard error band are reported in Figure 1 for 10 years forecasted time horizon. The study used GIRF to answer the following questions.

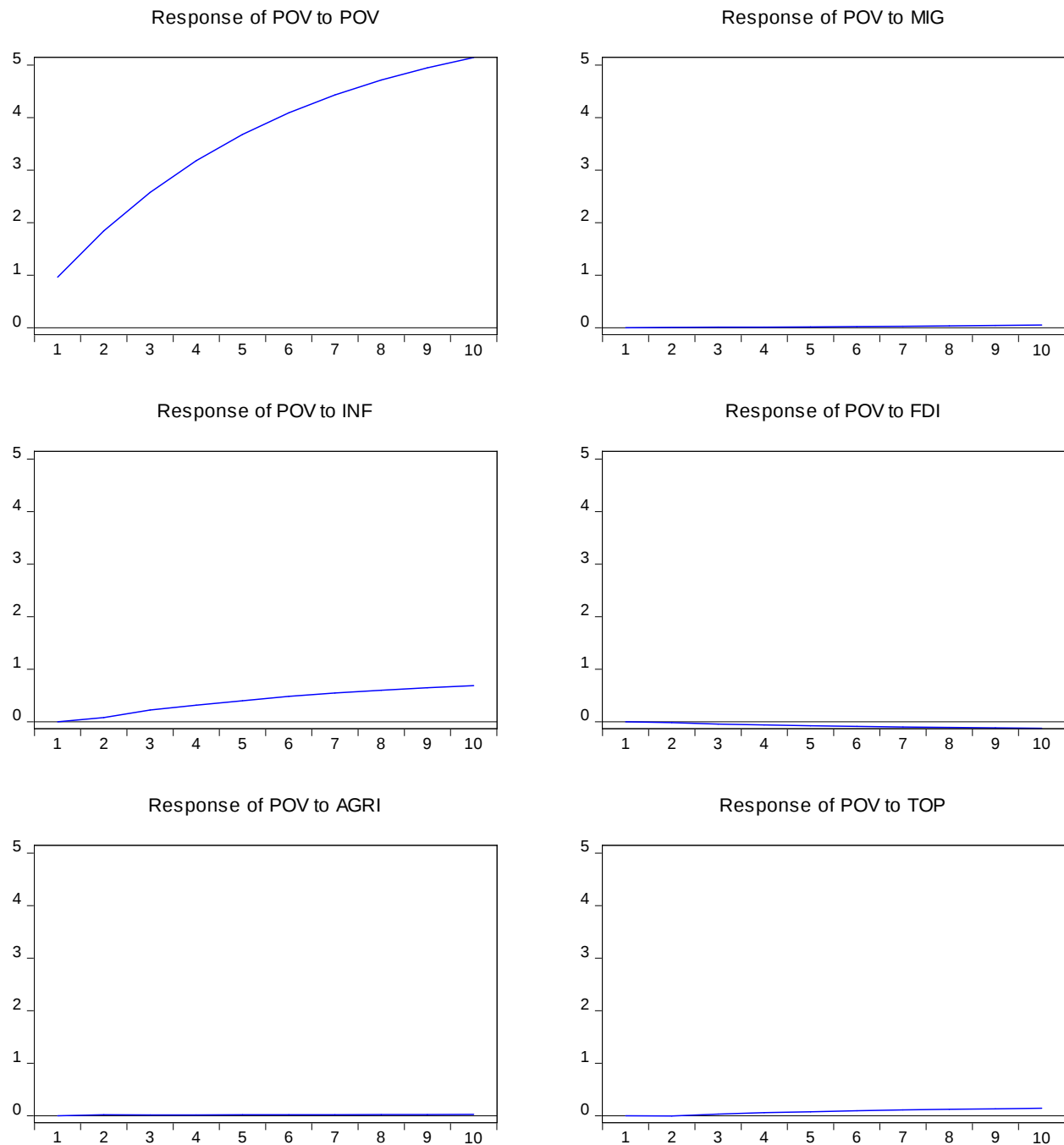
1. What is the response of poverty in time $t + n$ when a one standard shock is given to VAR system of traditional factors at time t while no other shock hits the system in South Asia?
2. What is the response of poverty in time $t + n$ when a one standard shock is given to VAR system of traditional factors at time t while no other shock hits the system in Latin America?
3. What is the response of poverty in time $t + n$ when a one standard shock is given to VAR system of traditional factors at time t while no other shock hits the system in Africa?
4. What is the response of poverty in time $t + n$ when a one standard shock is given to VAR system of traditional factors at time t while no other shock hits the system in full sample?

5. What is the response of poverty in time $t + n$ when a one standard shock is given to VAR system of emerging factors at time t while no other shock hits the system in South Asia?
6. What is the response of poverty in time $t + n$ when a one standard shock is given to VAR system of emerging factors at time t while no other shock hits the system in Latin America?
7. What is the response of poverty in time $t + n$ when a one standard shock is given to VAR system of emerging factors at time t while no other shock hits the system in Africa?
8. What is the response of poverty in time $t + n$ when a one standard shock is given to VAR system of emerging factors at time t while no other shock hits the system in full sample?

I calculated the following IRFs for South Asia, Africa, and Latin America:

We need to understand what IRF is before we interpret IRF. IRF represents the response of one variable to the shocks of another variable. Shocks and impulses are measured through changes in standard deviation of the variables. It can be explained as: if variable changes by one standard deviation, then the magnitude changes in response variables. Moreover, if answer returns to horizontal, which means zero line, then the answer is considered temporal and it weakens the relation in a given time period which allows to response of each zero line. The impulse has a non-convergent and non-temporal response to shock if the response deviates from the zero line. This link can be verified with the help of theory that certain political shocks produce a temporary or longer effect, which add up with the passage of time and change the pattern of economic change. These responses are graphically represented in eight figures.

Figure 1: Impulse Response of Africa
Response to Cholesky One S.D. (d.f. adjusted) Innovations

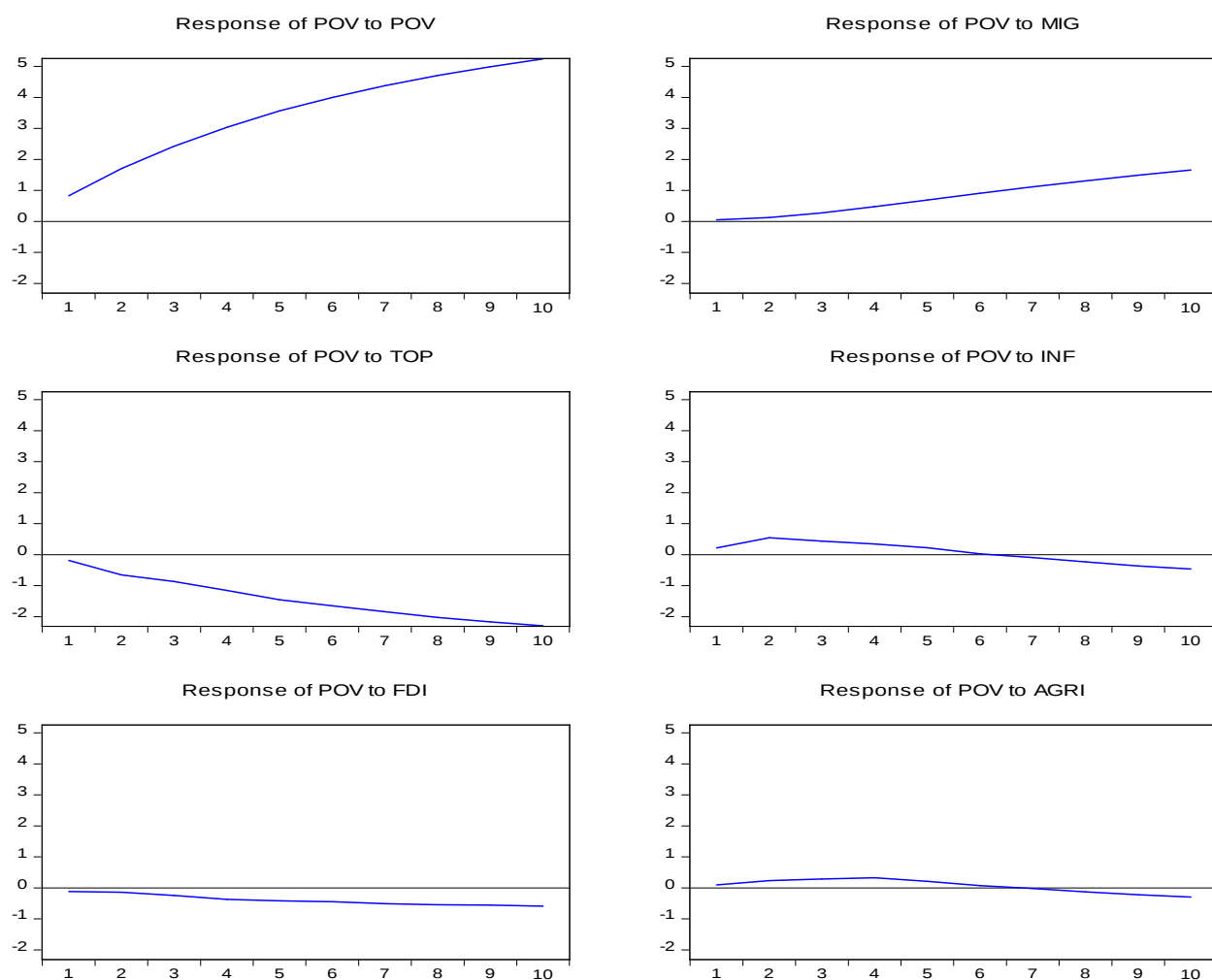


In Figure 1, the IRFs for African region are reported. Results indicate that if one standard shock is given to poverty, it positively affects poverty throughout 10 predicted years, while one standard

shock to inflation will affect poverty positively for 10 predicted years. Similarly, if one standard shock is given to trade openness, initially it will affect poverty positively up to fourth year and then it affects poverty negatively up to 10 years. If one standard shock is given to migration it will affect poverty equals to trade openness for upcoming 10 years. Moreover, if one standard shock is specified to agriculture it will affect poverty positively for upcoming 10 years. Lastly, if one standard shock is given to FDI, then it will affect poverty negatively for upcoming 10 years.

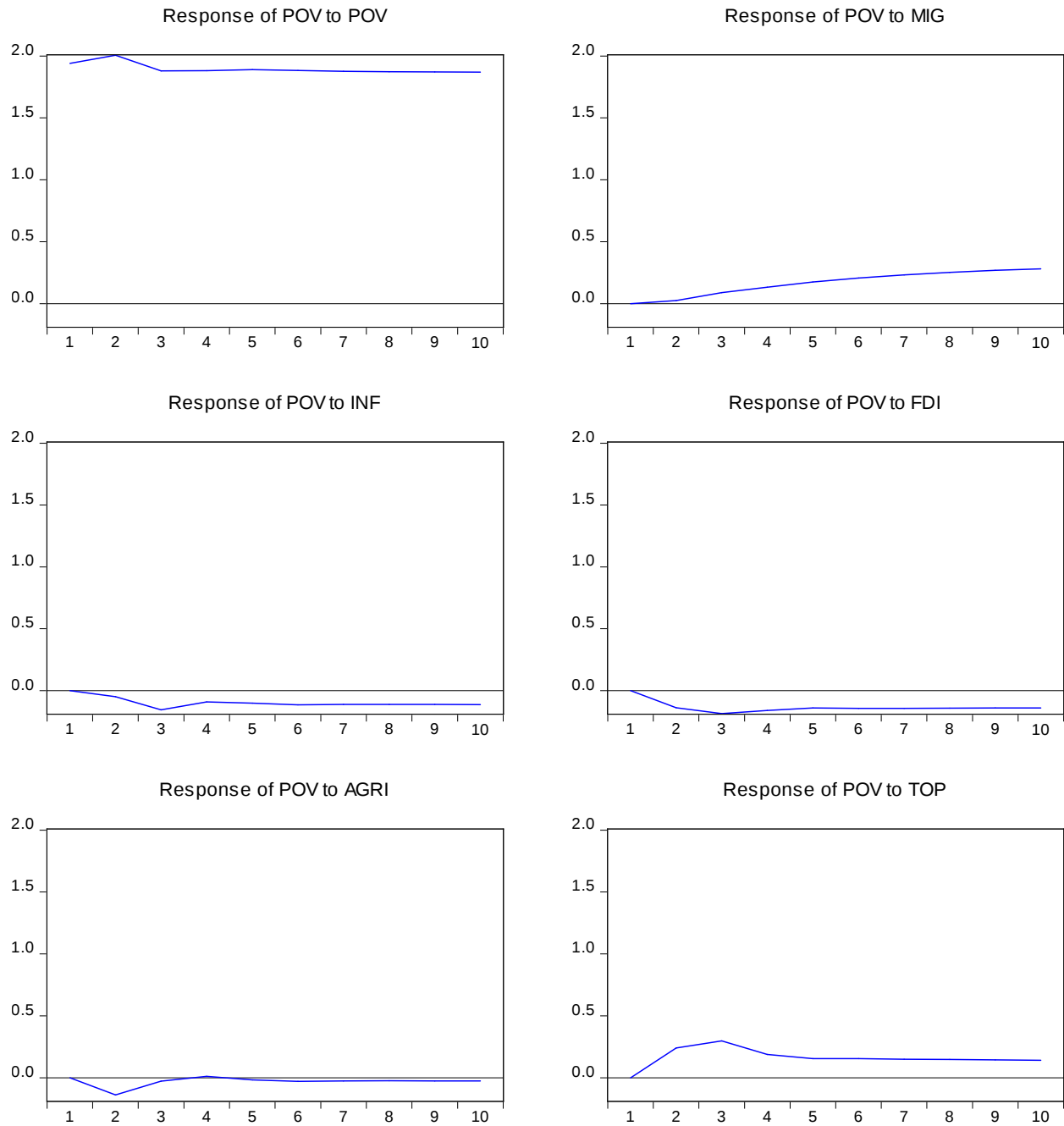
Figure 2: Impulse Response of South Asia

Response to Generalized One S.D. Innovations



In Figure 2, the IRFs for south Asian economies are reported. The graph of impulse response of South Asia depicts that if one standard shock is given to poverty, it positively affects poverty throughout 10 predicted years, and if one standard shock is given to migration it will affect poverty positively for upcoming 10 years. Moreover, if one standard shock is given to TOP, then it affects poverty negatively for upcoming 10 years. Similarly, if one standard shock is given to inflation, initially it will affect poverty positively up to fourth year and then it affects poverty negatively for up to 10 years. If one standard shock is given to FDI it will affect poverty negatively for upcoming 10 years. One standard shock to agriculture will affect poverty negatively for 10 predicted years.

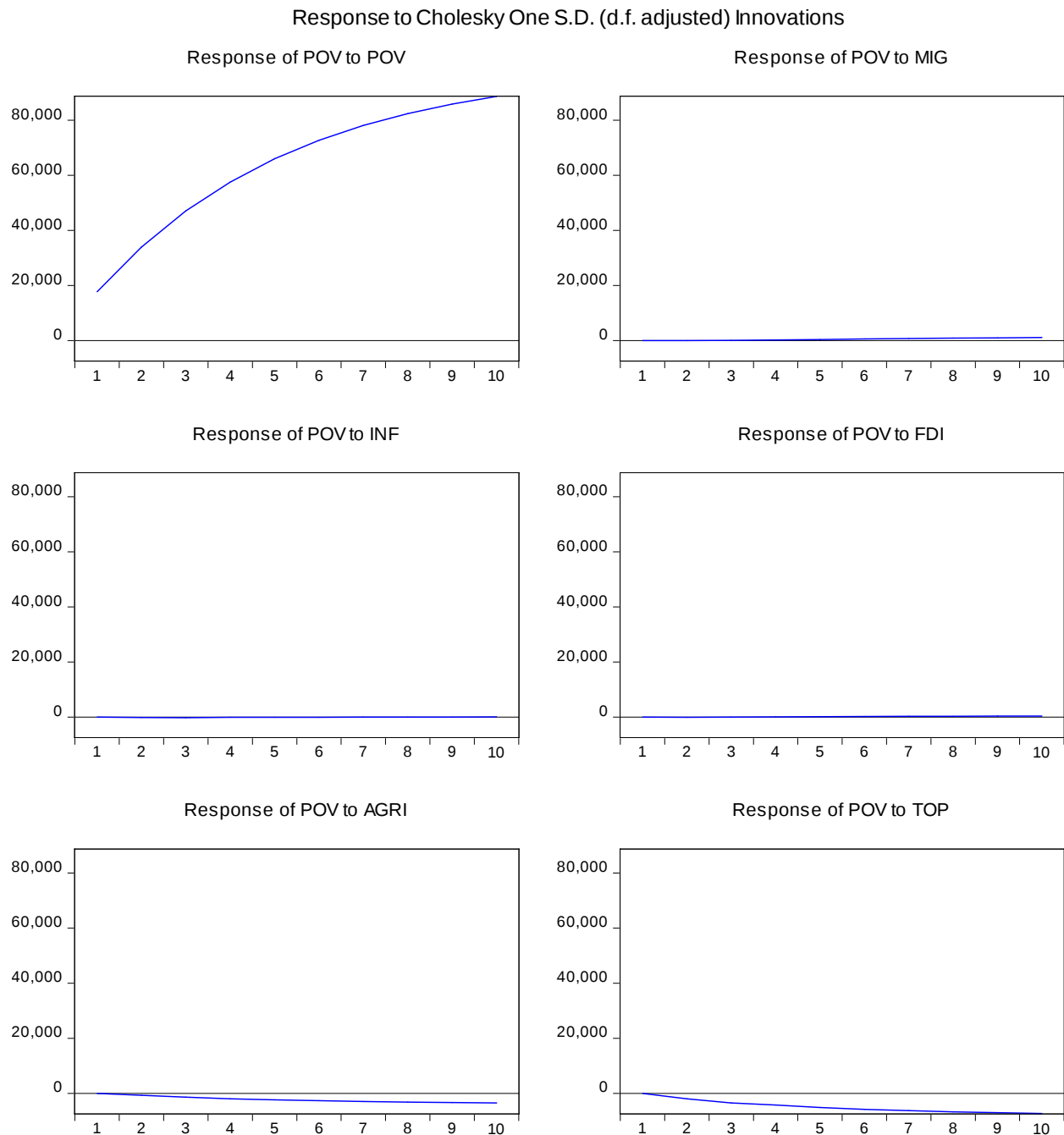
Figure 3: Impulse Response of Latin America
Response to Cholesky One S.D. (d.f. adjusted) Innovations



The results of Latin America are shown in Figure 3. The results indicate that if one standard shock is given to poverty, it positively affects poverty throughout 10 predicted years. If one standard shock is given to migration it will affect poverty positively for upcoming 10 years. Similarly, if one standard shock is given to inflation, initially it will affect poverty positively up to fourth year

and then it affects poverty negatively for up to 10 years. While one standard shock to agriculture will affect poverty negatively in initial years and then it became equal to each other for 10 predicted years. If one standard shock is given to FDI it will affect poverty equals to FDI for upcoming 10 years. Lastly, if one standard shock is given to trade openness, then it affects poverty positively for upcoming 10 years.

Figure 4: Impulse Response of Full sample



The impulse responses of full sample are reported in Figure 4. Results depict that if one standard shock is given to poverty, it positively affects poverty throughout 10 predicted years, and one standard shock to agriculture will affect poverty positively for 10 predicted years. In the same way

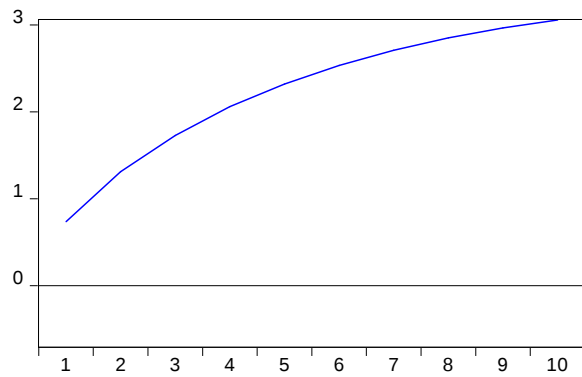
if one standard shock is given to agriculture, initially it will affect poverty positively up to fourth year and then it affects poverty negatively for next all up to 10 years. If one standard shock is given to inflation it will affect poverty equals to inflation for upcoming 10 years. Moreover, if one standard shock is given to FDI it will affect poverty positively for upcoming 10 years. Furthermore, if one standard shock is given to migration it will affect poverty positively for upcoming 10 years. Lastly, if one standard shock is given to trade openness, then it affects poverty negatively for upcoming 10 years.

Emerging Factors

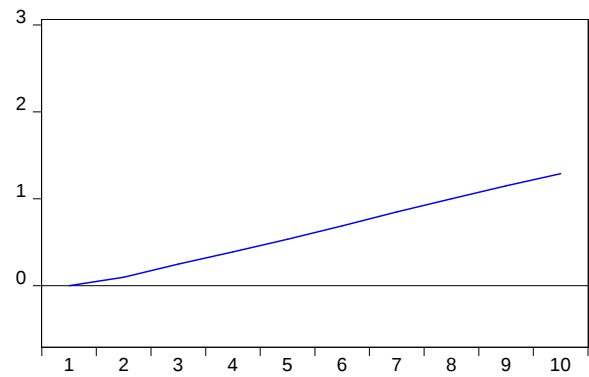
Figure 5: Impulse Response for South Asia

Response to Cholesky One S.D. (d.f. adjusted) Innovations

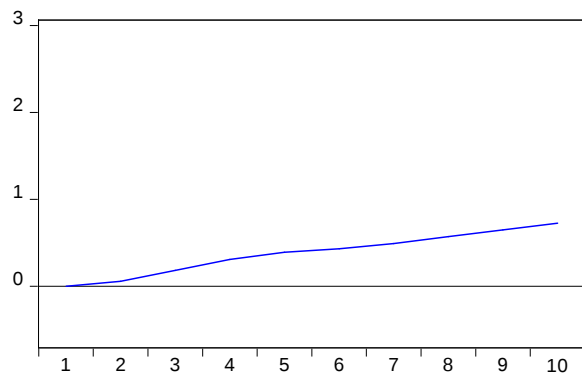
Response of POV to POV



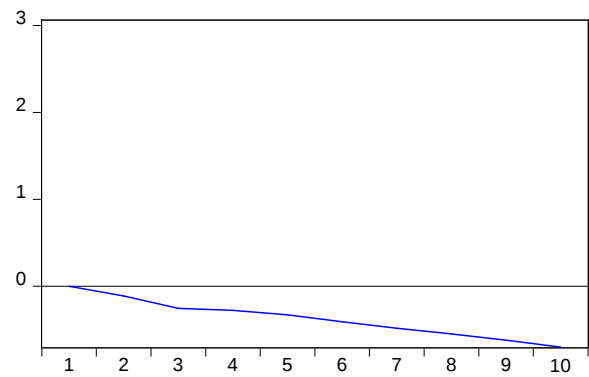
Response of POV to LR



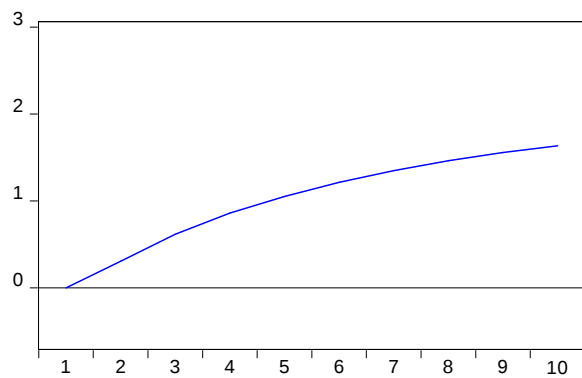
Response of POV to TOU



Response of POV to GDP

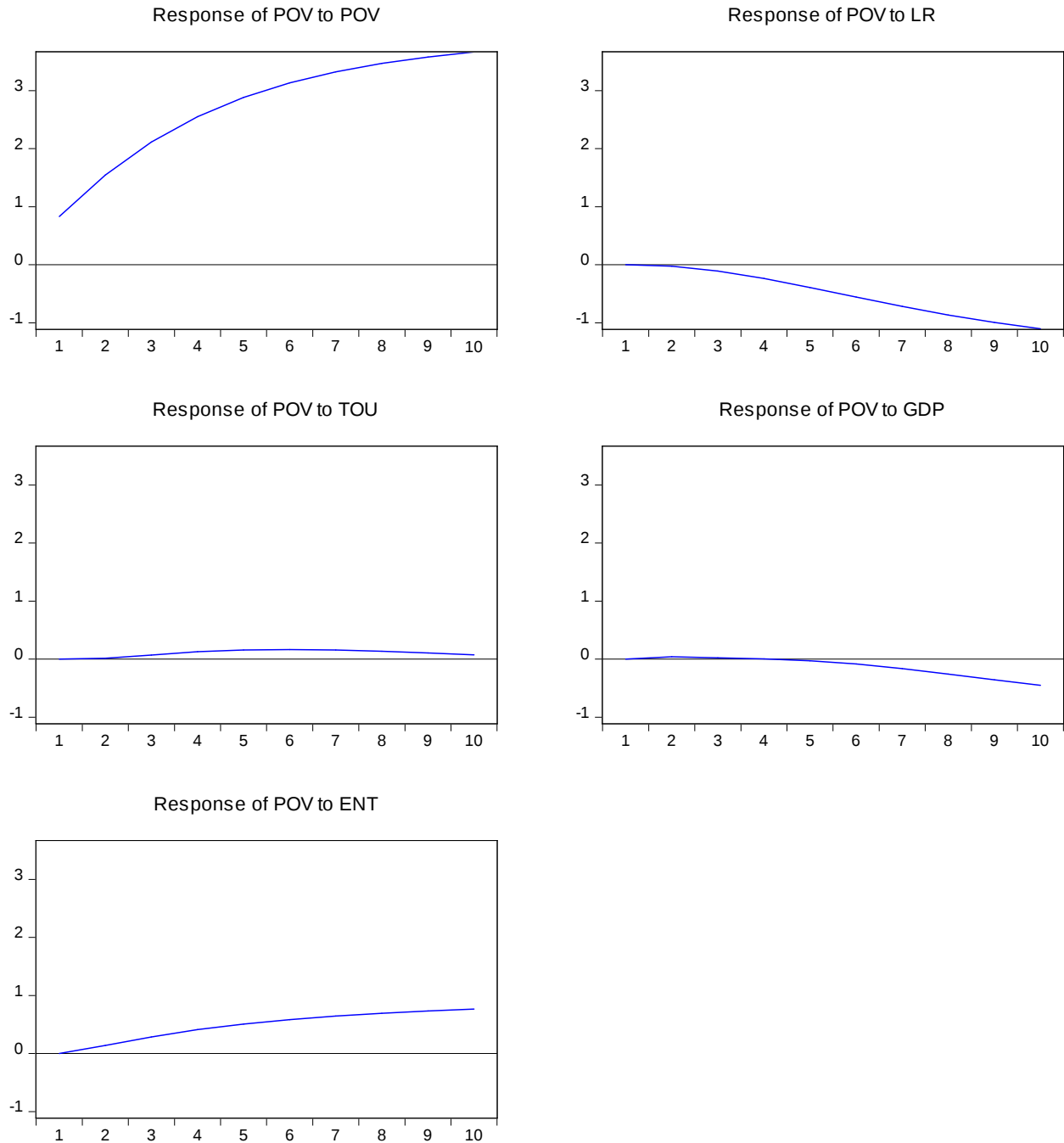


Response of POV to ENT



The results of impulse response of emerging factors for South Asia are reported in Figure 5. Results show that if one standard shock is given to poverty, it positively affects poverty throughout 10 predicted years. Similarly, if one standard shock is given to women's empowerment (LR), it affects poverty positively up to 10 years. Moreover, if one standard shock is given to ENT it will affect poverty positively for upcoming 10 years. Similarly, if one standard shock is given to tourism, then it affects poverty negatively for 10 years. Lastly, if one standard shock is given to GDP, then it affects poverty negatively for 10 years.

Figure 6: Impulse Response of Latin America
 Response to Cholesky One S.D. (d.f. adjusted) Innovations

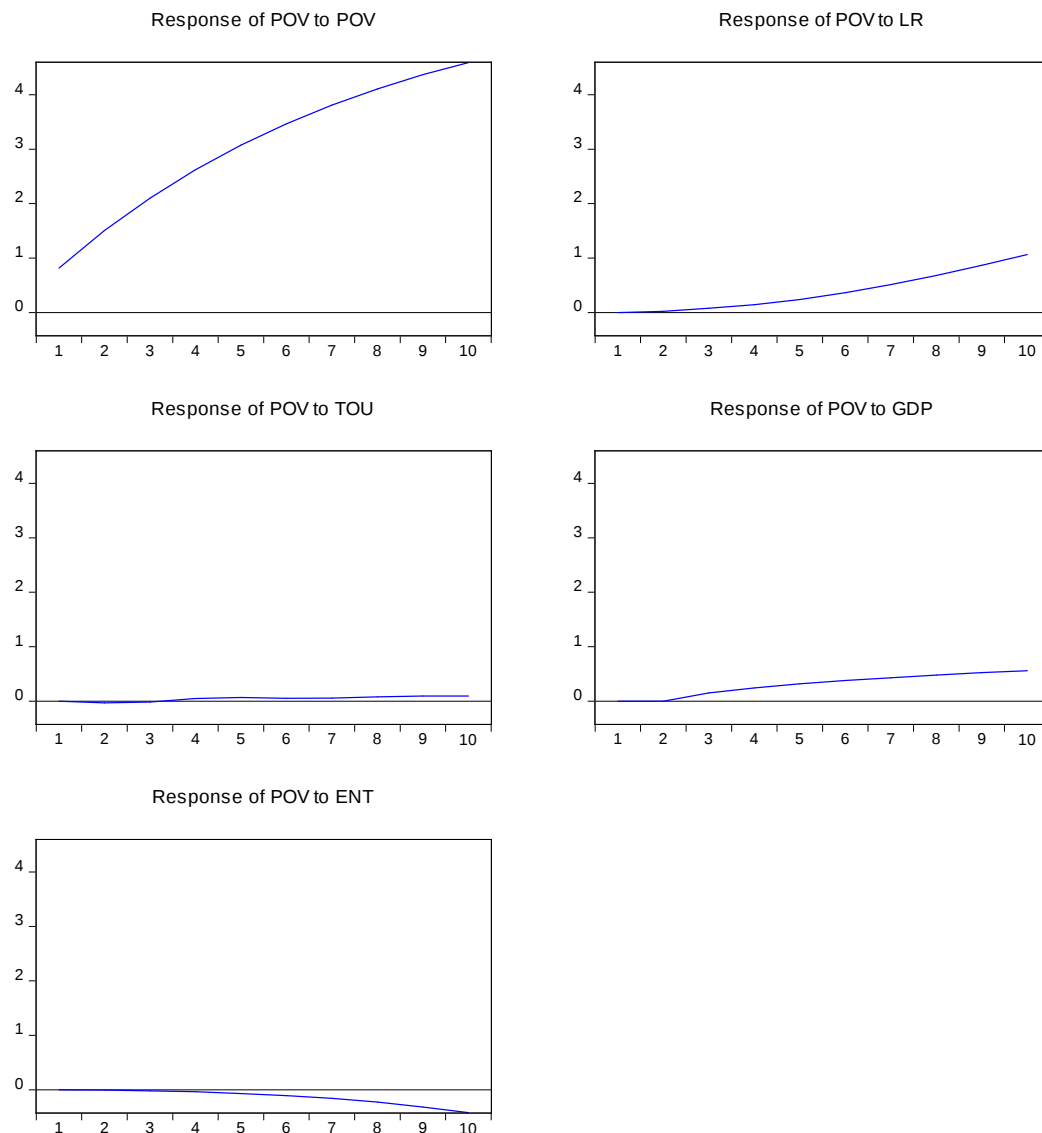


The impulse responses of emerging factors for Latin America are reported in Figure 6. Results depict that if one standard shock is given to poverty, it positively affects poverty throughout 10 predicted years. If one standard shock is given to women's empowerment (LR), it affects poverty

negatively up to 10 years. Moreover, if one standard shock is given to ENT it affects poverty positively for upcoming 10 years. Similarly, if one standard shock is given to tourism, then it affects poverty negatively for 10 years. Lastly, if one standard shock is given to GDP, then it affects poverty negatively for 10 years.

Figure 7: Impulse Response for Africa

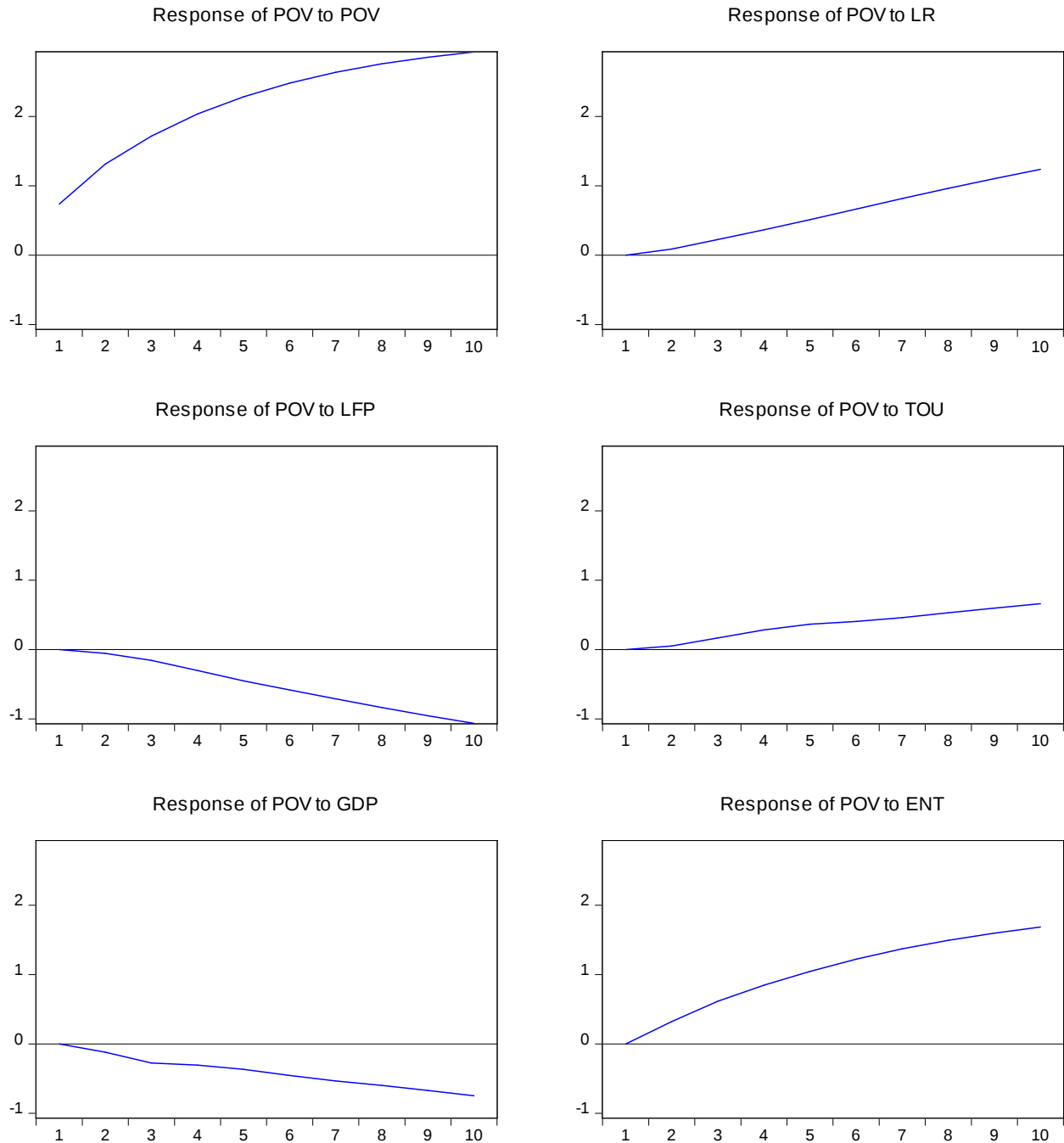
Response to Cholesky One S.D. (d.f. adjusted) Innovations



The impulse responses of emerging factors for Africa are reported in Figure 7. Results indicate that if one standard shock is given to poverty, it positively affects poverty throughout 10 predicted

years. If one standard shock is given to women's empowerment (LR), it affects poverty negatively for up to 10 years. Moreover, if one standard shock is given to ENT it will affect poverty positively for upcoming 10 years. Similarly, if one standard shock is given to tourism, then it affects poverty negatively for 10 years. Lastly, if one standard shock is given to GDP, then it affects poverty negatively for 10 years.

Figure 8: Impulse Response of Full Sample
 Response to Cholesky One S.D. (d.f. adjusted) Innovations



The impulse responses of full sample of South Asia, Latin America, and Africa of emerging factors are presented in Figure 8. Results show that if one standard shock is given to poverty, it positively affects poverty throughout 10 predicted years, and one standard shock to agriculture will affect

poverty positively for 10 predicted years. Similarly, if one standard shock is given to women's empowerment (LR), it affects poverty negatively up to 10 years. Moreover, if one standard shock is given to ENT it will affect poverty positively for upcoming 10 years. Furthermore, if one standard shock is given to women's empowerment (LFP) it equal to poverty for 10 years. Similarly, if one standard shock is given to tourism, then it affects poverty equally for 10 years. Lastly, if one standard shock is given to GDP, then it equally affect poverty for 10 years in case of full sample of emerging factors.

4.6. Granger Causality Test

In researching economics, it is important to find that one variable that can help to forecast another. The causal direction of a variable and the short-run impact of a relationship can be determined with the help of aa approach presented by (Granger, 1969; Thornton & Batten, 1985). According to Granger (1969), the definition of causality i:s “X is a Granger cause of Y. If variable Y_t stays expected through the use of the previous terms regarding a variable X_t , then it can be said that X_t bring in relation to Y_t ”.

This study used VECM Granger causality tests and also used appropriate lags of variable to examine the relationship of traditional and emerging factors with poverty of South Asia, Latin America, and Africa regions (Granger, 1969, 1988). According to Granger (1969), if one time series can be forecasted with the help of lag values of another time series, then it one variable causes another variable. Granger causality helps researchers to forecast future values of one variable with the help of previous values of another variable. The following equations are used to investigate the short-run and long-run relationships between traditional factors and poverty and between emerging factors and poverty of South Asia, Latin America, and Africa regions.

$$Y_t = \beta_0 + \sum_{j=1}^n \beta_{1j} Y_{t-j} + \sum_{h=1}^p \beta_{2h} X_{t-p} + \varepsilon_{1t}$$

$$X_t = \alpha_0 + \sum_{s=1}^k \alpha_{1s} X_{t-s} + \sum_{t=1}^m \alpha_{2t} Y_{t-m} + \varepsilon_{2t}$$

Where Y_t represents poverty at time t while X_t represents each traditional factor unconnected at time t . Similarly, Y_{t-j} and Y_{t-m} show the lagged poverty while X_{t-p} and X_{t-s} indicate the lagged values of traditional and emerging factors separately. Moreover, ε_{1t} and ε_{2t} are uncorrelated white noise vector at time t .

The vector error correction (VEC) Granger Causality/Block Exogeneity Wald tests provide the answers to the following research questions which were developed in Chapter 1:

- I. Is there a long-run/short-run relationship between traditional factors and poverty in South Asia?
- II. What is the direction of causality between traditional factors and poverty in South Asia?
- III. Is there a long-run/short-run relationship between traditional factors and poverty in Africa?
- IV. What is the direction of causality between traditional factors and poverty in Africa?
- V. Is there a long-run/short-run relationship between traditional factors and poverty in Latin America?
- VI. What is the direction of causality between traditional factors and poverty in Latin America?
- VII. Is there a long-run/short-run relationship between emerging factors and poverty in South Asia?
- VIII. What is the direction of causality between emerging factors and poverty in South Asia?
- IX. Is there a long-run/short-run relationship between emerging factors and poverty in Latin America?

- X. What is the direction of causality between emerging factors and poverty in Latin America?
- XI. Is there a long-run/short-run relationship between emerging factors and poverty in Africa?
- XII. What is the direction of causality between emerging factors and poverty in Africa?

The results are reported in Tables 40 and 41.

Table 40: VEC Granger Causality/Block Exogeneity Wald Tests for Traditional Factors

VEC Granger Causality/Block Exogeneity Wald Tests						
χ^2 statistics of lagged 3 difference term						
(p-value)						
SOUTH ASIA						
Dep. Var	Ind. Var					
	D (POV)	D (MIG)	D (TOP)	D (INF)	D (FDI)	D (AGRI)
D (POV)	-	0.903069 (0.6367)	4.665134 (0.0970)	18.19350 (0.0001)	5.634649 (0.0598)	1.849913 (0.3965)
D (MIG)	0.412531 (0.8136)	-	0.142958 (0.9310)	1.378449 (0.5020)	0.361956 (0.8345)	0.326879 (0.8492)
D (TOP)	5.603050 (0.0607)	0.221394 (0.8952)	-	2.990127 (0.2242)	0.940223 (0.6249)	0.530425 (0.7670)
D (INF)	0.189967 (0.9094)	1.824754 (0.4016)	5.261988 (0.0720)		1.141865 (0.5650)	1.615105 (0.4459)
D (FDI)	0.269742 (0.8738)	0.005922 (0.9970)	2.601277 (0.2724)	4.104662 (0.1284)		0.579315 (0.7485)
D (AGRI)	0.536358 (0.7648)	0.133796 (0.9353)	8.081891 (0.0176)	8.736338 (0.0127)	1.449880 (0.4844)	
AFRICA						
	D (POV)	D (MIG)	D (TOP)	D (INF)	D (FDI)	D (AGRI)
D (POV)		0.378519 (0.8276)	11.51785 (0.0032)	2.095428 (0.35070)	4.558110 (0.1024)	3.457750 (0.1775)
D (MIG)	0.223239 (0.8944)		6.067245 (0.0481)	1.230437 (0.5405)	1.404325 (0.4955)	0.844170 (0.6557)
D (TOP)	4.182526 (0.1235)	3.104581 (0.2118)		1.437973 (0.4872)	1.102988 (0.5761)	1.484082 (0.4761)
D (INF)	1.344270 (0.5106)	0.829775 (0.6604)	2.035028 (0.3615)		19.46435 (0.0001)	1.315869 (0.5179)
D (FDI)	6.748890 (0.0342)	1.334568 (0.5131)	0.239943 (0.8869)	1.098837 (0.5773)		1.287229 (0.5254)
D (AGRI)	0.799435 (0.6705)	3.532100 (0.1710)	3.645053 (0.1616)	0.888389 (0.6413)	0.924901 (0.6297)	
LATIN AMERICA						
	D (POV)	D (MIG)	D (TOP)	D (INF)	D (FDI)	D (AGRI)
D (POV)		2.625213 (0.2691)	1.477046 (0.4778)	12.78037 (0.0017)	1.894093 (0.3879)	1.752710 (0.4163)

D (MIG)	1.229627 (0.5407)		2.794527 (0.2473)	1.869088 (0.3928)	1.060105 (0.5886)	1.439628 (0.4868)
D (TOP)	0.745076 (0.6890)	0.046220 (0.9772)		0.088600 (0.9567)	4.019857 (0.1340)	2.945474 (0.2293)
D (INF)	1.321469 (0.5165)	0.343935 (0.8420)	0.945686 (0.6232)		4.019857 (0.1340)	2.945474 (0.2293)
D (FDI)	2.059590 (0.3571)	0.267249 (0.8749)	0.133414 (0.9355)	3.221162 (0.1998)		2.008326 (0.3664)
D (AGRI)	4.244455 (0.1198)	5.394033 (0.0674)	1.907662 (0.3853)	2.950021 (0.2288)	2.313228 (0.3145)	

FULL SAMPLE						
	D (POV)	D (MIG)	D (TOP)	D (INF)	D (FDI)	D (AGRI)
D (POV)		0.071671 (0.9648)	6.745654 (0.0343)	0.128524 (0.9378)	0.286054 (0.8667)	5.140754 (0.0765)
D (MIG)	0.074099 (0.9636)		0.378813 (0.8274)	1.508723 (0.4703)	0.334398 (0.8460)	0.946220 (0.6231)
D (TOP)	12.79230 (0.0017)	0.311808 (0.8556)			0.324866 (0.8501)	1.159750 (0.5600)
D (INF)	0.328371 (0.8486)	0.753871 (0.6860)	0.867789 (0.6480)	3.038857 (0.2188)	0.041319 (0.9796)	2.585308 (0.2745)
D (FDI)	0.329115 (0.8483)	0.071072 (0.9651)	0.700885 (0.7044)	0.231205 (0.8908)		1.474589 (0.4784)
D (AGRI)	0.589081 (0.7449)	0.827456 (0.6612)	0.962331 (0.6181)	19.01072 (0.0001)	2.853175 (0.2401)	

Results of traditional factors with poverty of South Asia, Latin America, Africa, and developing economies indicate that a bidirectional and unidirectional causality exists in the short run. It suggests present and future values of poverty can be predicted with the help of traditional factors. The results indicate that in the case of South Asia a bi-directional relation exists between poverty and trade openness, whereas there a unidirectional relation exists in short-run time period between inflation and poverty, granger causes short-run relation between FDI and poverty which implies that current and future values of poverty can be predicted with the help of past values of FDI and poverty. A unidirectional exists between trade openness and agriculture and between inflation and agriculture. Whereas, the result of Latin America confirms unidirectional causality between migration and agriculture, inflation and poverty.

South Asia		Latin America		Africa		Full Sample				
POV	↔	TOP	MIG	→	IDI	POV	↔	TOP		
INF	→	POV	INF	→	POV	INF	→	AGRI		
FDI	→	POV			TOP	→	MIG	AGRI	→	POV
TOP	→	INF			FDI	→	INF			
TOP	→	AGRI								
INI	→	AGRI								

For the case of Africa, the results confirm a unidirectional causality relation between poverty and FDI, which implies that current and future values of FDI can be predicted with the help of past values of poverty and FDI. Moreover, a unidirectional relation exists between trade openness and poverty, between trade openness and migration, and between FDI and inflation. Whereas in full sample case, a bidirectional relation exists between poverty and trade openness and a unidirectional causality exists between inflation and agriculture and between agriculture and poverty.

Table 41: VEC Granger Causality/Block Exogeneity Wald Tests for Emerging Factors

VEC Granger Causality/Block Exogeneity Wald Tests					
χ^2 statistics of lagged 3 difference term					
(p-value)					
Ind. Var					
Dep. Var	D(POV)	D(LR)	D(TOU)	D(GDP)	D(ENT)
D(POV)		48.08853 (0.0000)	0.104700 (0.0490)	5.404883 (0.0670)	3.424102 (0.1805)
D(WE)	1.503516 (0.4715)		0.421520 (0.8100)	5.062853 (0.0795)	1.177723 (0.5550)
D(TOU)	0.472733 (0.7895)	1.911425 (0.3845)		1.571271 (0.4558)	6.564836 (0.0375)
D(GDP)	1.853203 (0.3959)	1.966017 (0.3742)	2.399278 (0.3013)		1.370335 (0.5040)
D(ENT)	12.27420 (0.0022)	0.299615 (0.8609)	0.266095 (0.8754)	0.782082 (0.6764)	
AFRICA					
	D(POV)	D(LR)	D(TOU)	D(GDP)	D(ENT)
D(POV)		1.280613 (0.5271)	2.087733 (0.3521)	9.016472 (0.0110)	0.069552 (0.9658)
D(WE)	2.406820 (0.3002)		1.005185 (0.6050)	12.24528 (0.0022)	7.275570 (0.0263)
D(TOU)	0.755461 (0.6854)	8.604274 (0.0135)		16.56990 (0.0003)	0.417301 (0.8117)
D(GDP)	1.406746 (0.4949)	1.544146 (0.4621)	0.849347 (0.6540)		3.670470 (0.1596)
D(ENT)	0.219882 (0.8959)	24.62780 (0.0000)	2.316965 (0.3140)	14.66244 (0.0007)	

LATIN AMERICA					
	D(POV)	D(LR)	D(TOU)	D(GDP)	D(ENT)
D(POV)		2.773338 (0.2499)	1.500765 (0.4722)	3.679233 (0.1589)	0.915012 (0.6329)
D(WE)	2.158464 (0.3399)		3.356481 (0.1867)	3.313967 (0.1907)	2.791208 (0.2477)
D(TOU)	0.902278 (0.6369)	0.510546 (0.7747)		2.538165 (0.2811)	0.380357 (0.8268)
D(GDP)	1.090698 (0.5796)	0.471565 (0.7900)	6.212373 (0.0448)		0.105263 0.9487
D(ENT)	4.097590 (0.1289)	1.166821 (0.5580)	1.315481 (0.5180)	5.645638 (0.0594)	
FULL SAMPLE					
	D(POV)	D(WE)	D(TOU)	D(GDP)	D(ENT)
D(POV)	2.230849 (0.3278)	36.84311 (0.0000)	0.158486 (0.9238)	3.904147 (0.1420)	3.129715 (0.2091)
D(WE)	3.218025 (0.2001)		0.083093 (0.9593)	5.695882 (0.0580)	2.081643 (0.3532)
D(TOU)	1.020620 (0.6003)	3.841122 (0.1465)		0.732282 (0.6934)	6.372398 (0.0413)
D(GDP)	2.319863 (0.3135)	2.406181 (0.3003)	0.309611 (0.8566)		5.341430 (0.0692)
D(ENT)	15.22388 (0.0005)	0.033555 (0.9834)	2.286334 (0.3188)	1.116716 (0.5721)	

Table 41 represents VEC Granger Causality/Block Exogeneity Wald Tests for emerging factors of South Asia, Africa, Latin America, and full sample. In emerging factors, only unidirectional causality exists among the variables. In the case of South Asia, unidirectional causality exists between women's empowerment and poverty, between tourism and poverty, and between economic growth and poverty. For the case of Latin America and Africa, causality exists with control variables.

South Asia	Latin America	Africa	Full Sample
WT → POV	TOU → GDP	GDP → POV	WT → POV
TOU → POV	GDP → ENT	GDP → WE	GDP → WE
GDP → POV		GDP → TOU	ENT → GDP
POV → ENT		FNT → WF	POV → FNT
GDP → WE		WE → ENT	
ENT → TOU		GDP → ENT	

For the case of full sample, unidirectional causality exists between women's empowerment and poverty.

4.7. Summary

The results of conducted tests were presented in Chapter 4. The results were derived from tests to check the existence of co-integration among the variables and from Fisher (combined Johansen) co-integration tests for robustness of results (Kao, 1999; Pedroni, 1999). This study calculated VECM to estimate the behavior of the model, and short-run and long-run relationships among the modeled variables (Adamopoulos, 2010). ECT was applied to evaluate the speed of adjustment (how much time it will take to regain equilibrium) if a shock occurs in the system. Furthermore, this study applied variance decomposition analysis to get information about the relative importance of innovation that affects the variables in VAR system. Then, this study used IRF to investigate the impact. Last, Granger causality/Block Exogeneity Wald test was applied. A summary of the results is shown in Table 42.

Table 42: Summary of Results

No.	Research Questions	Methodology	Table/figure
1	What type of relationship exists in long run between traditional factors – migration, FDI, trade openness, agriculture, and inflation – and poverty in Africa?	VECM	Table 22
2	What type of relationship exists in long run between traditional factors – migration, FDI, trade openness, agriculture, and inflation – and poverty in South Asia?	VECM	Table 24

3	What type of relationship exists in long run between traditional factors – migration, FDI, trade openness, agriculture, and inflation – and poverty in Latin America?	VECM	Table 26
4	What type of relationship exists in long run between emerging factors – tourism and women’s empowerment – and poverty in South Asia?	VECM	Table 30
5	What type of relationship exists in long run between emerging factors – tourism and women’s empowerment – and poverty in Latin America?	VECM	Table 32
6	What type of relationship exists in long run between emerging factors – tourism and women’s empowerment – and poverty in Africa?	VECM	Table 34
7	What is the relative contribution of traditional factors to poverty in South Asia, Latin America and Africa?	Variance decomposition	Table 38
8	What is the relative contribution of emerging factors to poverty in South Asia, Latin America and Africa?	Variance decomposition	Table 39
9	What is the response of poverty in time $t + n$ when one standard shock is given to VAR	Impulse response	Figures 1, 2, 3

	system of traditional factors at time t while no other shock hits the system in South Asia, Latin America, and Africa?		
10	What is the response of poverty in time $t + n$ when one standard shock is given to VAR system of emerging factors at time t while no other shock hits the system in South Asia, Latin America, and Africa?	Impulse response	Figures 5, 6, 7
11	What is the direction of causality between traditional factors and poverty in South Asia, Latin America, and Africa?	Granger causality	Table 40
12	What is the direction of causality between emerging factors and poverty in South Asia, Latin America, and Africa?	Granger causality	Table 41

Chapter-5

Discussion

5. Discussion of Results

This study modeled the impact of traditional and emerging factors on poverty. Traditional factors are migration, FDI, agricultural development, inflation, and trade openness. In this study, we investigate the role of governance as moderator between traditional factors and poverty. Emerging factors comprise women's empowerment and tourism. VECM was applied to non-stationary data to calculate the long-run and short-run relationships among modeled variables. Short-run test applies through VECM on stationary data to adjust the variables that help to make long-run relationship. In this methodology, one variable is treated as dependent variable and other variables are independent variables where all previous variables considered in similar balance. Seven different models were estimated to determine the impact of traditional factors on poverty with moderating effect of governance, and another model was estimated to determine the impact of emerging factors on poverty. The following questions have been investigated in Chapter 4.

- 1) What is the impact of traditional and emerging factors on poverty in the case of Africa region?
- 2) What is the impact of traditional and emerging factors on poverty in the case of South Asia region?
- 3) What is the impact of traditional and emerging factors on poverty in the case of Latin America region?
- 4) What is the impact of traditional and emerging factors on poverty in the case of full sample?

5.1. Traditional Factors

Seven different models were analyzed for traditional factors. Model 1 comprises impact of migration, inflation, trade openness, agriculture, and FDI on poverty. For the case of Africa, the results of Model 1 indicated that MIG [1.60E-05 (2.02844)], TOP [-0.65206*** (-13.7705)], INF [3.63169*** (12.2542)], AGRI [0.716235 (2.37405**)], and FDI [-0.80390 (-2.6822*)] had a statistically significant long-term relationship with poverty. Results show that migration, inflation, and agriculture have a significant and positive impact on poverty in the case of Africa, whereas trade openness and FDI have a significant and negative relationship with poverty. My results for migration are consistent with Azizi (2021) for inflation Acharya and Miah and for agriculture Rizal, Rochima, Rahmatunnisa, and Muljana (2021). According to the literature, migration does have a positive relation with poverty. The literature shows that migrants face many problems, for example, sometimes they may get ill and are not properly taken care of themselves (Hagen-Zanker, Mosler Vidal, & Sturge, 2017).

The female labor force faces many social and economic problems and, ultimately, become curse for the society. The results of this study are in line with the finding of (Boyagoda & Suramya, 2014; Senaratna et al., 2011; Siddiqui, 2012). Inflation also plays a crucial role in poverty (Fujii, 2013). Numerous studies of inflation and poverty showed that poverty and inflation are global phenomena that affect people in various ways at different phases of their lives (Siyan et al., 2016).

Unemployment and inflation are correlated; unemployment leads to poverty. It has been established that studies of governance may give inconsistent results and this is also the case with inflation (Zaid, Jaaron, & Bon, 2018). The level of poverty is increasing at a fast pace in countries like Africa that are unable to handle their agriculture sector (Aladegbola, 2018). Poor people are unable to participate to their maximum in the economy to utilize resources; they depend financially on their relatives and friends; their basic necessities of life, which include health and shelter, are

compromised. Countries like Nigeria are suffering from severe poverty and are unable to manage their agriculture sector properly; resultantly, their GDP rate is low, per capita income is low, and there is high unemployment (Holden, 2014). Further, the findings of the study at hand confirm claims about positive relation between trade openness and poverty reduction. Research studies on the relation between trade openness and poverty have generated different results; some were in favor of trade openness because it brings opportunities for local investors (Bhagwati & Srinivasan, 2002; Onakoya et al., 2019).

Indonesia opened their economy after Asian financial crisis of 1997 and this strategy helped to create more opportunities to bring FDI to the country and, resultantly, it helped to reduce poverty in the country (Stiglitz, 2000). An increase in FDI inflow grows the economy; however, there are limited studies available which investigate the impact of FDI on poverty reduction. Studies showed that the coefficient of FDI inflows had a negative relationship with poverty reduction in different countries.

As far as governance as moderator is concerned, the overall analysis of Africa region in the case of traditional factors suggests that the role of governance as moderator weakens the relation of migration, inflation, and agriculture with poverty, whereas governance as moderator strengthens the relation of trade openness and FDI with poverty.

The results of this study Model 2 indicated that MIG [-1.20E-05** (-3.77575)], TOP [0.63259*** (9.01800)], INF [1.839178** (3.62100)], AGRI [0.01474 (2.02733)], and FDI [-9.79587*** (-4.40916)] have a statistically significant long-term relationship with poverty in South Asia. Among all the given variables, only FDI and MIG have a negative association with poverty in South Asia region. My results for FDI are consistent with (Do et al., 2021) and for migration (J. N. Lee,

Morduch, Ravindran, Shonchoy, & Zaman, 2021). For the case of South Asia, if FDI and migration increase, then poverty will decrease. Whereas, if agriculture development, inflation, and trade openness increase in South Asia, then poverty will increase as well.

Awareness of the importance of migration for work has encouraged the entire world to work on this objective (Awan et al., 2011). The literature explained that migration has a negative relation with poverty; so, if we want to reduce poverty level, then migration must be promoted (Awan et al., 2011). Inflation also plays a crucial role in poverty, if inflation increases, then poverty increases as well (Fujii, 2013). Empowering rural people, especially through agricultural development, is an essential first step to poverty alleviation (Ugbomeh, 2001). In the case of South Asia, FDI is considered an important tool for poverty reduction. FDI helps to contribute to economic growth, which is directly proportionate to poverty reduction in low-income countries (Gohou & Soumaré, 2012; Musakwa & Odhiambo, 2019). Dhahri and Omri (2020) investigated different measures in the economy for poverty reduction. They created a framework for measuring governance performance for poverty reduction in South Asian countries. They suggested that governance in South Asia is poor and very problematic, which has strong implications for poverty reduction policy in South Asian countries. The overall analysis of South Asia region in the case of traditional factors suggests that the role of governance as moderator weakens the relations of trade openness and agriculture with poverty, whereas governance as moderator strengthens the relation of migration, inflation, and FDI with poverty.

The results of this study Model 3 indicated that MIG [-3.59E-05 (-2.96762)], TOP [0.33527*** (14.7229)], INF [2.115603* (2.3484)], AGRI [-2.258616 (-3.23587**)], and FDI [-0.433233*** (-6.21062)] have a statistically significant long-term relationship with poverty in Latin America.

FDI, MIG, and AGRI have negative associations with poverty in Latin America region. My results are consistent for migration (J. N. Lee et al., 2021) for FDI (Do et al., 2021) and for agriculture (Warr & Suphannachart, 2021). Where FDI can help to reduce poverty because FDI brings investment, new opportunities for projects, and employment positions for people. These results are in line with the results of (Chukwu & Adewuyi, 2020; Dhrifi et al., 2020) that FDI helps to reduce poverty. In the case of Latin America, migration helps to reduce poverty; these results are in line with a study conducted in Bangladesh, where it was supported that poor people wherever migrate even from rural area to urban area or migrate internationally poverty reduce from their native area (J. N. Lee et al., 2021; Marotzke, Semmann, & Milinski, 2020). Agriculture helps to reduce poverty; the agriculture sector plays a more important role in poverty reduction than non-agriculture sectors. Whenever an agriculture sector flourishes, then it enhances agriculture labor market, which helps to reduce poverty in the country (Liu, Amin, Rasool, & Zaman, 2020). Trade openness and inflation have positive relations with poverty.

The overall analysis of Latin America region in the case of traditional factors suggests that the role of governance as moderator weakens the relation of trade openness, agriculture, and FDI with poverty, whereas governance as moderator strengthens the relation of migration and inflation with poverty.

The results of this study Model 5 indicated that MIG $-3.59E-05$ (-2.96762), TOP $[0.33527^{***}$ (14.7229)], INF $[2.115603^{*}$ (2.3484)], AGRI $[-2.258616$ (-3.23587^{**})], and FDI $[-0.433233^{***}$ (-6.21062)] have a statistically significant long-term relationship with poverty in Latin America. FDI, MIG, and AGRI have a negative association with poverty in Latin America region. The overall analysis of full sample of South Asia, Latin America, and Africa region in the case of traditional factors suggests that the role of governance as moderator weakens the relation of trade

openness and agriculture with poverty, whereas governance as moderator strengthens the relation of migration, FDI, and inflation with poverty.

5.2. Emerging Factors

Tourism and women's empowerment have a negative relation with poverty in the case of Africa. According to results obtained, the long-run relationship among tourism and women's empowerment (with two proxies LR and LFP) with poverty for Africa in the time period 1995 to 2020 is displayed where in () t value is presented. The results of this study Model 6 indicated that TOU [-1.00E-07* (-2.52540)], WE [-2.41192*** (-7.64539)], ENT [-1.527402*** (-4.75403)], and GDP [-5.57653*** (-8.88900)] have a statistically significant long-term relationship with poverty in Africa. So, it is suggested in the case of Africa that if tourism increases, poverty will reduce. By the end of 2030, poverty needs to be reduced, for this reason there is a need to identify different factors that will help to reduce it. Tourism is one of those factors that will help to alleviate poverty in Africa (Folarin & Adeniyi, 2020). Tourism helps to bring money at the destination in the form of travelling, accommodation, food and transport. Therefore it is considered a great source of creating multiplier effect by bringing foreign currency in the country without any hassle. International currency is very important for developing economies for trade and international trips for education, recreational tour and health purposes. People of rich countries earn money throughout the year then they need some recreational break so they spend money for beautiful spots especially for those places which are properly designed and established for the tourists and they can avail all services on one click. According to Llorca-Rodríguez et al. (2020), tourism helps to reduce even extreme poverty from countries; tourism will increase economic opportunities and will help to enhance employment opportunities and reduce poverty.

Tourism and women's empowerment have negative relation with poverty in the case of South Asia. The results of this study in Model 7 indicated that TOU [-2.44E-09*** (-6.05589)] and WE [-16.8007*** (-6.87420)] have a statistically significant long-run relationship with poverty in South Asia.

Statistically, it is proved that women comprise more than 50% of the world's population. So, it is nearly impossible to achieve economic success without the contribution of women. For women to contribute to economic activities, women need to be empowered to alleviate poverty (Bent, 2019). Gender equality is one of the MDGs and it is now an SDG. Gender equality is a basic characteristic of developed nations (Sato, 2018). There are more women than men and women participate more in family, social, and community matters than men. Gender equality comes in many shapes, but here it is the provision of equal opportunities for both men and women, as well as equal rights and value (World Bank, 2001). Women is considered empowered when she is earning and spending with her own choice. She is able enough to take her own financial decisions, then women can help to reduce poverty from country level. Therefore there is need of creating more job opportunities for the female so they can equally participate in economic activities of the country.

Tourism and women's empowerment have a negative relation with poverty in the case of Latin America and in developing economies full sample. The results of this study in Model 1 indicated that TOU [-7.95E-08*** (-3.68383)], WE [-2.4522** (-2.42833)], ENT [0.541889*** (-4.09334)], and GDP [-2.3149*** (-9.14296)] have a statistically significant long-term relationship with poverty in Latin America. The results of this study in Model 1 indicated that TOU [-6.01E-05* (-2.8734)], LR [-3.844315*** (-4.37445)], ENT [-3.9927*** (-8.4875)], and GDP [-7.04016*** (-4.7634)] have a statistically significant long-term relationship with poverty in full sample. Tourism is a widely emerging issue for researchers, practitioners, and international

agencies, for example, the UNWTO is working to enhance economic growth of a country which can reduce poverty (Croes & Vanegas Sr, 2008; Medina-Muñoz et al., 2016; Novelli & Hellwig, 2011; Spenceley & Goodwin, 2007). It is a generally held belief that tourism can help to reduce poverty in a country and it can help to achieve MDG 1 to eradicate extreme poverty and hunger by 2015 (McKercher, 2008).

5.3. Summary

Results show that migration, inflation, and agriculture have a significant and positive impact on poverty in the case of Africa, whereas trade openness and FDI have a significant and negative relationship with poverty. As far as governance as moderator is concerned, the overall analysis of Africa region in the case of traditional factors suggests that the role of governance as moderator weakens the relation of migration, inflation, and agriculture with poverty, whereas governance as moderator strengthens the relation of trade openness and FDI with poverty.

Among the given variables, only FDI and MIG have a negative association with poverty in South Asia region. For the case of South Asia, an increase in FDI and migration will lead to a decrease in poverty. Whereas, if agriculture development, inflation, and trade openness increase in South Asia, then poverty will increase. The overall analysis of South Asia region in the case of traditional factors suggests that the role of governance as moderator weakens the relation of trade openness and agriculture with poverty, whereas governance as moderator strengthens the relation of migration, inflation, and FDI with poverty.

FDI, MIG, and AGRI have a negative association with poverty in Latin America region. FDI can help to reduce poverty because FDI brings investment, new opportunities for projects, and employment positions for people. The overall analysis of Latin America region in the case of

traditional factors suggests that the role of governance as moderator weakens the relation of trade openness, agriculture, and FDI with poverty, whereas governance as moderator strengthens the relation of migration and inflation with poverty.

FDI, MIG, and AGRI have a negative association with poverty in full sample. The overall analysis of the full sample of South Asia, Latin America, and Africa region in the case of traditional factors suggests that the role of governance as moderator weakens the relation of trade openness and agriculture with poverty, whereas governance as moderator strengthens the relation of migration, FDI, and inflation with poverty.

For emerging factors, tourism and women's empowerment have a negative relation with poverty in the case of Africa, South Asia, and Latin America.

Chapter-6

6. Conclusion and Policy Implications

Chapter 6 has three subsections: Section 6.1 summarizes the main results and discussion of results; Section 6.2 focuses on policy implications, both theoretically and practically; and Section 6.3 of presents the limitations of the study and suggests future research directions.

6.1. Summary of Findings

Human beings require: adequate living standards; sufficient availability of food, clean water, and environment; safe shelter; education; and availability of job opportunities for current and future generations. If the above-given requirements are not available in a place, then there is poverty. (Nurkse (1952)) stated in "Problems of Capital Formation in Underdeveloped Countries" that poverty is the biggest problem of poor countries. Nurske (1952) explained a country is poor because it is poor. There is a vicious cycle of poverty which becomes rigid and a country can become unable to get away from that cycle. It is evident that poverty in Africa region is increasing faster than its population growth rate (Azzarri & Signorelli, 2020); therefore, there are shortages of the basic necessities of life in Africa, which comprise food, shelter, and health. A number of studies in the discipline of economics have been conducted in time series and cross-sectional analysis, but the biggest problem is lack of uniformity and inconsistency in findings.

This study answered nine main questions:

1. What is the impact of traditional factors on poverty in South Asia, Latin America, and Africa?
2. Does governance moderate the relationship between traditional factors and poverty in South Asia, Latin America, and Africa?

3. What is the impact of emerging factors on poverty in South Asia, Latin America, and Africa?
4. What is the relative contribution of traditional factors to poverty in the case of South Asia, Latin America, and Africa?
5. What is the relative contribution of emerging factors to poverty in the case of South Asia, Latin America, and Africa?
6. How do traditional factors affect poverty in a forecasted period in South Asia, Latin America, and Africa?
7. How do emerging factors affect poverty in a forecasted period in South Asia, Latin America, and Africa?
8. What is the direction of causality between traditional factors and poverty in the case of South Asia, Latin America, and Africa?
9. What is the direction of causality between emerging factors and poverty in the case of South Asia, Latin America, and Africa?

To find the above-given questions VECM was applied to quantify the relationship of traditional and emerging factors with poverty and the role of governance as moderator between traditional factors and poverty. Then this study applied variance decomposition to decay the forecast error variance of poverty into apparatuses that entirely represent the contribution of each specific shock. Forecast error variance completely explained by an exogenous shock which calculate the relative importance to examine the traditional and emerging factors with poverty. Then this study used IRF presented by Pesaran and Shin (1998) to illustrate the effect of an exogenous shock of one variable on another variable in the explained system. And lastly, this study also used VECM Granger causality Wald test in the VAR system to estimate the causality among modeled variables.

This study used cross-sectional data on poverty along with traditional and emerging factors of South Asia, Latin America and Africa from 1995 to 2020. Poverty was treated as a dependent variable. The traditional set of independent variables were migration, trade openness, inflation, FDI, and agriculture output; the contemporary set comprises women's empowerment and tourism. The data were obtained from WDI for three regions, which are South Asia, Latin America, and Africa. Furthermore, the traditional set was tested with a moderator variable: governance. The data for governance was obtained from WGI for the years from 1995 to 2020.

This study performed seven models, which are explained below. Model 1 comprises impact of migration, inflation, trade openness, agriculture, and FDI on poverty. Model 2 comprises one additional independent variable (governance), whereas Models 3, 4, 5, 6, and 7 consist of role of governance as moderator with each and every independent variable separately. Results were attained for three different regions (South Asia, Latin America, and Africa) and full sample as well.

Overall analysis of Africa region in the case of traditional factors suggests that role of governance as moderator weakens the relation of migration, inflation, and agriculture with poverty, whereas governance as moderator strengthens the relation of trade openness and FDI with poverty. Overall analysis of South Asia region in the case of traditional factors suggests that the role of governance as moderator weakens the relation of trade openness and agriculture with poverty, whereas governance as moderator strengthens the relation of migration, inflation, and FDI with poverty. Overall analysis of Latin America region in the case of traditional factors suggests that the role of governance as moderator weakens the relation of trade openness, agriculture, and FDI with poverty, whereas governance as moderator strengthens the relation of migration and inflation with poverty.

FDI, MIG, and AGRI have a negative association with poverty in Latin America region. FDI can help to reduce poverty, as FDI brings investment, new opportunities for projects, and employment positions for people. The overall analysis of full sample of South Asia, Latin America, and Africa region in the case of traditional factors suggests that the role of governance as moderator weakens the relation of trade openness and agriculture with poverty, whereas governance as moderator strengthens the relation of migration, FDI, and inflation with poverty. For emerging factors, the result indicates that tourism and women's empowerment have a significant and negative relation with poverty in the case of South Asia, Latin America, and Africa.

Tourism and women's empowerment have a negative relation with poverty in the case of Africa. Tourism and women's empowerment also have a negative relation with poverty in the case of South Asia. Tourism and women's empowerment have a negative relation with poverty in the case of Latin America as well. Therefore, after this analysis, we can say that we need to design policies, especially in less developed countries, to earn revenue from tourism and women's empowerment to help reduce poverty.

6.2.Theoretical and Practical Implications

This study helps researchers to get clarity about the factors which really help to reduce poverty. This study is divided into two sets. Set 1 comprises traditional factors: migration, FDI, trade openness, inflation, and agriculture output. Set 2 comprises emerging factors, which are being established and making their way to reduce poverty. To reduce poverty, special policies need to be designed, especially keeping in mind migration, trade openness, inflation, FDI, and agriculture. The role of governance as moderator is clearer in particular for each of three regions: South Asia, Latin America and Africa.

This study helps policy-makers to design strong policies for the reduction of poverty from three regions of the world which are, South Asia, Latin America, and Africa. Poverty is a major issue that causes social and economic problems, as poverty slows down the growth of a country. Therefore, there is a dire need to design policies that help to reduce poverty and help to increase economic growth. A small contribution to poverty reduction can have a large impact on the economic growth of a country. Firstly, the results of the study indicate numerous implications, such as central banks of LDCs should adopt contractionary monetary policies to control inflation for the South Asia and Latin America. For the case of Africa governance help to weaken the relation of inflation and poverty as they have inverse relation, so there is need maintain inflation at certain level to minimize the poverty from the region. Secondly, policy-makers should focus on attracting FDI to achieve desirable results in the case of Africa, South Asia, and Latin America, as this is a common variable in all three regions which helps to reduce poverty. Governments should introduce attractive policies and opportunities to encourage foreign investors, so that investors bring heavy investment and mega projects to achieve desirable results in the developing economies. Governance as moderator strengthens the relation between FDI and poverty. Governments should introduce attractive policies and opportunities to encourage foreign investors, so that investors bring heavy investment and mega projects to the low-income countries of South Asia, Africa and Latin America, which can help to reduce poverty. The Government of Pakistan should introduce new policies to encourage foreign investors to bring in home country.

Thirdly, in the interest of mitigating poverty, policy-makers should design policies for migrants of both home and host countries that encourage laborers to go overseas and send money back via proper channels instead of illegal sources. This would not only help poor families, but would also encourage the government to enhance foreign revenue for the case of South Asia and Latin

America. But migration has positive relation with poverty in SSA so in intention to reduce poverty there must be reduce in migration. So government should introduce opportunities for the people of Africa that they become satisfied economically in their own region.

Fourthly, there is a need to design policies that encourage trade openness at a country level so that no domestic producer gets hurt but flourishes instead for SSA. But for the case of South Asia and Latin America there must introduced quota system to restrict on trade openness because it have positive relation with poverty.

Agriculture have a negative association with poverty in region of Latin America. So there is need to introduce reform policies for agriculture, government should announce special policies. For the case of South Asia and Latin America there is need of intervention of governance to weaken the relation of agriculture and poverty as they have positive relation with poverty.

Moreover, policy-makers of less developed countries should give special consideration to the progress of local tourism by looking forward to collaborations that can be helpful to attract higher spending tourism and in narrowing the leakages it involves. This strategy could help to improve the impact of the international revenue generated by tourism in poor countries. Lastly, governments should pay more attention to women's empowerment, policies need to be designed that encourage women to take decisions at domestic level and if they work they should be empowered enough to take decisions for better progress at country level. Women can be empowered if they get the same chances of accessing education and work as men get. Special policies should design for the females jobs that they become more empowered and can help to reduce poverty from the country. To attract tourists from other countries there is need of proper policies and regulation for revenue generating through tourism.

6.3. Limitations/Delimitation/Future Research Directions

There are total six regions in the world but this study only focused three regions of developing economies, which are South Asia, Latin America, and Africa. Future research could extend this study to remaining regions. Moreover, this study utilized governance as moderator while other researchers can identify other conditions under which the relation between traditional factors and poverty reduction more effective, whereas future research could identify more conditions that would make poverty reduction policies more effective.

This study utilized secondary data for three region of developing nations. Study also conducted descriptive analysis, and multivariate time series analysis. Seventeen equation are estimated by employing Vector error correction model, econometric techniques, to find reliable results for policy implications. Moreover this study utilized six dimensions i) Control of corruption ii) Government effectiveness Political stability iii) absence of violence/terrorism iv) Regulatory quality v) Rule of law vi) Voice and accountability. Whereas other researchers can utilized transparency, responsiveness, participation, equity and efficiency, as measurement of governance.

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Appendix

Variance Decomposition of Africa

Variance Decomposition of INF							
Period	S.E.	POV	INF	TOP	MIG	AGRI	FDI
1	11.71674	0.051779	99.94822	0.000000	0.000000	0.000000	0.000000
2	11.91798	0.172667	99.31475	0.421631	0.036730	0.010120	0.044106
3	12.65354	0.288495	99.04228	0.421650	0.040060	0.010861	0.196651
4	12.74269	0.410387	98.75466	0.449319	0.044041	0.010878	0.330720
5	12.85859	0.497860	98.48459	0.450544	0.043294	0.016994	0.506721
6	12.89168	0.558339	98.25509	0.452513	0.043992	0.026855	0.663208
7	12.91957	0.591269	98.04417	0.451597	0.048509	0.045948	0.818511
8	12.93494	0.605738	97.85842	0.450780	0.057263	0.071770	0.956030
9	12.94801	0.609070	97.68367	0.449878	0.070176	0.105430	1.081771
10	12.95916	0.608240	97.51863	0.449125	0.086009	0.144791	1.193201

Variance Decomposition of TOP

Period	S.E.	POV	INF	TOP	MIG	AGRI	FDI
1	86.69490	0.384011	0.076778	99.53921	0.000000	0.000000	0.000000
2	87.86674	0.421367	0.273998	98.23199	0.402570	0.629877	0.040201
3	88.07820	0.498605	0.415784	97.83725	0.549611	0.629288	0.069465
4	88.15169	0.597348	0.416946	97.67699	0.602054	0.633645	0.073017
5	88.21697	0.704571	0.434365	97.53276	0.621639	0.633655	0.073015
6	88.27224	0.818823	0.435504	97.41066	0.626705	0.633033	0.075280
7	88.32889	0.936474	0.440919	97.28575	0.626629	0.632288	0.077936

8	88.38504	1.054772	0.442989	97.16224	0.625904	0.631957	0.082135
9	88.44200	1.171222	0.445643	97.03724	0.626304	0.632349	0.087239
10	88.49859	1.283947	0.447351	96.91335	0.628413	0.633540	0.093398

Variance Decomposition of MIG

Period	S.E.	POV	INF	TOP	MIG	AGRI	FDI
1	18760.03	0.121885	1.463020	0.389126	98.02597	0.000000	0.000000
2	37414.52	0.138757	2.384718	0.487682	96.97853	0.006553	0.003762
3	56212.49	0.141961	2.694994	0.247386	96.87705	0.002935	0.035678
4	74388.91	0.144832	3.032391	0.142406	96.57196	0.012990	0.095423
5	91545.87	0.147271	3.282713	0.094561	96.23919	0.045529	0.190736
6	107576.4	0.148635	3.501995	0.071027	95.85847	0.101822	0.318049
7	122470.5	0.148746	3.683941	0.058704	95.45288	0.179821	0.475903
8	136283.0	0.147575	3.839694	0.051856	95.02337	0.276482	0.661022
9	149089.0	0.145224	3.971541	0.047810	94.57700	0.388156	0.870266
10	160972.5	0.141859	4.083971	0.045252	94.11759	0.511157	1.100173

Variance Decomposition of AGRI

Period	S.E.	POV	INF	TOP	MIG	AGRI	FDI
1	2.887775	0.081879	0.066713	0.008793	0.293827	99.54879	0.000000
2	3.861562	0.195381	0.047726	0.171086	0.214793	99.20144	0.169576
3	4.593174	0.317594	0.126798	0.231916	0.177279	98.96809	0.178322
4	5.174831	0.432382	0.166354	0.268881	0.155943	98.77188	0.204556
5	5.658556	0.526077	0.222257	0.288957	0.144853	98.59640	0.221452
6	6.068794	0.592806	0.263616	0.304741	0.140869	98.46002	0.237949
7	6.422091	0.631371	0.301414	0.316480	0.143034	98.35435	0.253351
8	6.729600	0.644190	0.329844	0.326093	0.150852	98.28030	0.268722
9	6.999726	0.636139	0.351584	0.334179	0.164226	98.22922	0.284650
10	7.238941	0.613708	0.366234	0.341254	0.183114	98.19401	0.301676

Variance Decomposition of FDI

Period	S.E.	POV	INF	TOP	MIG	AGRI	FDI
1	6.005081	0.061204	0.138807	0.076401	0.060817	7.662918	91.99985
2	7.257306	0.314935	0.283574	0.127542	0.092771	11.10482	88.07636
3	8.405229	0.696531	0.424459	0.152878	0.084832	10.50990	88.13140
4	9.220149	1.198913	0.532557	0.127634	0.079515	10.00654	88.05484
5	9.902636	1.794427	0.662481	0.113482	0.070212	9.326479	88.03292
6	10.46781	2.465142	0.772036	0.102511	0.063165	8.676089	87.92106
7	10.95319	3.184102	0.880404	0.094322	0.063112	8.072416	87.70564
8	11.37496	3.928865	0.976051	0.087816	0.074641	7.539065	87.39356
9	11.74689	4.677544	1.063286	0.082551	0.101855	7.080668	86.99410
10	12.07789	5.411685	1.139533	0.078193	0.148117	6.697895	86.52458

Variance Decomposition of South Asia

Variance Decomposition of AGRI								
Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	1.259582	0.060718	99.93928	0.000000	0.000000	0.000000	0.000000	0.000000
2	1.820334	1.187358	98.14543	0.210575	0.061396	0.285890	0.031772	0.077577
3	2.251339	3.125071	94.88312	0.151019	0.431157	1.073948	0.282978	0.052707
4	2.641166	4.330242	91.95194	0.677102	0.352942	2.235004	0.344393	0.108376
5	3.037402	5.870711	88.16412	1.011027	0.282090	4.033631	0.422747	0.215672
6	3.443077	7.385833	84.93609	1.226789	0.309420	5.524489	0.380127	0.237249
7	3.842028	8.689590	81.98298	1.532293	0.257327	6.871639	0.353961	0.312211
8	4.229044	10.03286	79.17888	1.705190	0.218294	8.158498	0.338636	0.367640
9	4.605712	11.25798	76.78217	1.825346	0.198142	9.222371	0.297472	0.416515
10	4.975132	12.34082	74.70199	1.931404	0.170341	10.11794	0.264413	0.473091

Variance Decomposition of INF:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	5.774759	7.917186	3.511763	88.57105	0.000000	0.000000	0.000000	0.000000
2	6.027758	7.668184	4.908371	83.31940	0.181235	1.127431	0.119737	2.675638
3	6.953456	6.544526	8.826491	77.85589	1.031803	1.207862	0.430999	4.102433
4	7.578898	5.702385	7.648550	80.04227	1.222258	1.030189	0.684644	3.669707
5	7.958472	5.246246	7.843392	79.25300	1.260079	0.934657	0.630322	4.832304
6	8.517133	4.632790	8.495252	79.76247	1.161974	0.827337	0.640631	4.479544
7	8.998018	4.495643	9.067998	79.59326	1.079567	0.756739	0.646585	4.360208
8	9.426949	4.591522	9.564080	79.08288	1.057949	0.696676	0.633903	4.372987
9	9.897443	4.689955	10.25587	78.73172	0.963239	0.648323	0.585329	4.125561
10	10.33415	4.963783	10.79548	78.17983	0.889107	0.631324	0.538725	4.001747

Variance Decomposition of FDI:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	1.316333	0.013926	6.789617	0.048891	93.14757	0.000000	0.000000	0.000000
2	1.399310	0.283937	8.048086	0.051300	88.06736	0.988061	0.223922	2.337339
3	1.460893	0.267367	13.52449	0.047643	82.81008	0.914649	0.212131	2.223632
4	1.744714	0.399303	13.59853	0.468255	82.72467	0.728983	0.202121	1.878129
5	1.827183	0.364154	14.55120	0.430108	80.60559	1.268349	0.752651	2.027944
6	1.890821	0.430245	16.72119	0.512755	78.42174	1.307109	0.712769	1.894197
7	2.052293	0.529926	17.05491	0.842582	77.50302	1.389019	0.864108	1.816433
8	2.131387	0.515928	17.79366	0.883582	76.08991	1.765255	1.186229	1.765439
9	2.203239	0.550179	19.00796	1.060995	74.56710	1.929256	1.198367	1.686147
10	2.319497	0.556278	19.48045	1.354387	73.44752	2.125773	1.401802	1.633789

Variance Decomposition of MIG:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	90004.23	0.097487	0.162209	2.706969	1.728664	95.30467	0.000000	0.000000
2	193969.4	0.074368	0.091545	3.767257	1.784942	93.95195	0.180608	0.149334
3	305948.2	0.109870	0.091804	5.332269	1.921824	92.02026	0.341930	0.182041

4	413624.6	0.068575	0.086381	5.334656	2.057067	91.74435	0.578895	0.130074
5	514193.9	0.047355	0.080808	5.394390	2.151185	91.44485	0.774914	0.106498
6	608207.1	0.073907	0.063450	5.384046	2.299200	91.17225	0.908813	0.098338
7	695356.6	0.162887	0.051585	5.248470	2.418594	90.94244	1.081648	0.094376
8	776478.5	0.299374	0.045569	5.108862	2.541282	90.64494	1.260066	0.099906
9	852206.7	0.470831	0.041664	4.937655	2.674764	90.33776	1.429560	0.107762
10	922951.1	0.655533	0.038777	4.746196	2.796862	90.03016	1.615544	0.116930

Variance Decomposition of TOP:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	47.94303	3.306063	5.160306	1.161836	0.025589	0.025795	90.32041	0.000000
2	53.67783	9.524992	6.859926	0.927802	0.020509	0.316747	82.13915	0.210877
3	58.04836	10.78349	5.966738	3.088261	0.147658	0.272390	79.44477	0.296697
4	64.42146	11.71050	5.174408	2.594627	0.132175	0.528718	79.46461	0.394964
5	69.15319	13.15952	4.828228	3.010876	0.170558	0.590990	77.88785	0.351975
6	73.59861	14.17665	4.262867	3.300000	0.158792	0.737031	77.02619	0.338467
7	77.93931	15.25794	3.822439	3.289211	0.206753	0.901817	76.20284	0.318998
8	82.14597	16.02993	3.483186	3.589564	0.209888	1.034382	75.33816	0.314899
9	86.12710	16.88465	3.194319	3.712706	0.202295	1.227448	74.46383	0.314753
10	90.09960	17.61931	2.959524	3.821571	0.226810	1.384429	73.68102	0.307336

Variance Decomposition of GOV:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	0.521659	4.738287	9.091185	5.849729	0.739015	11.51555	0.405010	67.66122
2	0.744849	3.858582	33.19804	3.099689	0.377200	14.44178	2.208050	42.81666
3	0.959360	6.428435	38.16844	1.878509	0.588521	13.80845	6.478710	32.64893
4	1.120040	10.74266	37.23552	1.416895	0.886741	14.80232	5.471196	29.44466
5	1.250558	16.21289	33.81058	1.198438	0.933047	15.35330	6.324309	26.16745
6	1.391681	21.68363	30.57089	1.027790	1.174181	14.80645	7.145894	23.59117
7	1.517359	26.99759	27.89445	0.917988	1.372945	14.15847	7.135163	21.52339

8	1.636950	32.05207	25.23494	0.951189	1.384894	13.26693	7.454608	19.65537
9	1.755637	36.71048	22.98911	0.944012	1.449199	12.24327	7.537387	18.12653
10	1.868555	40.92681	21.03541	0.960236	1.494758	11.30451	7.463947	16.81434

Variance Decomposition of Latin America

Variance Decomposition of AGRI								
Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	1.110791	0.297025	99.70297	0.000000	0.000000	0.000000	0.000000	0.000000
2	1.485995	1.303386	97.07258	0.002451	0.398859	0.004062	0.856720	0.361944
3	1.727309	1.814392	94.82142	0.323144	0.426688	0.019828	2.310105	0.284428
4	1.903318	1.924504	93.78113	0.527658	0.418557	0.032174	3.079305	0.236668
5	2.039279	1.970543	93.22758	0.674802	0.414638	0.037478	3.436208	0.238753
6	2.147773	2.009808	92.84067	0.763501	0.410504	0.037029	3.648608	0.289875
7	2.236126	2.057470	92.52237	0.813178	0.406667	0.034309	3.779042	0.386964
8	2.309378	2.116044	92.23086	0.834951	0.402547	0.033250	3.858502	0.523843
9	2.371084	2.186286	91.94179	0.838511	0.398092	0.037249	3.904309	0.693765
10	2.423816	2.267877	91.64192	0.830822	0.393276	0.048620	3.927431	0.890050

Variance Decomposition of INF:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	6.128782	0.882597	1.243529	97.87387	0.000000	0.000000	0.000000	0.000000
2	6.756688	6.025906	1.194446	92.36099	0.335361	0.015823	0.010876	0.056599
3	7.027904	6.339144	1.233921	91.11883	1.089175	0.080359	0.052554	0.086017
4	7.145270	6.355676	1.260923	90.36179	1.576032	0.195299	0.129980	0.120302
5	7.209594	6.312993	1.289983	89.81255	1.939248	0.344606	0.151340	0.149277
6	7.248018	6.272808	1.319552	89.37749	2.185068	0.509113	0.157120	0.178850
7	7.273571	6.239690	1.343858	89.03069	2.347354	0.672678	0.158489	0.207238
8	7.291462	6.214780	1.362227	88.75670	2.450510	0.823484	0.158634	0.233661
9	7.304377	6.196610	1.375406	88.54280	2.514818	0.954339	0.158417	0.257609

10	7.313813	6.183759	1.384470	88.37824	2.554310	1.062128	0.158145	0.278952
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Variance Decomposition of FDI:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	2.077324	0.307215	0.003786	1.206888	98.48211	0.000000	0.000000	0.000000
2	2.457176	0.496747	0.399680	2.448924	96.54187	0.004253	0.107996	0.000529
3	2.668008	0.422890	0.587440	4.104192	94.67808	0.005298	0.094515	0.107582
4	2.797372	0.441063	0.705822	5.374170	93.05197	0.005420	0.098570	0.322982
5	2.881918	0.537349	0.800849	6.340647	91.58513	0.005225	0.093184	0.637619
6	2.940712	0.691507	0.891461	7.049085	90.25248	0.005018	0.090662	1.019787
7	2.983835	0.888935	0.979477	7.551787	89.03817	0.004995	0.092275	1.444356
8	3.017235	1.118672	1.066266	7.900203	87.92118	0.005287	0.097204	1.891188
9	3.044447	1.373109	1.152754	8.136309	86.88325	0.005958	0.104554	2.344068
10	3.067619	1.646765	1.239417	8.291759	85.91062	0.007000	0.113532	2.790906

Variance Decomposition of MIG:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	27405.65	0.045931	0.001687	0.037074	0.014383	99.90093	0.000000	0.000000
2	55112.70	0.223553	0.008918	0.023986	0.012482	99.13973	0.516759	0.074571
3	83062.44	0.369589	0.021172	0.015293	0.032977	98.32813	1.085203	0.147638
4	109482.6	0.502610	0.038222	0.010403	0.060510	97.57878	1.581740	0.227732
5	133429.2	0.639427	0.060145	0.007133	0.093137	96.88982	1.993692	0.316648
6	154481.1	0.788818	0.086801	0.005546	0.129181	96.23158	2.342247	0.415826
7	172539.5	0.954851	0.117475	0.006024	0.167590	95.58387	2.644549	0.525646
8	187707.6	1.139840	0.151223	0.008972	0.207425	94.93497	2.911703	0.645869
9	200211.0	1.344840	0.186983	0.014684	0.247856	94.27951	3.150375	0.775753
10	210342.3	1.569863	0.223617	0.023285	0.288109	93.61652	3.364497	0.914107

Variance Decomposition of TOP:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	256.5716	2.712496	0.165796	0.322009	0.010981	0.114472	96.67425	0.000000

2	257.4068	2.697464	0.364709	0.397173	0.018340	0.231568	96.04829	0.242456
3	258.0940	2.721882	0.426650	0.648798	0.039221	0.316416	95.55685	0.290179
4	258.4266	2.727823	0.471932	0.726998	0.040171	0.389165	95.32214	0.321770
5	258.6636	2.733907	0.501667	0.764389	0.044065	0.452858	95.14756	0.355553
6	258.8545	2.739537	0.525396	0.783552	0.047771	0.506523	95.00730	0.389919
7	259.0152	2.743276	0.546227	0.795810	0.051101	0.550450	94.88942	0.423714
8	259.1506	2.744680	0.564637	0.804371	0.053878	0.585543	94.79032	0.456572
9	259.2656	2.744339	0.580998	0.810879	0.056169	0.612940	94.70633	0.488350
10	259.3642	2.742983	0.595698	0.816129	0.058050	0.633839	94.63440	0.518900

Variance Decomposition of GOV:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	0.849431	0.625932	0.777622	2.689821	0.002190	0.305044	0.309969	95.28942
2	1.122889	0.571424	1.471967	7.410442	0.451685	0.203047	0.226025	89.66541
3	1.326865	1.019672	2.023887	8.209059	0.500277	0.146603	0.553340	87.54716
4	1.491627	1.718635	2.671447	8.878966	0.580257	0.116811	0.650766	85.38312
5	1.630777	2.676682	3.275698	9.140444	0.629070	0.100160	0.711072	83.46687
6	1.752234	3.777851	3.857340	9.225414	0.670575	0.089217	0.744408	81.63519
7	1.860536	4.976003	4.417407	9.189286	0.702245	0.080691	0.767681	79.86669
8	1.958646	6.230466	4.953852	9.079131	0.726112	0.073427	0.784744	78.15227
9	2.048571	7.511429	5.463871	8.922120	0.743328	0.067208	0.797896	76.49415
10	2.131728	8.795092	5.945605	8.737220	0.755088	0.062092	0.808424	74.89648

Variance Decomposition of Full Sample

Variance Decomposition of AGRI

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	2.460070	0.000187	99.99981	0.000000	0.000000	0.000000	0.000000	0.000000
2	3.334757	0.024587	99.81841	0.005419	0.075739	0.021400	0.054365	8.23E-05
3	3.987487	0.082103	99.53446	0.075094	0.059539	0.057242	0.154312	0.037251
4	4.514424	0.173203	99.26547	0.124522	0.049688	0.100003	0.186099	0.101013
5	4.961885	0.295212	98.93522	0.181499	0.041299	0.142711	0.201380	0.202675
6	5.352549	0.444266	98.57558	0.224468	0.035575	0.181646	0.206647	0.331819
7	5.701094	0.615080	98.18454	0.260094	0.032103	0.214646	0.207238	0.486293
8	6.016673	0.801942	97.77546	0.286025	0.030379	0.240969	0.205128	0.660100
9	6.305831	0.999041	97.35445	0.304891	0.029993	0.260651	0.201622	0.849354
10	6.573193	1.200937	96.92945	0.317560	0.030568	0.274252	0.197409	1.049825

Variance Decomposition of INF:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	9.660426	0.000893	0.013569	99.98554	0.000000	0.000000	0.000000	0.000000
2	9.890134	0.003134	0.107165	99.40152	0.018416	0.005652	0.002433	0.461677
3	10.47000	0.009713	0.112823	99.42354	0.030590	0.007792	0.003547	0.411992
4	10.55062	0.020863	0.143219	99.32720	0.064974	0.009933	0.008951	0.424856
5	10.63438	0.033834	0.161492	99.26803	0.097555	0.010305	0.009063	0.419718
6	10.65631	0.047807	0.182775	99.19355	0.137782	0.010278	0.009437	0.418371
7	10.67208	0.061381	0.201001	99.11943	0.176638	0.010541	0.009419	0.421589
8	10.67925	0.074049	0.219122	99.04480	0.215777	0.011697	0.009410	0.425147
9	10.68463	0.085418	0.236095	98.97224	0.252570	0.014080	0.009410	0.430185
10	10.68871	0.095409	0.252636	98.90288	0.287169	0.017689	0.009418	0.434798

Variance Decomposition of FDI:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	4.720974	0.002182	4.569640	0.145390	95.28279	0.000000	0.000000	0.000000

2	5.720438	0.003477	6.713635	0.326786	92.69734	1.44E-05	0.000930	0.257820
3	6.607145	0.004278	6.620993	0.480186	92.58533	0.001358	0.005329	0.302522
4	7.237263	0.006280	6.449655	0.600500	92.53955	0.004964	0.004495	0.394559
5	7.747403	0.008693	6.144567	0.719495	92.64224	0.012479	0.004218	0.468305
6	8.157005	0.011618	5.828045	0.819158	92.76900	0.025167	0.003948	0.543063
7	8.495035	0.015005	5.520501	0.910369	92.89410	0.044393	0.003884	0.611745
8	8.776615	0.018910	5.239667	0.989515	93.00084	0.071317	0.003913	0.675836
9	9.014054	0.023385	4.991857	1.059800	93.07978	0.106925	0.004040	0.734214
10	9.216083	0.028500	4.780204	1.121243	93.12691	0.151948	0.004239	0.786958

Variance Decomposition of MIG:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	29393.23	0.000835	0.048511	0.181051	0.016107	99.75350	0.000000	0.000000
2	60439.72	0.001154	0.027674	0.295339	0.027101	99.64537	0.000117	0.003241
3	93350.73	0.001450	0.018229	0.327088	0.033418	99.60748	0.002181	0.010156
4	126394.0	0.001850	0.012635	0.354147	0.039514	99.56442	0.005338	0.022091
5	158531.1	0.002385	0.008836	0.370918	0.045961	99.52513	0.008276	0.038493
6	189151.3	0.003076	0.006269	0.383072	0.052959	99.48438	0.010698	0.059546
7	217905.3	0.003942	0.004835	0.390945	0.060606	99.44194	0.012630	0.085098
8	244616.9	0.004998	0.004605	0.395829	0.068943	99.39638	0.014143	0.115098
9	269223.8	0.006254	0.005734	0.398264	0.077995	99.34704	0.015316	0.149397
10	291740.6	0.007716	0.008423	0.398824	0.087770	99.29321	0.016212	0.187841

Variance Decomposition of TOP:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	161.9231	0.150672	0.347342	0.180796	0.061277	0.000359	99.25955	0.000000
2	162.1372	0.213592	0.446109	0.180512	0.083170	0.007936	98.99910	0.069583
3	162.2585	0.277203	0.448434	0.214783	0.123506	0.011949	98.85285	0.071272
4	162.3457	0.338445	0.448897	0.217343	0.157980	0.013269	98.74871	0.075351

5	162.4270	0.395046	0.448998	0.224346	0.188940	0.013429	98.65131	0.077935
6	162.4964	0.445429	0.448954	0.226450	0.216457	0.013452	98.56847	0.080783
7	162.5578	0.488890	0.448775	0.228783	0.241274	0.013919	98.49516	0.083199
8	162.6110	0.525338	0.448548	0.230056	0.263560	0.015123	98.43182	0.085556
9	162.6571	0.555133	0.448308	0.231166	0.283677	0.017176	98.37683	0.087712
10	162.6968	0.578916	0.448089	0.231956	0.301816	0.020065	98.32941	0.089750

Variance Decomposition of GOV:

Period	S.E.	POV	AGRI	INF	FDI	MIG	TOP	GOV
1	0.879379	0.126761	0.582257	1.424463	0.249747	0.029736	0.097794	97.48924
2	1.165489	0.121480	0.542118	2.167377	0.536075	0.066574	0.095453	96.47092
3	1.371356	0.111205	0.824234	2.388601	0.825379	0.130635	0.153707	95.56624
4	1.532207	0.103170	1.410261	2.602703	1.114329	0.227116	0.181505	94.36092
5	1.664968	0.096494	2.201811	2.708161	1.400895	0.357188	0.201979	93.03347
6	1.778463	0.090670	3.156860	2.771074	1.682364	0.520836	0.217659	91.56054
7	1.878087	0.085323	4.239528	2.787892	1.954105	0.716190	0.230383	89.98658
8	1.967355	0.080235	5.417003	2.776273	2.212609	0.940110	0.240763	88.33301
9	2.048668	0.075321	6.661309	2.742012	2.454894	1.188349	0.249291	86.62882
10	2.123704	0.070620	7.948063	2.692773	2.679067	1.456039	0.256225	84.89721

Figure 1: Impulse response of Africa

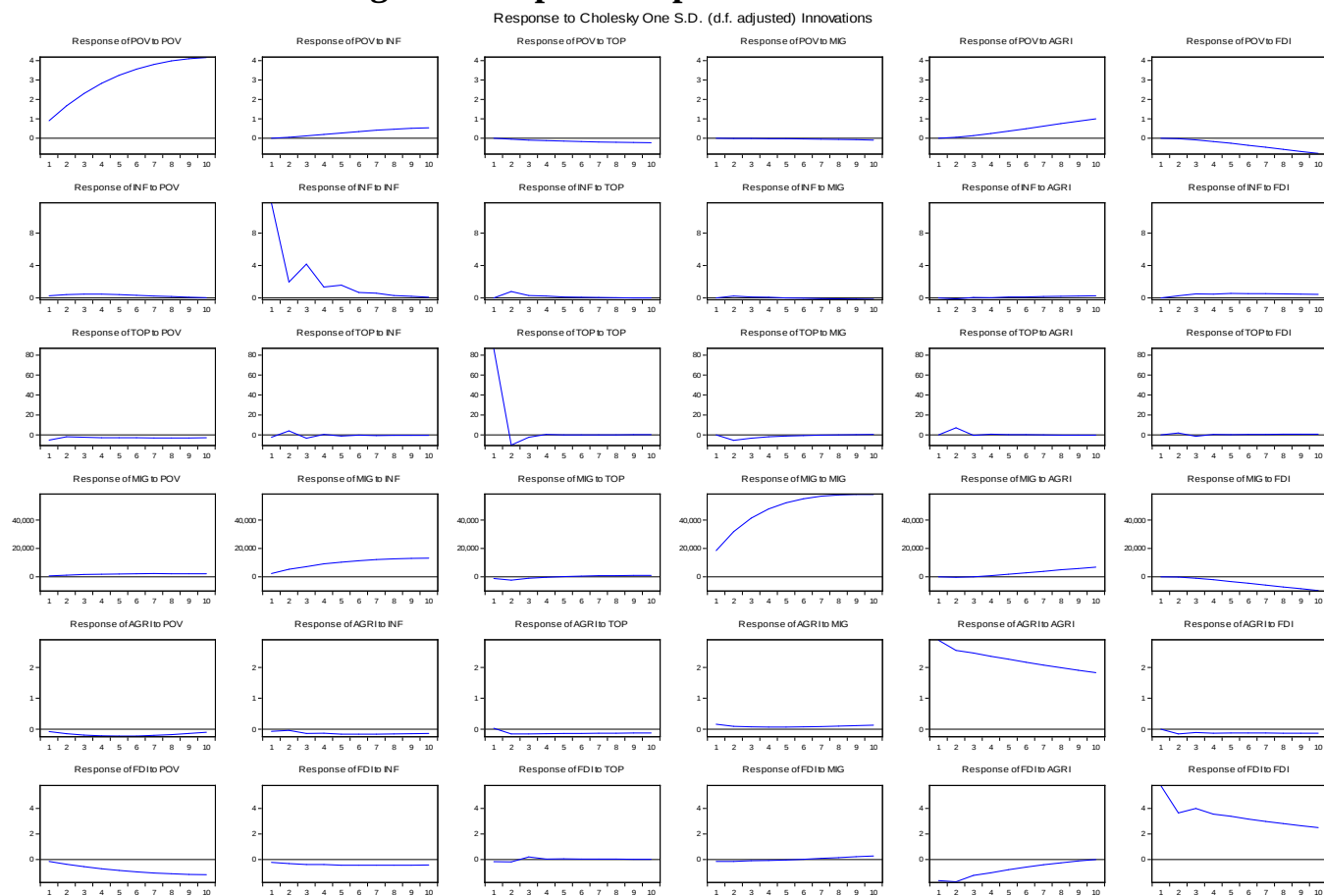


Figure 2: Impulse response of South Asia

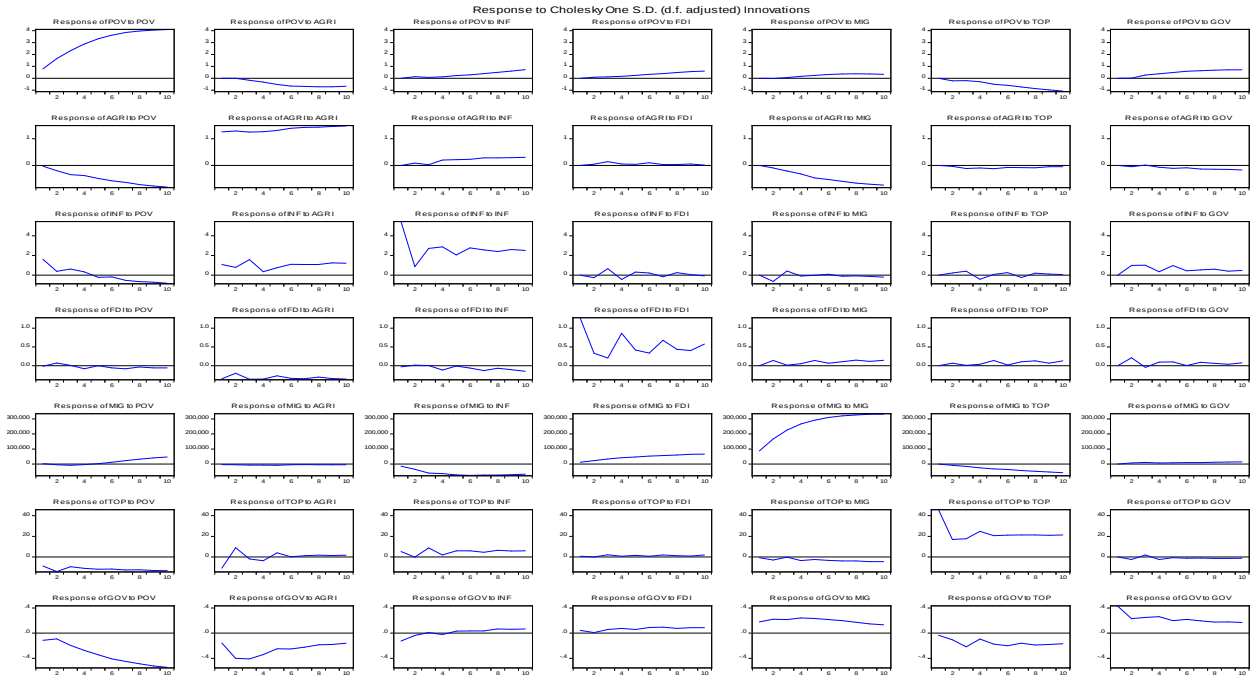


Figure 3: Impulse response of Latin America

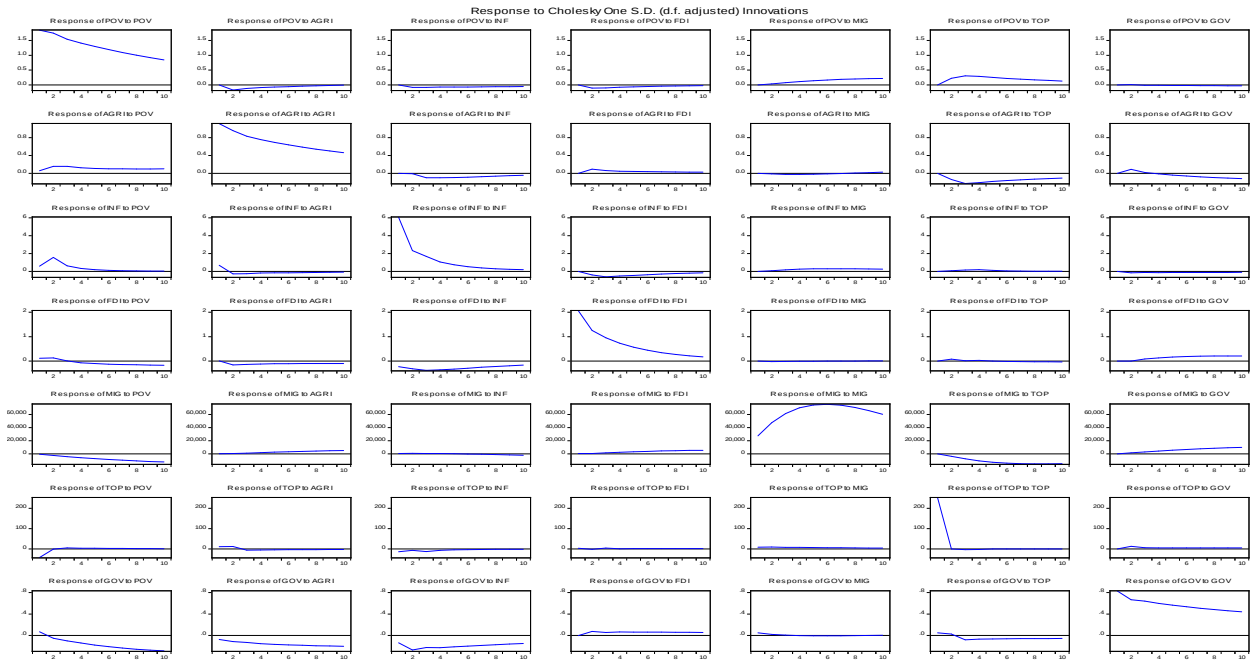
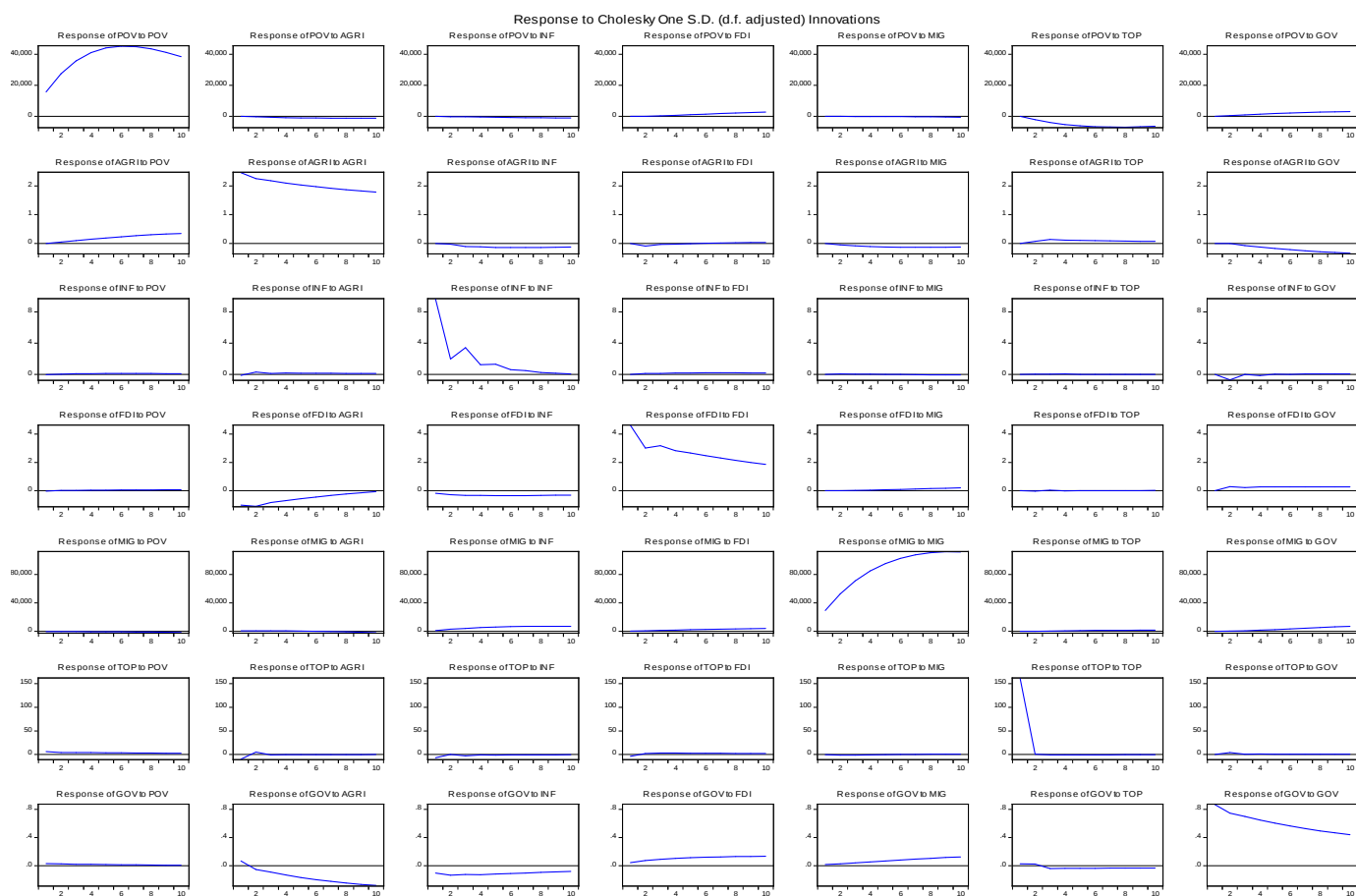


Figure 4: Impulse response of Full Sample



Emerging Factors

Figure 5: Impulse response of South Asia

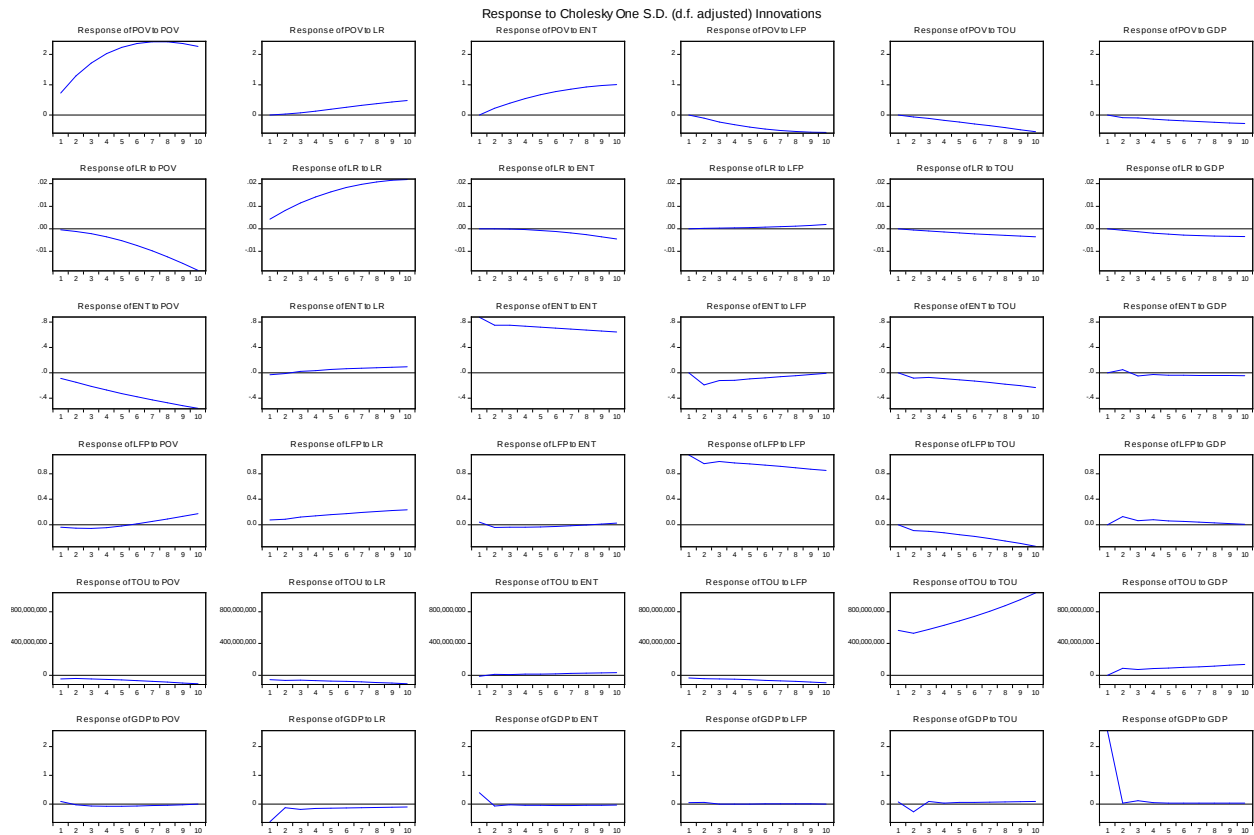


Figure 6: Impulse response of Latin America

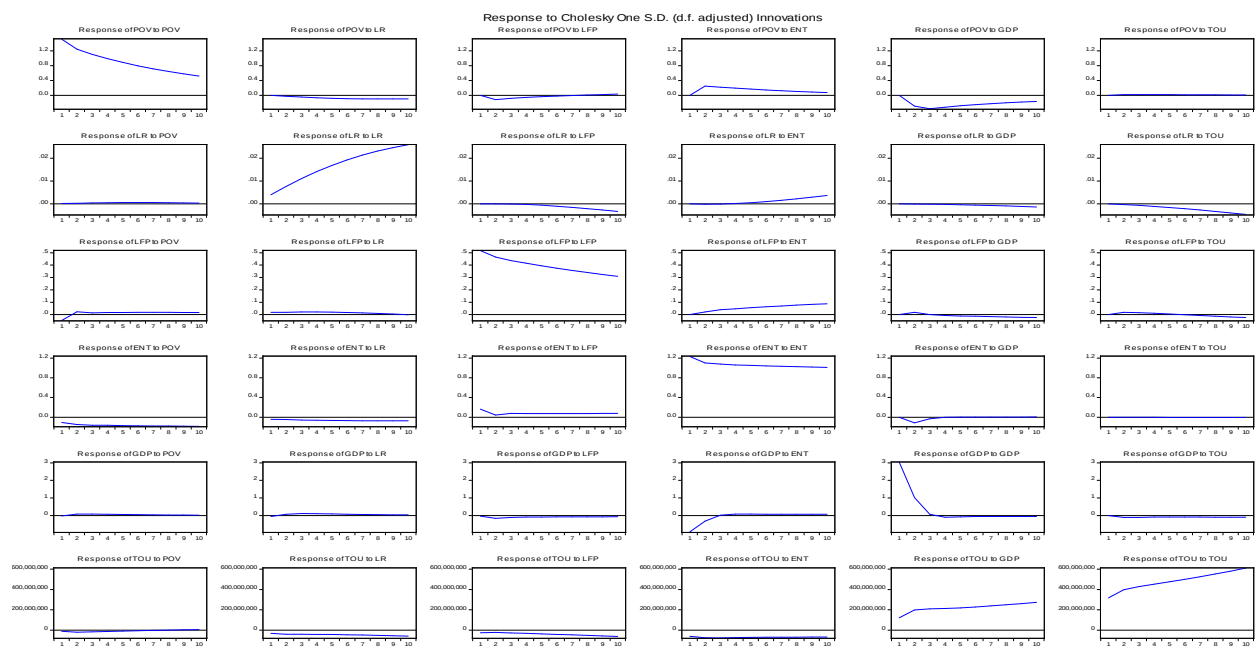


Figure 7: Impulse response of Africa

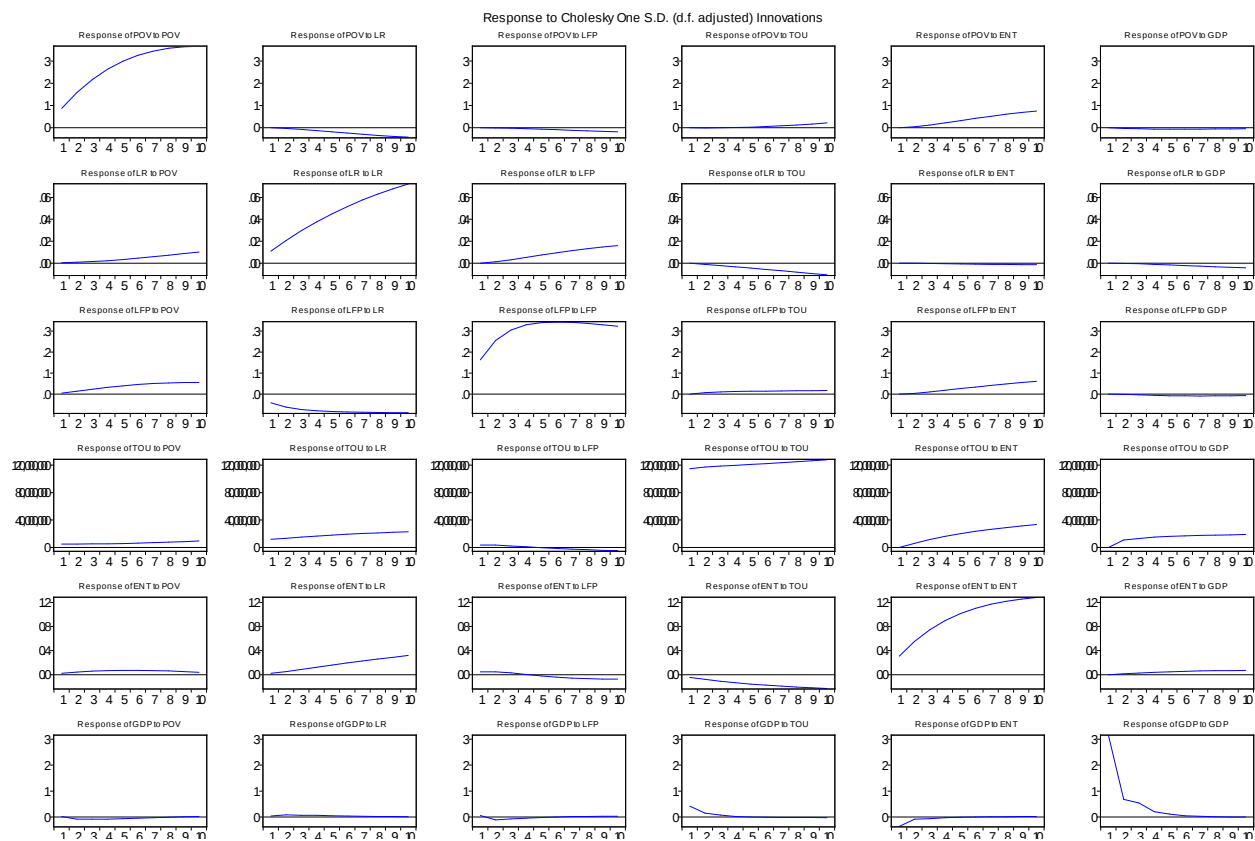
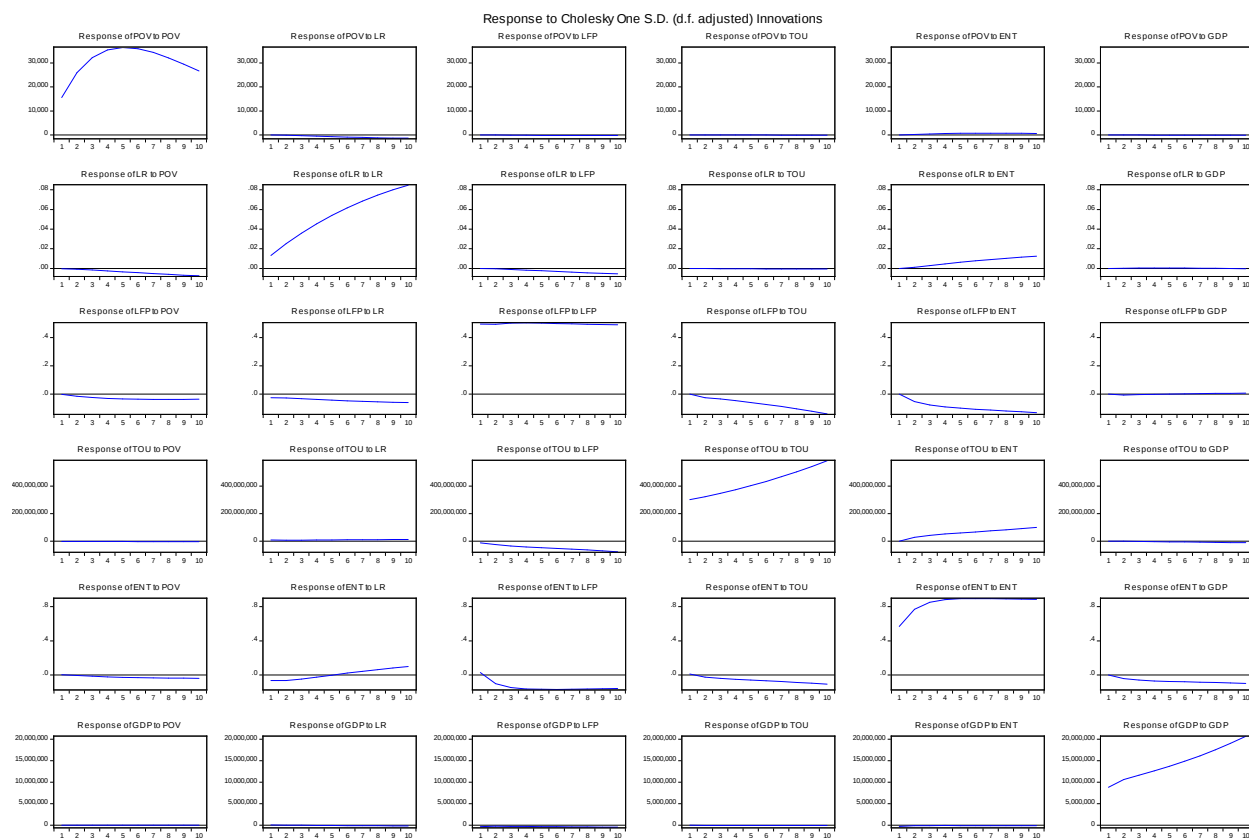


Figure 8: Impulse response of Full Sample



List of Countries for South Asia, Latin America and Sub Saharan Africa

Sub Saharan Africa (49)
Angola
Benin
Botswana
Burkina Faso
Burundi
Cabo Verde
Cameroon
Central African Republic
Chad
Comoros
Congo, Dem. Rep.
Congo, Rep.
Cote d'Ivoire
Equatorial Guinea

Eritrea
Eswatini
Ethiopia
Gabon
Gambia, The
Ghana
Guinea
Guinea-Bissau
Kenya
Lesotho
Liberia
Madagascar
Malawi
Mali
Mauritania
Mauritius
Mozambique
Namibia
Niger
Nigeria
Rwanda
Sao Tome and Principe
Senegal
Seychelles
Sierra Leone
Somalia
South Africa
South Sudan
Sudan
Tanzania
Togo
Uganda
Zambia
Zimbabwe
South Asia (7)
Afghanistan
Bangladesh
Bhutan
India
Maldives
Nepal

Pakistan
Sri Lanka
Latin America (42)
Antigua and Barbuda
Argentina
Aruba
Bahamas, The
Barbados
Belize
Bolivia
Brazil
British Virgin Islands
Cayman Islands
Chile
Colombia
Costa Rica
Cuba
Curacao
Dominica
Dominican Republic
Ecuador
El Salvador
Grenada
Guatemala
Guyana
Haiti
Honduras
Jamaica
Mexico
Nicaragua
Panama
Paraguay
Peru
Puerto Rico
Sint Maarten (Dutch part)
St. Kitts and Nevis
St. Lucia
St. Martin (French part)
St. Vincent and the Grenadines
Suriname

Trinidad and Tobago
Turks and Caicos Islands
Uruguay
Venezuela, RB
Virgin Islands (U.S.)