Trade Liberalization and Employment: Exploring the Roles of FDI and Economic Growth

Researcher

Zaka Ur Rehman

Reg.No:297-MS-Eco.F12

Supervisor

Dr Arshad Ali Bhatti

International Institute of Islamic Economics (IIIE)

International Islamic University, Islamabad

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by

Zaka Ur Rehman
Reg. No: 297-SE/MSEco2/F12

Accepted by the International Institute of Islamic Economics, International Islamic University, Islamabad, as partial fulfillment of the requirements for the award of degree of MS Economics.

Supervisor:

(Dr. Arshad Ali Bhatti)
Assistant Professor, IIIE
International Islamic University, Islamabad

Internal Examiner:

(Dr. Muhammad Akram)
Assistant Professor, IIIE,
International Islamic University, Islamabad

External Examiner:

(Dr. Muhammad Mazhar Iqbal)
Associate Professor, School of Economics,
Quaid-e- Azam University, Islamabad

Head
International Institute of Islamic Economics
International Islamic University, Islamabad

Director General
International Institute of Islamic Economics
International Islamic University, Islamabad

Date of Viva Voce: March 03, 2017

Declaration

I hereby declare that this thesis, neither as a whole nor as part thereof, has been copied out from any source. It is further declare that I have carried out this research by myself and have completed thesis on the basis of my personal efforts under the guidance and help of my supervisor.

Zaka Ur Rehman

Date 17-03-17

DEDICATION

This work is dedicated to my beloved parents, brothers and sisters for their unconditional support during my studies.

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First and Foremost, I would like to thank Almighty Allah for being my strength and guide in writing of this thesis. Without Him, I would not have had the wisdom or the physical ability to do so. I pray for peace and countless blessings on the last Prophet Muhammad (PBUH), who is sent by Allah Almighty for the guidance of entire humanity till the Day of Judgment.

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ABSTRACT

Developing economies are mostly labour intensive but the levels of investment, market and economic activities are small which cause massive unemployment. The expansion in business activities generates the much needed employment which is very essential in solving the problem of unemployment confronting such economies. Trade liberalization directly and indirectly, through the channels of FDI and economic growth, expands economic activities and motivate local producers to boost their production, which in turn increases employment. This study investigates the impact of trade liberalization on employment directly and indirectly through the channels of FDI and economic growth in case of developing countries. The method of seemingly unrelated regression (SUR) for unbalanced panel data of 93 developing countries, as suggested by Biorn (2004) is employed over the period of 1960 to 2014. The main findings of the study reveals that the immediate (direct) impact of trade liberalization on employment level is positive and highly significant. Similarly, short run indirect impact of trade liberalization on employment level through the channel of FDI is positive and highly significant. However, the long run indirect impact of trade liberalization on employment level through the channels of FDI and economic growth is negative and highly significant. Furthermore, the study also suggests that trade liberalization fosters FDI inflow to developing economies. FDI positively and significantly contributes to economic growth. Moreover, the impact of economic growth on employment is negative and highly significant. Our study concludes that government should design such policies that encourage trade liberalization and enhance FDI inflows. It also suggests that government should adopt such policies that

boosts domestic investment which in turn expands the labour absorptive capacity of the economy.

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Developing economies have abundant labour force, but the levels of investment, market and economic activities are small which cause massive unemployment and poverty. Naturally, the developing countries have to struggle hard to achieve higher levels of economic growth that can trigger economic activities. The expansion in business activities generates the much needed employment which is very essential in solving socio-economic problems confronting such economies.

Developing economies have low levels of saving, which lead to low levels of capital accumulation and growth. Investment is very important to enhance economic growth and in turn raises the level of employment. FDI is an important source to fill the gap in domestic resources and overcome the deficiency in capital accumulation and investment in such economies. Moreover, it also serves as the vehicle for the transmission of technological innovation from developed to developing countries. Capital accumulation and access to advance technology both play important roles in economic growth of a country (see Hoang, Wiboonchutikula, and Tubtimtong, 2010; Li and Liu, 2005)

It has been argued that trade liberalization expand economic activities and motivate local producers to boost their production, which in turn increases economic growth and employment (Krugman, 1990). All countries may gain from trade liberalization since it provides efficient allocation of resources and the countries will tend to specialize in producing those goods and services which use their abundant resources, as a result the

world output increases. Trade liberalization enables the countries go beyond their potential capacity because it will enhance growth in these countries by getting access to advance technology, consumer goods, foreign direct investment (FDI) from rest of the world.

In this study, we intend to analyse how trade liberalization contributes to job creation in developing countries through the channels of FDI and economic growth. In order to carry out this analysis, we use panel data of developing countries over the period 1960 to 2014 and employ seemingly unrelated regression (SUR) method for unbalanced panel data as suggested by (Biorn, 2004).

1.2 SIGNIFICANCE OF THE STUDY

It is the primary objective of every government to improve the living standards of its citizens. The level of income of the major part of population in developing countries is very low and that is the main hindrance in improving their living standard. Job creation is the best way to provide the opportunity to the people to get out of the vicious circle of poverty and improve their standard. This study is important in a sense that it is analysing the importance of trade liberalization, foreign direct investment and economic growth in job creation.

The findings of this study will be relevant to policy makers in a number of ways including: 1). It will be helpful for policy makers to design such policies that lead to capital accumulation and increase investment. 2). It will be helpful in understanding the impact of FDI on economic growth. 3). It will be helpful in understanding the importance of

trade liberalization for foreign direct investment and economic growth and in turn for employment generation.

The issues of unemployment in developing countries have been extensively studied by many researchers. For example, Felbermayr, Prat, and Schmerer (2011), Ranjan (2012) study the relationship between trade liberalization and unemployment; Abor and Harvey (2008), Fu and Balasubramanyam (2005) examine the association between FDI and employment; Huang and Yeh (2013), Fatai and Bankole (2013) study the relationship between economic growth and employment etc. Our study is unique in the sense that it is analysing the effects of trade liberalization on the level of employment directly and indirectly through the channels of FDI and EG.

1.3 OBJECTIVES OF THE STUDY

The overall objective of this study is to analyse the impact of trade liberalization on employment through the channels of foreign direct investment and economic growth in developing economies. Specifically, the following objectives will guide our study:

a) To analyse the direct impacts of trade liberalization on employment.

b) To analyse the indirect impact of trade liberalization on employment through the channels of FDI and economic growth.

1.4 RESEARCH QUESTIONS

a) What are the direct impacts of trade liberalization, FDI and economic growth on employment?

b) What are the indirect impacts of trade liberalization on employment through the channels of FDI and economic growth?

1.5 SCHEME OF THE STUDY

Chapter 2 discusses the review of literature; it will be followed by chapter 3 presenting the theoretical frame work; chapter 4 will focus on data and empirical methodology: chapter 5 will discuss the findings of current study and chapter 6 will conclude it.

CHAPTER 2

LITERATURE REVIEW

There is immense empirical research available on the issue of employment opportunities in developing economies. As earlier discussed the objectives of this study are to examine that how trade liberalization is helpful for developing countries in employment generation. In this section we review a literature according to objectives of this study.

Trade liberalization is one of the key determinants of foreign direct investment (FDI) inflow in developing economies. For example, the study by Were (2015) reaches on similar conclusion that trade liberalization is an important determinant that derives FDI inflow in developed, developing and less developed countries. Similarly, Badr and Ayed (2015) in case of North Africa suggest that trade liberalization plays a vital role in attracting FDI inflow towards regional economies. The volume of FDI inflow is positively associated with trade liberalization. It means more open economies attract more FDI as compared to less open economies. Similarly, the study of Kinuthia and Murshed (2015), in comparative context on the attraction of inward FDI between Kenya and Malaysia, reveals that trade liberalization significantly and positively affect the FDI inflow in case of Malaysia while in case of Kenya trade liberalization does not encourage FDI inflow. Moreover, Cantah, Wiafe, and Adams (2013) examine the relationship between trade liberalization and FDI for some selected African economies and suggest that trade liberalization encourages the FDI inflow to these countries. In addition, Jadhav (2012b) reveals that trade liberalization and natural resource availability both positively and significantly contribute to FDI inflow in BRICS (*Brazil, Russia, India, China and*

South Africa) economies. Moreover, Liargovas and Skandalis (2012), in case of 36 developing economies from different regions, suggest that trade liberalization enhances the FDI inflow in developing economies. Similarly, Hussain and Kimuli (2012) studies the relationship between FDI and trade liberalization. They suggest that trade liberalization enhances the inflow of FDI in both middle and lower middle income countries. They also suggest that market size is another important determinant of FDI inflow in developing countries. Babatunde (2011) studies the relationship between trade liberalization, infrastructure, FDI and economic growth for 42 sub Saharan countries for the period of 1980-2003 and concludes that most of variation in FDI inflows is explained by trade liberalization and per capita GDP. He also suggests that the interaction between trade liberalization and infrastructure exerts very nominal impact on the FDI inflows. Similar kind of study has been conducted by D. R. Singh, McDavid, Birch, and Wright (2008) and suggested that trade liberalization is one of the important variables that are helpful in attracting FDI inflows into these nations. Moreover, Asiedu (2002) by comparing SSA and non-SSA countries suggests that trade liberalization positively affect the FDI inflows in both groups but the magnitude of its impact is greater in non-SSA as compare to SSA countries.

In a single country analysis the study of Boateng, Hua, Nisar, and Wu (2015), suggests that trade liberalization affects FDI inflow positively and significantly in case of Norway. Moreover it also suggests that exchange rate is another important factor that encourages FDI inflow. Masry (2015) also suggests that openness is one of the important determinant that attracts FDI in Egypt. Belloumi (2014) examines the relationship between trade liberalization, FDI and economic growth in case of Tunisia. He concludes that trade

liberalization enhances FDI inflows in the long run. Similarly, Choong and Lam (2010) in case of Malaysia confirms that trade liberalization positively and significantly contributes to FDI in flow. He also suggests that human capital and real per capita GDP growth are other important variables in explaining the variation in FDI in case of Malaysia. Omisakin, Adeniyi, and Omojolaibi (2009) studies the relationship between trade liberalization, FDI and economic growth and reaches on the conclusion that trade liberalization positively and significantly enhances the inflow of FDI in case of Nigeria. Similarly, Ang (2008), explores the importance of trade liberalization, FDI, GDP and financial development during the period 1960-2005 in case of Malaysia. He concludes that trade liberalization and financial development are the most influential variables that fosters FDI inflow towards Malaysia.

However, Khan, Adnan Hye, and McMillan (2014) examines the association between trade liberalization, financial liberalization and FDI inflow in case of Pakistan. He concludes that financial liberalization and trade liberalization affect the inflow of FDI negatively during the analysis period.

It is well established belief that trade liberalization fosters economic growth. For example, Bukhari and Iqbal (2015) studies the relationship between trade liberalization, capital formation and economic growth in case of Pakistan. He suggests that trade liberalization and capital formation both has positively and significantly contributed to economic growth during the study period. Solarin and Shahbaz (2015) explore the relationship between trade liberalization, FDI and economic growth. They suggest that trade liberalization positively stimulates the economic growth during 1971-2012 in Malaysia. Further Manni and Afzal (2012) study the relationship between trade

liberalization, economic growth, inflation, imports and exports. They conclude that trade liberalization contributes positively to economic growth without effecting inflation in case of Bangladesh. Saibu, Omoju, and Nwosa (2012) examine the impact of trade liberalization and FDI on economic growth and unemployment in case of Nigeria. They suggest that trade liberalization positively and significantly contributes to economic growth. The study of Yaoxing (2010) reaches on similar conclusion by doing time series analysis on the relationship between trade liberalization, FDI, labour, capital and economic growth. He concludes that trade liberalization significantly explains the variation in economic growth in case of Cote d' Ivore during 1980-2007. Omisakin et al. (2009) also explores the importance of trade liberalization and FDI for economic growth in case of Nigeria. He concludes trade liberalization has exerted a positive impact on economic growth during the analysis period.

However, Musila and Yiheyis (2015) in case of Kenya suggests that trade openness positively contribute to investment and economic growth but its impact on economic growth is statistically insignificant. He also suggests that trade-policy induced openness negatively and significantly contribute to investment and economic growth.

Jadoon, Rashid, and Azeem (2015), examines the importance of trade liberalization and human capital for economic growth for selected lower and higher income Asian countries. He suggests that trade liberalization has positive and significant impact on economic growth in both groups. He also suggests that in the presence of large human capital the impact of trade liberalization on economic growth is magnified that is why developed countries get more benefits from trade liberalization as compared to developing countries. Were (2015) also studies the relationship between trade liberalization and economic

growth, and concludes that trade liberalization positively and significantly contributes to economic growth in developed and developing countries but in case of less developed countries it effects insignificantly. For South East European countries Fetahi-Vehapi, Sadiku, and Petkovski (2015) suggests that trade liberalization fosters economic growth. They also suggest that countries with higher level of initial per capita GDP, higher level of FDI inflow and higher gross fixed capital formation reap more benefits from trade liberalization. Ulasan (2012), by doing cross countries analysis on the relationship between trade liberalization, capital, human capital and economic growth concludes that many trade liberalization proxies positively and significantly correlated with long run economic growth. However, in some cases outliers are also present. He also suggests that in the presence of other determinants of economic growth these results become insignificant. Busse and Koniger (2012) explores the relationship between economic growth and trade liberalization for 21 developed and 87 developing countries. He confirms the trade led growth hypothesis for both developed and developing countries. Ghani (2011) also examines the impact of trade liberalization on economic performance of Organization of Islamic Conference (OIC) member countries and reaches on the conclusion that trade liberalization fosters economic growth in these countries especially in the medium turn.

Trade liberalization expands business activities that leads to employment generation. For example, Akkus (2014) explores the impact of trade and productivity on unemployment in case of turkey. He reveals that import penetration increases unemployment whereas increase in exports due to trade reduces unemployment in Turkey. Hasan, Mitra, Ranjan, and Ahsan (2012) examines the relationship between trade liberalization and

unemployment in India. He concludes that trade liberalization has an employment enhancing effect in the presence of flexible labour market in states. He also suggests that workers in industries enjoying greater trade liberalization has less chances to become unemployed as compare to those working in trade protected industries. Further, Meidani and Zabihi (2012) explores the impact of globalization (measured as trade volume to GDP ratio), economic growth and inflation on unemployment in Iran. They conclude that trade liberalization significantly and negatively contribute to unemployment which means it enhances employment in Iran during study period. Similarly, Egger and Etzel (2012) studies the impact of trade liberalization on employment, income distribution and welfare. His study reveals that trade liberalization, by lowering the pressure of higher wages on firms due to unionization enhances employment and welfare in the economy. Moreover it suggests that apart from employment and welfare enhancement trade liberalization reduces the income inequality among labourers.

However, Oniore, Bernard, and Gyang (2015) explores the macroeconomic determinants of unemployment in case of Nigeria and conclude that trade liberalization enhance unemployment in the short run during study period. Moreover, he suggests that private domestic investment also contributes positively to unemployment. Saibu et al. (2012) examine the impact of trade liberalization and FDI on economic growth and unemployment in case of Nigeria. They suggest that trade liberalization positively and significantly contributes to unemployment rate which simply means trade liberalization reduces employment rate during the study period.

In a general equilibrium frame work King and Stahler (2014) develops a simple model for trade and unemployment. This model suggests that the effect of international trade on

unemployment depends on how trade is induced between the countries. If it occurs due to differences in relative factors abundance then the unemployment rate in the capital abundant country will lower than labour abundant country and if trade occurs between countries due to differences in technology unemployment rate will increase in country where production is highly capital intensive.

In a cross countries analysis Felbermayr et al. (2011) examine the relationship between trade liberalization and unemployment and suggest that employment is positively associated with trade liberalization. Loganathan, Sukemi, and Kogid (2011) suggest that trade liberalization by increasing productivity and efficiency in different sectors generates employment opportunities for both skilled and unskilled workers. Dutt, Mitra, and Ranjan (2009) also explores the relationship between unemployment and trade and suggest that trade promotes employment in trading countries if it occur between them due to relative technological differences. This association is robust after controlling other determinants of unemployment such as civil liberties, trade union power, employment laws, country and labour force size. The evidence about the Heckcher-Ohlin notion that trade can only reduce unemployment in labour abundant countries is week but not robust. Moreover, he also suggest that trade liberalization enhance unemployment in the short run but in the long run it reduces unemployment.

Foreign direct investment is one of the important way to accumulate physical capital that leads to economic growth. For example, Babatunde (2011), by studying the relationship between FDI and economic growth, concludes that in case of SSA countries FDI fosters economic growth. Li and Liu (2005), by investigating the impact of FDI on economic growth of panel of 84 countries over the period 1970-1999, suggest that FDI directly and

indirectly boosts economic growth. They indicate that the interaction of FDI and human capital strongly and positively foster economic growth in developing countries whereas, the interaction of FDI and technology gap strongly but negatively contribute to economic growth.

Asghar, Nasreen, and ur Rehman (2011) by analysing causal relationship between economic growth and FDI for selected Asian countries during 1983-2008, suggest that in case of Pakistan, Bangladesh and Sri Lanka two way causality exists between economic growth and FDI whereas, in case of Nepal, Singapore, Japan and Thailand there exists a unidirectional causality from FDI to economic growth. They also suggest that in case of India no causality exists in any direction.

In country specific analysis, Solarin and Shahbaz (2015) conclude, by analysing the relationship between trade liberalization, FDI and economic growth, that FDI positively contribute to economic growth during 1971-2012 in Malaysia. Masry (2015) reveals that FDI effects economic growth but the relationship is very weak and insignificant in case of Egypt. Badr and Ayed (2015) suggests that the association between FDI and economic growth in case of North Africa especially in Egypt is very weak and insignificant. Nistor (2014) studies the relationship between FDI and economic growth in case of Romania. He concludes that FDI inflows have positively affected economic growth during the study period. A. K. Singh (2013) explores the relationship between FDI and economic growth in India for the period 1970 to 2012. He conclude that in the long run FDI contributes positively to economic growth. Moreover, he also suggests that capital investment has played a vital role in the promotion of economic growth. Gudaro, Chhapra, and Sheikh (2012) studies the impact of FDI and inflation on economic growth in case of Pakistan

and conclude that economic growth is positively and significantly associated with FDI. Moreover, he also suggests that economic growth is negatively associated with inflation. Yaoxing (2010), by adopting aggregate production function illustrates that FDI significantly explain the variation in economic growth in case of Cote d'Ivoire during 1980-2007. Hoang et al. (2010) by studying the relationship between FDI, trade liberalization, human capital, and economic growth conclude that FDI promotes economic growth by expanding the capital stock. They also suggest that FDI through trade liberalization and human capital does not contribute to EG in case of Vietnam. Similarly, Omisakin et al. (2009) studies the relationship between FDI, trade liberalization and EG in case of Nigeria. He concludes that FDI positively and significantly contributes to economic growth.

However, Temiz and Gokmen (2014) studies the relationship between FDI and economic growth in case of Turkey and he reaches on the conclusion that FDI and economic growth are not significantly associated in the both time periods short run and long run. In case of Tunisia, Belloumi (2014) confirms the negative impact of FDI on economic growth. Herzer (2012) by investigating the relationship between FDI and economic growth by using heterogeneous panel co-integration technique and a general to specific model selection approach concludes that in case of developing countries FDI on average negatively contribute to economic growth. In Nigeria case study, Saibu et al. (2012) examine the impact of trade liberalization and FDI on economic growth and unemployment. They suggest that FDI negatively and significantly contributes to economic growth during study period.

FDI inflow is one of the most important factors that happens to be helpful in creating job opportunities in developing countries. It has created jobs not only in those sectors which attracts FDI but also in other supportive local industries. For example, Denisia and Georgiana (2012) suggests that in case of Central and Eastern Europe foreign firms contributes positively to employment generation both directly and indirectly as compare to domestic firms. Saibu et al. (2012) examine the impact of trade liberalization and FDI on economic growth and unemployment in case of Nigeria. They suggest that FDI negatively and significantly contribute to unemployment which means it enhances FDI in case of Nigeria during the concerned period. In case of Ghana, Abor and Harvey (2008) by analysing the impact of FDI on employment and wages during 1992-2002, suggest that FDI positively and significantly contributes to employment whereas, its impact on wages is insignificant. Similarly, in case of China, Fu and Balasubramanyam (2005), find that FDI positively contributes to employment during 1998 to 2003.

Economic growth is one of the important determinants that are helpful in reducing unemployment in an economy. For example, Oniore et al. (2015) explores the macroeconomic determinants of unemployment in case of Nigeria and conclude that economic growth enhances employment in the short run during study period. Moreover, he also suggests that inflation rate also contributes positively to employment. While analysing the impact of economic growth on unemployment for G7 countries, Ozel, Sezgin, and Topkaya (2013) suggest that economic growth contributes positively and significantly to employment in both crisis and non-crisis periods. Huang and Yeh (2013) conclude the employment is positively associated with real per capita GDP in both time periods short run as well as long run. Wajid and Kalim (2013) confirm that employment

is positively associated with economic growth in case of Pakistan in short run and in long run. In case of Iran, Meidani and Zabihi (2012) explores the impact of globalization (measured as trade volume to GDP ratio), economic growth and inflation on unemployment. They conclude that economic growth significantly and negatively contribute to unemployment levels in Iran. They also suggest that most of the variations in unemployment is explained by economic growth as compare to other variables in the analysis. Moreover, they also suggest that inflation positively contribute to unemployment.

However, Fatai and Bankole (2013) conclude that economic growth negatively affect the employment in case of Nigeria. Similarly, Herman (2011) examines the relationship between employment and economic growth in comparative context between European Union countries. This study suggests that economic growth contributes to employment negatively in case of Romania, Lithuania, Estonia, Hungry and Latvia. Sudrajat (2008) studies the relationship between economic growth and employment for overall economy and for sectors as well in case of Indonesia. He suggests that economic growth does not contributes to employment but also creates unemployment at total as well as sectoral levels of the economy. In case of China, Mao (2008) examines the relationship between economic growth and unemployment and suggests that growth positively and significantly contributes to unemployment in case of China during the study period.

The past studies show that trade liberalization positively contributes not only to the level of employment but also to FDI and economic growth. Similarly, FDI positively contributes to both economic growth and the level of employment. Moreover, existing literature also shows that there exists a positive relationship between economic growth

and the level of employment. But most of the studies ignore the precise channels through which trade liberalization may affect employment level. In this study, we will attempt to investigate the impact of trade liberalization on employment level by incorporating the channels of FDI and economic growth using a sample of developing countries. The detailed list of countries (region wise) is given in Table A1, Appendix.

CHAPTER 3

THEORETICAL FRAMEWORK

The aim of this chapter is to discuss the theoretical foundations of the relationship between trade liberalization and employment directly and indirectly through the channels of FDI and economic growth.

It is well established belief that trade liberalization provides efficient allocation of resources. Developing countries are mostly labour intensive. People have low per capita income which puts the saving rates low that leads to low levels of investments and hence markets are small in such economies. Trade liberalization makes it possible for low cost producers to earn higher profits by increasing the demand of their outputs more than it is in the domestic market (Krugman, 2008). In this way trade liberalization starts promoting and rewarding those production activities that require the abundant factor, the country has. As in developing countries the abundant factor is labour, more employment opportunities will come into being due to liberalization.

Trade theories on the notion why trade occurs between the countries provide the basis for the theoretical link between international trade and employment. For example, Heckscher-Ohlin Comparative advantage based on relative differences in factor endowment forms the base to study the relationship between trade and employment (Javed, 2011). According to Heckscher-Ohlin theorem due to trade countries start allocating their resources to those production activities which use their abundant factor. As developing countries are mostly labour intensive they have comparative advantage in the production of labour-intensive goods. Similarly, developed countries are mostly

capital intensive and have comparative advantage in the production of capital-intensive goods. Trade between developing and developed countries will increase the reward for the abundant factor due to efficient allocation of resources in the respective countries (Krugman, 2008). Similarly, the Stolper-Samuelson theorem which is the extension of the HO theorem also proves that if all the assumptions on which these theorems are based hold then from trade liberalization abundant factor reaps the benefit and scarce factor does not. Abundant factor in the case of developing countries is labour and scarce factor is capital. According to this theorem with the increase in the consumption price of a good the return for the factor which is abundantly used in the production of that good also increases and for scarce factor it decreases. It means rental for capital and wage rate for labour will increase in developed and developing countries on the basis of relative abundance countries have and reverse is applicable according to relative scarcity (Javed, 2011). So for we have discussed the impact of international trade on employment in trade scenario between developing and developed countries.

However, the comparative advantage on the basis of relative technological differences as presented by Ricardo states the reason for trade between those countries which have similar characteristics for example labour-intensive in nature. According to Ricardian comparative advantage if the assumptions (labour is the only factor of production, two goods to produce, production function exhibits the constant returns to scale) hold then the country exports the good which has higher factor productivity ratio and imports that which has lower factor productivity ratio (Javed, 2011). If the trading countries tend to specialise themselves in the production of those goods which use relatively less labour as an input and imports those goods which use relatively more labour as an input then overall

output will increase. The gain from trade for both countries will be higher as compare to no trade scenario (Salvatore, 2001). In the Ricardian frame work of international trade, trade liberalization leads to complete specialization in export competing sector as it increases the price of exportable goods which causes the value of marginal product of labour to increase. Once the value of marginal product of labour increases it triggers the demand for labour in that particular sector. Whereas the value of marginal product of labour goes down in the import competing sector due to liberalization which makes the survival of that sector difficult. But the overall demand for labour in the economy enhances (Dutt et al., 2009).

Theoretical foundation for direct impact of trade liberalization on employment is discussed so far however, trade liberalization indirectly may affect the employment through different channels, but those are beyond the scope of current study. This study only cares about the impact of trade liberalization through the channels of FDI and economic growth.

Theoretically the impact of trade liberalization on the flow of FDI depends upon what motivates the foreign investor to invest abroad (Dunning and Lundan, 2008; Markusen and Maskus, 2002; Seim, 2009). FDI can be divided into two types on the basis of differences in final output produced by the firms in home and host countries. These are horizontal and vertical FDI. In horizontal FDI affiliated firms in home and host countries produce almost similar output. Whereas in vertical FDI affiliated firms are engaged in different stages of production process of the same final output (Protsenko, 2004). According to Dunning and Lundan (2008) main motives for FDI to flow abroad are

natural resource seeking, market seeking, efficiency seeking and strategic asset seeking. These motives can also be regarded as four types of FDI.

Sometimes firms go for merger and acquisition with foreign firms in order to acquire strategic asset to maintain their competitive position in international market. This phenomenon is also known as strategic asset seeking FDI. Assets that attract such type of FDI might include high tech, organizational system, managerial and marketing skills. Mostly strategic asset seeking FDI is take place in technology and information intensive sectors (Dunning and Lundan, 2008).

Market-seeking FDI is the type of FDI in which a firm supplies goods and services to host and its neighbouring countries by producing them in host countries. The main objective of the firm in market seeking FDI is to replace its exports to host countries with the production of similar products in those countries in order to increase its market share in home as well as in host countries. This type of FDI is also known as horizontal as well as tariff jumping FDI because it provides the opportunity to foreign firms to bypass the rules and regulation of host country regarding trade. Trade liberalization reduces the flow of market seeking or horizontal FDI and trade restrictions endues it (Kosteletou and Liargovas, 2000; Rose-Ackerman and Tobin, 2005; Seim, 2009). According to Seim (2009) firms with the idea to get access to other markets may feel it better to serve host countries markets through exports instead of doing horizontal investment in those countries in the presence of trade liberalization and low trade costs. The positive impact of trade openness on horizontal investment is conditional on the access to neighbouring markets of host countries.

Another type of FDI is natural resource seeking. In such type of FDI a firm invest abroad in order to get access to those resources which are not available in home or available but at high cost. These resources include inexpensive labour force, physical resources and access to advanced managerial skills and technical knowhow (Dunning and Lundan, 2008). Due to differences in resource availability and their prices across countries a natural resource or rent seeking firm finds it beneficial to split its production process into different stages according to different input requirements (Protsenko, 2004). This type of FDI also known as vertical FDI which is export oriented.

Another motive for a firm to invest abroad is efficiency seeking. Firms that engage in such type of investment are usually experienced and large multinational enterprises. The main purpose of such investment is to capture large market by actively participating in few countries. The main motivational factors for such type of FDI are Differences in factor endowments of countries, location and government regulation. The objective of efficiency seeking firm is to take advantage of cost differential arising from factor endowment differences by investing in resource abundant countries. That is why investment related to labour intensive manufacturing and primary products mostly takes place in developing countries and investment related to technology and information intensive takes place in developed countries (Dunning and Lundan, 2008). In order to enjoy economies of specialization and scale efficiency seeking firms also split their production process into different stages that is why this type of FDI is also vertical in nature and export-oriented. Trade openness promotes natural resource seeking and efficiency seeking FDI as both are export oriented and trade restriction impedes them (Kosteletou and Liargovas, 2000; Rose-Ackerman and Tobin, 2005).

One can easily explain the positive contribution of FDI towards the economic growth of host economy with the help of two theories. These are capital formation and technological spill overs theories (Juma, 2012). In capital formation theory FDI is considered as capital. In the exogenous growth model pioneered by Solow (1956) the output of an economy is a function of capital and labour. Technological progress is considered as exogenous in this model. The role of technological progress is to explain the reasons through productivity differences why some countries are rich and some are not (Jones, 1998). FDI is considered as additional capital stock. Its inflow leads to the increase in production which than cause the growth rate of host economy to increase. According to neo classical growth model FDI has only short run impact on economic growth of host country since FDI is an additional capital and this model follow the assumption of diminishing returns to physical capital (Asheghian, 2004; Brems, 1970; Irandoust, 2001).

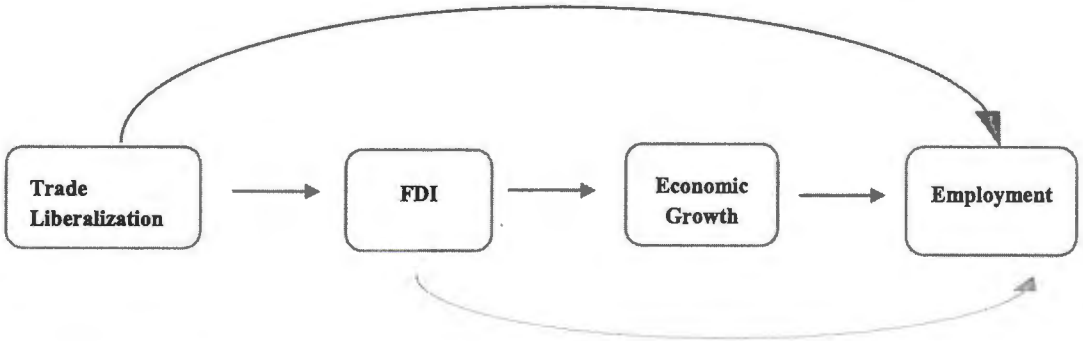
FDI is not only a source of capital formation but also act as a vehicle to transport advanced technology to host economy. According to Kinoshita (2000) this technology transfer can take either of four forms. These are imitation, training, linkage and competition effects. Firms from advanced countries might introduce high tech or more efficient technology to their affiliated firms in the host economies. Domestic producers might have access to these advanced technologies through their contacts in local markets and can adopt these efficient or advanced technologies in this manner (Juma, 2012; Saggi, 2000). This transfer mechanism is known as imitation effect. In order to efficiently use both advanced technology and domestic resources foreign firm starts training and education programme for their local workers. These trainings and education programme enhance human capital in host countries. This knowledge can easily be transferred to domestic firms with the

movement of trained local workers from foreign firms to local firms or with the start local workers own business (Juma, 2012; Saggi, 2000). This mechanism is known as training effect. Foreign firms due to the nature of production process and resource location create forward or backward integration with local firms and transfer advanced technology to them. In this way technology of local firms is upgraded to produce intermediate or final goods efficiently (Juma, 2012; Saggi, 2000). This is known as linkages effect. The entrance of foreign firms in the local market starts the competition with those domestic firms working monopolistically before. In order to maintain their shares in the domestic market local firms start efficient use of their resources and make more investment in upgrading the existing technology (Juma, 2012; Zhang, Ding, Wang, and Zhou, 2001). This diffusion process is known as competition effect. These are the four different ways through which technology is transferred from developed to developing countries. As far as the long run impact of FDI is concerned the growth model that capture it, is endogenous growth model. The main stress of this model is on the role of advanced technology and knowledge in the economic growth of a country (Jones, 1998). Like exogenous growth model this model also takes into account FDI's role as capital in economic growth of host economy but its impact is very limited. FDI inflow can positively contributes to long run economic growth by providing the opportunity to host economy to have access on advanced technologies and processed innovations (Borensztein, De Gregorio, and Lee, 1998; Dunning, 1994).

The variation in overall employment level due to economic growth depends upon the factors that bring changes in aggregate demand and supply. Factors that can create employment opportunities by increasing aggregate demand are increased levels of

household consumption, private investment, exports and government spending. There are three main factors that bring changes in aggregate supply which are changes in the prices of raw material, changes in prices of factors and changes in factor's productivity (Azad 2011). According to classical economists, unemployment cannot last for long time due to the existence of perfect competition in markets and due to flexible wages. Keynesians view point is different from classical economists because they believe that wages are downward rigid so unemployment can last for long time. The following diagram depicts the theoretical frame work of current-study.

Figure 3.1: Schematic diagram of the relationship between Trade liberalization and employment.



The above diagram depicts the overall theme of the study. It shows that trade liberalization effects employment through direct and indirect channels. First, trade liberalization may affect employment directly. Second, it may affect employment through the channels of FDI and economic growth.

Summary

International trade enhances employment in labour-intensive country if it occurs between countries on the basis of relative differences in factor endowment (Heckscher-Ohlin frame work based comparative advantage). Whereas the impact of international trade on employment is not conditional on labour intensity if it occurs between countries on the basis of relative technological differences (Dutt et al., 2009).

Trade liberalization stimulates the flow of foreign direct investment (FDI) in developing countries. It provides incentive to the foreign investors in two ways: 1) due to liberalization, investors can import new machines, advanced technology, and other inputs at low cost, 2) trade liberalization makes it profitable for investors to produce goods in FDI host countries and export them to other countries and hence capture the bigger market as compare to non-investment scenario (Salvatore, 2013). Foreign investors, in order to minimize the risk, retain the key managerial and operational posts with them. In this way highly skilled worker from abroad come to the host countries with FDI. In order to increase the efficiency of locally hired workers firms starts training and education programs for them. The FDI helps the host countries to accumulate the physical as well as human capital and hence contributes to economic growth (Li and Liu, 2005). Economic growth boosts economic activities in the host countries and generate employment opportunities.

CHAPTER 4

DATA AND EMPIRICAL METHODOLOGY

The objective of this chapter is to discuss the nature of the data set used in this study and its sources, variable generations and empirical methodology.

4.1 Data and Variables

We use a panel data of 93 developing countries which is sub divided into six regional groups (East Asia and Pacific, Europe and Central Asia, Latin America and Caribbean, Middle East and North Africa, South Asia and Sub-Saharan Africa) by World Bank over the period of 1960 to 2014. The main source of our data set is world development indicator (WDI) and Barro and Lee (2013). In the following section we define variables, their nature in the study, their construction and the sources from where they obtained.

4.1.1 Variables and their generation

This section is related to the definitions, nature and construction of variables that are used in this study.

Due to the nature of research, this study is carried out to test three separate equations hence there are three dependent variables, 'FDI', 'economic growth' and 'Employment'. All the three equations are interdependent so there is a need to estimate them simultaneously.

4.1.2 Dependant Variable

The key dependent variable of this analysis is employment which is described as follow.

Employment (EMP)

Employment of an economy can be calculated as total labour force minus unemployed persons of that economy. There are many factors that boost employment of an economy and trade liberalization is one of them (Felbermayr et al., 2011; Javed, 2011). The aim of this analysis is to examine the impact of trade liberalization on employment.

As discussed earlier this study is based on panel data analysis so differences in the sizes of economies exits. There are chances of biased estimates in the analysis. In order to avoid these biased estimates we use employment to labour force ratio same as Rizvi and Nishat (2009). The data on employment and labour force are taken from (WDI) World Bank.

4.1.3 Independent Variables

In this study there are three types of independent variables. These are core or main independent variable, mediating and control variables. The main independent variable is trade liberalization and the mediating or channel variables are FDI and economic growth. Control variables are economic stability, return on investment, infrastructure development, financial development, government size, human capital, initial per capita GDP, investment, population, external debt and inflation.

Trade liberalization (TL)

Trade liberalization can be defined as the complete removal or reductions in restrictions imposed by any government on free trade with other countries. These restrictions includes tariffs and non-tariff barriers such as quotas. Trade liberalization through market

expansion generates more employment opportunities as compare to trade restrictive regime. For example, Loganathan et al. (2011) suggest that trade liberalization by increasing productivity and efficiency in different sectors generates employment opportunities for both skilled and unskilled workers. Similarly, trade liberalization by providing efficient allocation of resources contributes positively to the economic growth of an economy. See, (Bukhari and Iqbal, 2015; Solarin and Shahbaz, 2015). Moreover, trade liberalization also enhances the inflow of foreign direct investment (FDI) in developing countries (Hussain and Kimuli (2012).

The ratio of the sum of total exports and imports (trade volume) to GDP has been used as the measure of overall trade liberalization of an economy in the literature. This ratio more often has also been interpreted as a measure for trade restrictiveness of an economy (Asiedu, 2002). We use the same the ratio to measure the liberalization of an economy. The data to generate this variable is taken from World Development Indicator (WDI), World Bank.

Foreign Direct Investment (FDI)

It is a physical investment in a country from the residents or company of other country.

This investment can be either of these forms mergers, joint ventures, acquisitions of existing firms or establishment of new firms. Trade liberalization fosters the FDI inflow by making import of new machines, advanced tech and export of low cost finished goods to other countries easier. Hence it is profitable for investors to produce goods in FDI host countries and export them to other countries and hence capture the bigger market as compare to non-investment scenario (Salvatore, 2013). FDI has positive contribution towards the economic growth of host economy through capital formation and

technological spill overs (Juma, 2012). Imitation, training, linkage and competition are four sources of technological transfer through FDI in host country Kinoshita (1999). The study assumes that trade liberalization fosters FDI inflow and FDI inflow positively contributes to economic growth of host economy.

Study uses FDI as a percentage of GDP in order to avoid biased results just like Rizvi and Nishat (2009). Data on this variable is taken from WDI, World Bank.

Economic growth (EG)

Economic growth of a country refers to the percentage change in the volume of goods and services produced by its nationals over the period of time. Trade liberalization contributes positively to the growth of a country (Bukhari and Iqbal, 2015; Solarin and Shahbaz, 2015). Similarly, FDI is also an important determinant of economic growth of a country (Masry, 2015; Solarin and Shahbaz, 2015). Moreover, economic growth is one of the key source of employment generation for example, For example, Oniore et al. (2015) explores the macroeconomic determinants of unemployment in case of Nigeria and conclude that economic growth enhances employment in the short run during study period.

Population (POP)

It means the total number of people reside in any country. There exists a negative relationship between population growth and employment (Maqbool, Sattar, and Bhalli, 2013). Data on annual population growth is taken from World Development Indicator (WDI), World Bank.

External Debt (ED)

External debt of an economy means the money borrowed by a government from sources other than the domestic ones. External debt (ED) includes borrowed money from other governments, private commercial banks of other countries, or international financial institutions such as Asian Development Bank (ADB), International Monetary Fund (IMF) and World Bank. External debt expand the government financing in different projects hence it increases employment (Maqbool et al., 2013). The data of this variable is collected from World Development Indicator, World Bank

Return on Investment (RI)

The gains achieved by an investor by investing some resources is known as return on investment (RI). Return on investment as a determinant of FDI refers to the idea that FDI inflow is an increasing function of return on investment. FDI starts flowing out from those countries which yield lower return to those likely to produce higher returns on per unit of capital investment. The return on investment in those countries which are operating close to their potential (Developed/Advanced Countries) is very low as compared to those countries which are operating far below their potential (Developing countries).

Countries which pay higher return on capital attracts more FDI as compared to those which pay lower return on investment. The return on investment (RI) contributes positively to the inflow of FDI in developing countries (Asiedu, 2002; Tsai, 1994).

It is very difficult to find an appropriate measure to calculate the return on capital, especially in developing world due to absence of well-developed capital markets. Marginal product of capital is high in capital scarce countries and very low in capital

abundant countries. According to the traditional theory of investment, the main objective of a firm to invest abroad is to maximize its gains. By assuming that marginal product of capital is equal to the rate of return on capital following the marginalist approach, we can say developing countries would yield higher return on investment (Agarwal, 1980; (Asiedu, 2002).

In order to measure the return on capital for a developing country we use inverse of real per capita GDP. Many researcher have used the same proxy to measure the return on investment see, for example, Asiedu (2002) and Tsai (1994). Data to generate this variable is taken from World Development Indicator (WDI), World Bank.

Infrastructure Development (INFD)

Infrastructure means the basic structure (organizational as well as physical) and facilities that are needed for the smooth working of an economy or an organization. The infrastructure includes roads, buildings, distribution networks, water and energy supply system, means of transportation, communication and sanitation. Infrastructure development of an economy means overall improvement in those facilities and structure which are essential for economic activities to take place and smooth working of markets (Todaro 2011). Infrastructure development is one of the important determinant of FDI inflows to developing countries as it enhances the productivity of investment (Asiedu, 2002).

This study uses no of telephones per 1000 population as a proxy to measure the infrastructure development. Many studies have used this proxy to measure the infrastructure development see for example, (Asiedu, 2002). The data used in the

construction of infrastructure development (ID) variable taken from World Development Indicator (WDI), World Bank.

Market Size (MSZ)

Market size usually refers to the absorptive capacity and sound working of economy of a country. It is usually measured by growth in GDP. This is the efficient measure of market size because no other measure can combine these two attributes in one variable.

Large market size enhances the inflow of FDI. We use GDP growth rate as a proxy to measure the market size of a country following Asiedu (2002). The data on GDP growth is taken from WDI, World Bank.

Financial Depth (FD)

Financial depth or deepening of a country refers to the potential of resource mobilization and the efficiency of financial intermediation of its financial sector. Financial deepening enhances FDI inflow to developing economies. Moreover, it also contributes to economic growth of the country as well.

In this study we use liquid liabilities (M_2) to GDP ratio as a measure of financial depth of a country following Asiedu (2002). Data on this variable is taken from World Development Indicator (WDI), World Bank.

Economic Stability (ES)

Economic stability of a country refers to that financial system which exhibits slight variations in output growth. Smooth working of financial system due to which slight variations takes place in output growth and inflation rate consistently stays low.

Stable economic situations of a country boost the FDI inflows to the country. We use consumer price index to measure the inflation rate following Asiedu (2002). Data on this variable is taken from WDI, World Bank.

Human Capital (HC)

The term human capital is used in economic literature to represent the composite bundle of knowledge, skills, technical know-how, experience and other characteristics, which are very essential for productive efficiency, embedded in labour. In other words human capital refers to the efficiency of labour in terms of hours as compared to new or unskilled labour (Acemoglu, 2009).

Higher human capital through working efficiency boosts economic growth. For example, high human capital of a country means a large number of individuals residing in the country are experienced or well educated. This experience or higher education increases the efficiency of the workers that fasters the process of the economic growth.

Moreover, high human capital stock contributes positively to the inflow of FDI. For instance, it is very easy for skilled or educated workers to get familiar with advanced technologies.

We use secondary school enrolment as a proxy to measure the level of human capital in a country by following Barro and Lee (2013). Data on this variable is taken from Barro and Lee (2013).

Investment (INV)

The expansion in the existing physical capital stock is refers to investment. Investment has a very essential role in the economic growth of an economy. Increase in investment

leads to the expansion in economic activities through physical capital accumulation. Additional physical capital needs new workers hence more employment opportunities are generated, in this way the overall income level increases which further boosts production process and contributes to economic growth (EG). In order to measure investment, we use gross fixed capital formation to GDP ratio. Many researchers have used the same proxy for investment see for example Hamidi *et al.*, (2013) and Nazima, (2011). The main source of this variable is World Development Indicator (WDI), World Bank.

Government Size (GS)

This variable shed the light on the performance of government of a country. From government spending of any country, one can easily judge the efficiency of any government in utilising its resources. Economics literature has produced two strands regarding the role of government size in the economic growth of a country that is: it can boost as well as impedes it. The proponents of positive role of government size on economic growth are of the view that the big government size can play a very vital role in the growth process of a country, among other things, by creating harmony between public and private interests, by taking strong measures to stop foreigners to exploit the local market, by targeting and investing in those sectors which are socially optimal (Ram, 1986).

However, the opponents suggest that big government size can has adverse effect on economic growth due to misallocation of resources, ineffective fiscal and monetary policies (Ram, 1986).

4.2 DESCRIPTIVE STATISTICS

The section contains summary statistics and correlation matrix of the study.

4.2.1 Summary Statistics

Table A2 in Appendix shows the summary statistics of variables used in our analysis. FDI (FDI) has the lowest 0.166968 mean value and External debt (EXDT) has the highest 21.33066. External debt has the largest 3.326238 standard deviation and Growth has the smallest 0.222247 standard deviation among the variables of analysis. It means fluctuations in EXDT are high and in growth are low. From the difference in number of observations it is obvious that the data set is unbalanced.

4.2.2 Correlation Matrix

Table A3 in Appendix depicts correlation between the variables which we have used in this analysis. There exists a highest positive 50.45% correlation between initial per capita GDP (Start) and human capital (HC). The lowest positive 5.17% correlation exists between employment (EMP) and population growth (POPG). However, highest negative correlation -11.17% among the variables of this study exits between investment (INV) and population growth (POPG). The lowest negative -80.65% correlation exists between external debt (EXDT) and infrastructure development (INFD).

4.3 ECONOMETRIC MODEL

This section is related to model specification and estimation technique examine the relationship between trade liberalization and employment directly and indirectly through the channels of FDI and economic growth.

Model

As discussed earlier, trade liberalization may effect employment directly or indirectly through the channels of FDI and economic growth. In order to show these relationship we develop a system of three equations. Where the first equation shows the impact of trade liberalization (TL) on FDI. Second equation shows the impact of FDI on economic growth (EG) and both these equations accommodate the channels of FDI and economic growth, while the last equation shows the impact of trade liberalization, FDI and economic growth on employment.

$$FDI_{it} = \alpha_1 + \alpha_2 TL_{it} + \alpha_3 Z_{1it} + u_{it1} \quad (4.1)$$

$$EG_{it} = \beta_1 + \beta_2 FDI_{it} + \beta_3 Z_{2it} + u_{it2} \quad (4.2)$$

$$EMP_{it} = \delta_1 + \delta_2 EG_{it} + \delta_3 FDI_{it} + \delta_4 TL_{it} + \delta_5 Z_{3it} + u_{it3} \quad (4.3)$$

FDI_{it} in equation (4.1) stands for foreign direct investment, TL_{it} is used for trade liberalization, Z_{it} is a vector of control variables for FDI that includes infrastructure development, economic stability and financial development and 'μ_{it1}' is the error term. EG_{it} in equation (4.2) stands for economic growth, Y_{it} is a vector of control variables for EG that includes initial value of real per capita GDP, human capital, government size, investment and 'μ_{it2}' is error term. EMP_{it} in Equation (4.3) stand for employment, W_{it} is a vector of control variables for EMP that includes POP, EXD,

The above discussed direct and indirect effects of trade liberalization on employment are explained in the following section.

Direct Effect

The direct effect of trade liberalization (TL) on employment (EMP) is given from the equation (4.3). That is:

$$\frac{\partial EMP_{it}}{\partial TL_{it}} = \delta_4 \qquad (4.4)$$

Short Run Indirect Effect

Short run indirect impact of trade liberalization can be captured in two steps. In the first step we capture the impact of trade liberalization (TL) on FDI in equation (4.1). That is:

$$\frac{\partial FDI_{it}}{\partial TL_{it}} = \alpha_2$$

In the second step we capture the impact of FDI on employment in equation (4.3). That is:

$$\frac{\partial EMP_{it}}{\partial FDI_{it}} = \delta_3$$

The short run impact of trade liberalization on employment through the channel of FDI is then calculated by multiplying these individual impacts that is the impact of trade liberalization on FDI and the impact of FDI on employment as follows

$$\frac{\partial EMP_{it}}{\partial TL_{it}} = \frac{\partial FDI_{it}}{\partial TL_{it}} * \frac{\partial EMP_{it}}{\partial FDI_{it}}$$

It implies that

$$\frac{\partial EMP_{it}}{\partial TL_{it}} = (\alpha_2).(\delta_3) \qquad (4.5)$$

Long Run Indirect Effect

Long run indirect effect impact of trade liberalization on employment through the channels of FDI and economic growth can be derived in three steps. The first setup we capture the effect of trade liberalization (TL) on FDI in equation (4.1). That is:

$$\frac{\partial FDI_{it}}{\partial TL_{it}} = \alpha_2$$

The second setup capture the impact of FDI on economic growth (EG) in equation (4.2). That is:

$$\frac{\partial EG_{it}}{\partial FDI_{it}} = \beta_2$$

The third and last setup capture the impact of economic growth (EG) on employment (EMP) in equation (4.3). That is:

$$\frac{\partial EMP_{it}}{\partial EG_{it}} = \delta_2$$

The indirect impact of trade liberalization (TL) on employment (EMP) through the channels of FDI and economic growth (EG) is then calculated by multiplying the three individual impacts, that is, the impact of trade liberalization (TL) on FDI, the impact of

FDI on economic growth (EG) and the impact of economic growth (EG) on employment (EMP) as follows.

$$\frac{\partial EMP_{it}}{\partial TL_{it}} = \frac{\partial FDI_{it}}{\partial TL_{it}} * \frac{\partial EG_{it}}{\partial FDI_{it}} * \frac{\partial EMP_{it}}{\partial EG_{it}}$$

It implies that

$$\frac{\partial EMP_{it}}{\partial TL_{it}} = (\alpha_2).(\beta_2).(\delta_2) \qquad (4.6)$$

Net Effect

The net effect of trade liberalization on employment can easily be calculated by combining three different impacts of trade liberalization on employment which are direct impact, short run and long run indirect impacts through the channels of FDI and economic growth. That is:

$$N.E = \frac{\partial EMP_{it}}{\partial TL_{it}} + \frac{\partial FDI_{it}}{\partial TL_{it}} * \frac{\partial EMP_{it}}{\partial FDI_{it}} + \frac{\partial FDI_{it}}{\partial TL_{it}} * \frac{\partial EG_{it}}{\partial FDI_{it}} * \frac{\partial EMP_{it}}{\partial EG_{it}}$$

$$N.E = (\delta_4) + (\alpha_2).(\delta_3) + (\alpha_2).(\beta_2).(\delta_2) \qquad (4.7)$$

The above equation as discussed earlier is the combination of three different impacts of trade liberalization on employment. Direct impact is being captured through (δ_4). Whereas $(\alpha_2)*(\delta_3)$ captures the short run indirect impact of trade liberalization on

employment through the channel of FDI. Similarly, long run indirect impact of trade liberalization through the channels of FDI and economic growth is being captured by $(\alpha_2)*(\beta_2)*(\delta_2)$. Similar kind of results can also be obtained by taking total derivative of equation (4.3). That implies

$$\frac{dEMP_{it}}{dTL_{it}} = \frac{\partial EMP_{it}}{\partial TL_{it}} + \frac{\partial FDI_{it}}{\partial TL_{it}} * \frac{\partial EMP_{it}}{\partial FDI_{it}} + \frac{\partial FDI_{it}}{\partial TL_{it}} * \frac{\partial EG_{it}}{\partial FDI_{it}} * \frac{\partial EMP_{it}}{\partial EG_{it}}$$

$$\frac{dEMP_{it}}{dTL_{it}} = (\delta_4) + (\alpha_2).(\delta_3) + (\alpha_2).(\beta_2).(\delta_2) \qquad (4.7)$$

Empirical methodology

As the above model has simultaneous equations. There are chances of endogeneity problem. In the presence of such problem ordinary least square estimation technique may produce inconsistent estimates. In order to avoid such problem we will estimate the above model using seemingly unrelated regression (SUR) method for unbalanced panel data as suggested by (Biorn, 2004). Zellener (1962) was the first one who developed seemingly unrelated regression (SUR) model. There are many equations in original SUR model and each equation has its own dependent as well as independent variables. Each equation in seemingly unrelated regression (SUR) model is estimated separately with the assumption that the error terms of these equations are correlated with one another. However Biorn (2004) has developed more generalized approach as compare to any other standard approach for regression estimation of panel data.

Biorn (2004) panel data regression method has several advantages. Ordinary least square (OLS) estimation technique can be used to estimates the equations in SUR model. The difference between the results of these techniques is that the (SUR) estimates are more efficient as compare to (OLS) estimates. The simplest General Liner Model (GLM) in which certain coefficients in matrix beta are assumed to be zero can be considered as SUR. Furthermore, SUR can be viewed as the simultaneous equation model, when regressors in regression are endogenous variables. In our case we use the SUR model as proposed by (Biorn, 2004) for unbalanced panel data regression analysis.

CHAPTER 5

RESULTS AND DISCUSSION

The aim of this chapter is to discuss the findings of seemingly unrelated regression estimation. We divide this chapter into two main sections that is results associated with the direct impact of trade liberalization, foreign direct investment (FDI) and economic growth on employment and indirect effect of trade liberalization on employment through the channels of FDI and economic growth.

5.1 Direct Impact of Trade liberalization, FDI and Economic Growth on Employment.

This section is related to the direct impact of trade liberalization, FDI and economic growth on employment as presented in Table (5.1).

Trade liberalization enhance economic activities and motivate local producers to boost their production, which in turn increases demand for labour hence employment increases.

Table 5.1 provides the result of both general and final models of estimation. Each model has three equations. Equation 1 shows the impact of trade liberalization (TL) on foreign direct investment (FDI). Human capital (HC), infrastructure development (INFD) government final consumption expenditure (GOV) are control variables in equation 1 of both general and final models. Equation 2 shows the impact of foreign direct investment (FDI) on real per capita GDP growth (GROWTH). Initial per capita GDP (START), human capital (HC), investment (INV) and government final consumption expenditures (GOV) are control variables in equation 2 of general model whereas INV and GOV are used as control variables for GROWTH in equation 2 of final model. Equation 3 shows

the impact of TL, FDI and GROWTH on employment (EMP) however, external debt (EXDT) and population growth (POPG) are used as control variables for EMP in equation 3 of both general and final models.

The coefficient of trade liberalization (TL) is positive and significant at 1 % level in equation 1 of both general and final regression models. This implies that the volume of foreign direct investment inflow increases as degree of liberalization increases. There are two possible explanations of this result. First, trade liberalization facilitates the investor to easily import advanced machines and input at low price. Secondly, it gives incentives to investors to capture bigger markets by producing goods in FDI host countries and export to other countries. This finding is consistent with previous empirical literature (Asiedu, 2002; Jadhav, 2012a; Were, 2015).

The positive and significant at 1% coefficient of foreign direct investment (FDI) in equation 2 of both models indicates that FDI inflows have exerted positive and significant impact on economic growth of host economy. This is because FDI helps the host economy to accumulate physical capital. Moreover, FDI also acts as a vehicle to transport advanced technology to host economies. The four possible means for this technological dispersion are i) imitation through domestic market ii) training and education programs for locally hired workers iii) backward and forward linkages of the firm iv) competition between local and foreign firms. This physical capital accumulation and access to advanced technology through FDI inflow plays a vital role in the economic growth of host economy. This result is in line with previous empirical literature (Babatunde, 2011; Li and Liu, 2005).

The impact of trade liberalization (TL) on employment (EMP) is positive and highly significant with slightly different coefficients in equation 3 of both regression models.

Table 5.1 The Impact of Trade liberalization, FDI and Economic Growth on Employment.

Variable Names	General Model			Final Model		
	Eq1	Eq2	Eq3	Eq1	Eq2	Eq3
FDI		0.4105*** (0.000)	0.1738*** (0.000)		0.4259*** (0.000)	0.1842*** (0.000)
TL	0.3607*** (0.000)		0.3150*** (0.000)	0.3738*** (0.000)		0.2983*** (0.000)
HC	0.4402*** (0.000)	0.1318 (0.657)		0.4221*** (0.000)		
INFD	0.0074*** (0.000)			0.0076*** (0.000)		
GOV	-0.7666*** (0.000)	-0.4571** (0.013)		-0.7725*** (0.000)	-0.4569*** (0.000)	
Growth			-0.4344*** (0.000)			-0.4317*** (0.000)
Start		-0.0138 (0.866)				
INV		0.5210*** (0.009)			0.5829*** (0.000)	
EXDT			0.1237*** (0.000)			0.1284*** (0.000)
POPG			-0.0474** (0.022)			-0.0301** (0.019)

Note: ***, ** and * denotes the level of significance at 1%, 5% and 10% respectively. P value is shown in parenthesis. General and Final two models are estimated in our analysis. Each model has three equations. The dependent variable in equation 1 is foreign direct investment (FDI) which is measured as the log of FDI to GDP ratio and independent variables are Liberalization (TL), Human capital (HC), Infrastructure development (INFD) and Government size (GOV). Variable Open is measured as the log of trade volume to GDP ratio, Five years averages of secondary school enrolment are used as a proxy for HC, No of telephones per 1000 population is used as a proxy for INFD and log of government final consumption expenditure to GDP ratio is used as a proxy for GOV. The dependent variable in equation 2 is Growth which is measured as the log of real per capita GDP growth. The independent variables in equation 2 are FDI, Start, HC, Investment (INV) and GOV. Start is initial real per capita GDP and INV is measured as log gross fixed capital formation to GDP ratio. Dependent variable in equation 3 is employment which is measured as the log of no of employed to working age population. The independent variables are Growth, FDI, Open, external debt total (EXDT) and population growth. The analysis used five years averaged panel data set for 93 developing countries over the period of 1960 to 2014.

Trade liberalization plays a key role in employment generation of a country as it enlarge markets which in turn increase the demand for products. This increased demand

encourages the domestic producers to expand their production. This expansion needs more workers to be employed. Moreover, trade liberalization also provide the access to high tech and FDI inflow from rest of the world which also contributes to economic growth and employment generation as well. This finding is consistent with previous empirical literature (Akkus, 2014; Egger and Etzel, 2012; Meidani and Zabihi, 2012) however in contrast with (Oniore et al., 2015; Saibu et al., 2012).

Equation 3 of both general and final regression models indicates positive and highly significant coefficient of foreign direct investment (FDI) which means FDI positively and significantly contributes to employment generation. Developing economies have low levels of saving, hence the stock of physical capital is low. Investment is very important to enhance capital accumulation and in turn raise the level of employment. FDI is an important source to fill the gap in domestic resources and overcome the deficiency in capital accumulation and investment in such economies. These findings are consistent with previous empirical literature (Abor and Harvey, 2008;Denisia and Georgiana, 2012; Fu and Balasubramanyam, 2005; Saibu et al., 2012).

The estimated coefficient of economic growth (GROWTH) is unexpectedly negative and significant in equation 3 of both general and final regression models. This result depicts that economic growth surprisingly creates unemployment. Conventional approach suggests that economic growth or development is most important for welfare of an economy and leads to employment generation. However, it sometimes leads to famous Joseph Schumpeter's notion of creative destruction. During the growth process new technologies are introduced and new firms are created which replace the existing firms and technology that lead to the destruction of productive relationships, firms and

individuals incomes (Acemoglu, 2009; Schumpeter, 1942). In the recent past China has experienced the same phenomenon, despite of high economic growth Chines economy could not generate employment opportunities but even increase the level of unemployment (Mao, 2008).

Moreover, we also examine the impact of some important control variables on FDI in equation 1 of both regression models. That is HC has strong positive impact on FDI having a coefficient of 0.44 in equation 1 of general regression model. Result is similar in equation 1 of final model as well. This shows that high human capital stock contributes positively to the inflow of FDI in developing countries. Availability of high skilled workers benefit the foreign firms by reducing its cost on training and development of workers. Skilled workers also learn quickly how to use high-tech machines. Similar results were found in the studies (Borensztein et al., 1998; Choong and Lam, 2010) however, in contrast with the findings of (Mina 2007). Similarly, the coefficient of infrastructure development (INFD) is positive and significant at 1% level in equation 1 of both models. It means countries with more developed infrastructure attracts more FDI as compare to those where infrastructure is less developed. The reason for this positive correlation between INFD and FDI is, well developed infrastructure enhance the productivity of investment. This finding is consistent with previous literature (Asiedu, 2002). Moreover, the coefficient of government final consumption expenditure (GOV) is negative and significant at 1% level in equation 1 of both models. This states that big government size negatively contributes to FDI inflow. This might happen because government may increase taxes to finance higher consumption expenditures. Increase in taxes may discourage the FDI inflow.

Study also explores the impact of some important control variables on economic growth in equation 2 of both general and final regression models. The coefficient of initial per capita GDP (START) is negative but insignificant in equation 2 of general regression model. Similarly, the coefficient of human capital (HC) is positive but insignificant. The sign of government size (GOV) is negative and significant at 5 % and 1 % level in equation 2 of general and final regression models respectively. It indicates that due to big government size economic growth decreases. The possible justification of this result is government need to increase taxes or print new money, in order to finance its higher spending, that leads to crowding out of domestic investment or higher inflation rate in the economy which in turn inversely effect the economic growth. This finding is line with Levine (2002). Similarly, investment INV exerts a positive and highly significant impact on economic growth in equation 2 of both general and final regression models. This means that investment positively and significantly contributes to economic growth. Investment plays vital role in the expansion of physical capital stock in an economy. Physical capital stock accelerate the production process that fosters economic growth. This finding is consistent with previous empirical literature see Beck and Levine (2014).

Moreover, we also examine the impact of external debt (EXDT) and population growth (POPG) on employment as control variables in equation 3 of both regression models. The EXDT exerts a positive and significant impact on employment which means external debt enhances employment opportunities. Government takes loans from external sources to finance mega development projects. Population growth POPG negatively and significantly contributes to employment generation.

5.2 Short Run Indirect Impact of Trade Liberalization on Employment

The short run impact of trade liberalization on employment is the combination of two separate impacts. First, the impact of trade liberalization on FDI inflow. Second, the impact of FDI inflow on employment. Combing these two separate affects, we get short run impact of trade liberalization on employment through the channel of FDI.

Table 5.2 Short Run Indirect Impact of Trade Liberalization on Employment

General model	Final Model
(0.0627)***	0.0689***
(0.000)	(0.000)
Note *** represents level of significance at 1 percent and p value is shown in parenthesis	

Table (5.2) shows the short run impact of trade liberalization on employment is positive and significant at 1% levels in both general and final regression models. Trade liberalization plays a vital role in enhancing the inflow of FDI to developing economies. FDI is an important source to fill the gap in domestic resources and overcome the deficiency in capital accumulation and investment in such economies. This findings is consistent with previous empirical literature (Abor and Harvey, 2008;Denisia and Georgiana, 2012; Fu and Balasubramanyam, 2005; Saibu et al., 2012)

5.3 Long Run Indirect Impact of Trade Liberalization on employment

The long run impact of trade liberalization on employment works through three separate impacts. First, the impact of trade liberalization on FDI inflow. Second, the impact of FDI inflow on economic growth and then the impact of economic growth on employment.

Combing these three affects separate affects we can get long run impact of trade liberalization on employment through the channels of FDI and economic growth.

Table (5.3) indicates that the indirect impact of trade liberalization on employment is negative and significant at 1 % levels in both general and final regression models.

Table 5.3 Long run Indirect Impact of Trade Liberalization on Employment

General Model	Final Model
-0.0643***	-0.0687***
(0.000)	(0.000)
Note *** represents level of significance at 1 percent and p value is shown in parenthesis.	

This result suggest that trade liberalization not only fails to generate more employment but also creates unemployment through the channels of FDI and economic growth. Trade liberalization foster FDI inflow to developing economies. FDI positively contributes to economic growth but economic growth negatively affect the employment hence the indirect impact of trade liberalization on employment is negative through the channels of FDI and economic growth. The possible justification of this result is that during growth process advanced technologies are introduced and new firms are created which substitute the existing firms and technologies. This substitution alters the relationship between inputs (capital and labours) of production process (Acemoglu, 2009; Schumpeter, 1942). In the recent past China has experienced the same phenomenon, despite of high economic growth Chines economy could not generate employment opportunities but even increase the level of unemployment (Mao, 2008).

5.4 Net Impact of Trade liberalization on Employment

Net impact of trade liberalization is the combination of three separate impacts. First, immediate (Direct) impact of trade liberalization on employment. Second, short run impact of trade liberalization on employment which is being captured through the channel of FDI. Third, long run impact of trade liberalization on employment that comes from the channels of FDI and economic growth. Combing these three separate affects we can get net impact of trade liberalization on employment.

Table 5.4 Net Impact of Trade Liberalization on Employment

General Model	Final Model
0.3134***	0.2985***
(0.000)	(0.000)
Note *** represents level of significance at 1 percent and p value is shown in parenthesis	

Table (5.4) indicates that the net impact of trade liberalization on employment is positive and significant at 1% level in both general and final regression model. This result suggests that overall trade liberalization remains helpful for developing economies in employment generation during the analysis period.

CHAPTER 6

CONCLUSION AND POLICY RECOMMENDATIONS

In the previous chapters, we have covered from introduction to theoretical framework and then tested the model on the basis of theory. In this chapter, we have concluded that we found on the basis of applying our empirical model. In addition, policy recommendation has been suggested.

6.1 Conclusion

This study focuses to analyse the relationship between trade liberalization and employment directly and indirectly through the channels of FDI and economic growth in case of developing countries. The method of seemingly unrelated regression (SUR) for unbalanced panel data of 93 developing countries is employed over the period of 1960 to 2014.

The findings of the study reveal that trade liberalization enhances FDI inflows to developing economies as it provides the opportunity to enjoy economies of scale by producing at low cost in FDI host country and exports to other countries hence capture bigger market. Moreover, trade liberalization also makes it easy for foreign investors to import raw material and advanced machines at low cost.

Results indicate that foreign direct investment has positive and significant impact on economic growth because FDI is an important source to overcome the deficiency in capital accumulation and investment in developing economies. Moreover, it also serves as the vehicle for the transmission of technological innovation from developed to

developing countries. FDI helps the host countries to accumulate the physical as well as human capital and hence contributes to economic growth.

Trade liberalization positively and significantly contributes to employment generation as trade expand economic activities and motivate local producers to boost their production in which abundant factor of the economy is used, which in turn increases employment.

The study also confirms that the short run impact of trade liberalization on employment through the channel of FDI is positive and highly significant. FDI is one of the key source that expands the physical capital stock of host economy which in turn increases the demand for labour hence employment is generated in such economies.

The common belief that economic growth positively spur the employment is not supported by the findings of the present study during the analysis period. The possible explanation may be the famous notion of creative destruction as argued by Joseph Schumpeter (1942) which happens during the growth process. When new technologies are introduced and new firms are created which replace the existing firms and technology that may lead to the destruction of productive relationships, firms and individuals' incomes, initially, and reduces the level of employment.

The long run indirect impact of trade liberalization on employment is the combination of three separate affects which are the impact of trade liberalization on FDI, the impact of FDI on economic growth and the impact of economic growth on employment. The study suggest that trade liberalization fails to generate employment in the long run through the channels of FDI and economic growth.

Net impact which is sum three different impacts (immediate, short run indirect impact and long run indirect impact) of trade liberalization on employment is positive and highly significant. This result suggests that overall trade liberalization remains helpful for developing economies in employment generation during the analysis period.

6.2 Policy Recommendation

The findings of the study have several implications and guidelines for government policy maker regarding enhancement of rate of employment in economy. Study recommends that government should promote trade liberalization and enhance FDI inflow in order to boost the level of employment in the economy.

The study suggests that government should design such policies that encourages investment. Investment in result will enhance the absorptive capacity of an economy which in turn will raise the rate of employment. Contractionary fiscal and expansionary monetary policy mix should be used to ensure low interest rate in order to boost employment in the economy.

Skills enhancing vocational training programmes should be designed to solve the problems of unemployment resulting from skills mismatch. As the skills of labours increases, it take less time to get familiar with the updated technology, as a result such technical training programmes will reduce duration of job finding.

6.3 Future Research

It is observed during the analysis of this study that there are some potential areas for future research which needs to be explored in future. The analysis can be further focused by incorporating the impact of trade liberalization on unemployment in different regions

of the developing and developed world. Additionally, the role of various sectors of the economies under consideration can also be separated with the help of detailed data at sectoral level.

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APPENDIX

Table A1

Region	Countries Name
South Asia	Pakistan, India, Bangladesh, Nepal, Bhutan, Sri Lanka
East Asia and Pacific	Malaysia, Cambodia, China, Fiji, Mongolia, Indonesia, Myanmar, Kiribati, Palau, Korea, Dem. Rep. Papua, New Guinea, Vanuatu, Lao PDR, Philippines, Vietnam
Europe and Central Asia	Albania, Hungary, Romania, Serbia, Belarus, Turkey, Macedonia, Bulgaria, Moldova, Ukraine, Georgia, Montenegro, Uzbekistan
Latin America and the Caribbean	Argentina, Ecuador, Nicaragua, El Salvador, Panama, Bolivia, Grenada, Paraguay, Brazil, Guatemala, Peru, Colombia, Guyana, Costa Rica, Haiti, Cuba, Honduras, Venezuela, RB, Dominican Republic, Mexico
Middle East and North Africa	Algeria, Jordan, Tunisia, Egypt, Arab Rep. Libya, Yemen, Rep. Iran, Islamic Rep. Morocco, Syrian Arab Republic
Sub-Saharan Africa	Angola, Gambia, The Rwanda, Benin, Ghana, Botswana, Guinea, Senegal, Burkina, Faso, Guinea-Bissau, Seychelles, Burundi, Kenya, Sierra Leone, Cameroon, Lesotho, Somalia, Cabo Verde, Liberia South Africa, Madagascar, Malawi, Sudan, Comoros, Mali, Swaziland, Congo, Dem. Rep. Mauritania, Tanzania, Congo, Rep. Mauritius, Togo, Côte d'Ivoire, Mozambique, Uganda, Eritrea, Namibia, Zambia, Ethiopia, Niger, Zimbabwe, Gabon, Nigeria

Table A2

Variable	Observations	Mean	Std. Dev.	Minimum	Maximum
Growth	900	0.7072344	0.222247	-10.97635	10.60738
LFDI	732	0.166968	1.552136	-12.16262	5.516444
OPEN	971	3.948219	1.843124	0.9459608	5.516444
HC	746	1.388701	0.6822308	-2.995732	3.399051
INFD	456	2.0700000	0.7599537	0.0000645	1.910000
Start	885	6.91042	1.7400000	4.242465	9.31973
EMP	465	4.061888	1.014716	3.463233	4.471639
INV	815	2.846632	0.5700635	-0.0112178	4.228776
LGOV	881	2.462189	0.6006202	-0.9162907	4.032469
EXDT	835	21.33066	3.326238	-4.895526	27.43712
LPOPG	951	0.58878	0.7328205	-4.32856	2.06332

Table A3

	FDI	OPEN	Growth	EMP	Start	HC	INV	GOV	EXDT	POPG	INFD
FDI	1										
OPEN	0.342	1									
Growth	0.2773	0.1124	1								
EMP	-0.0289	-0.2217	0.0227	1							
Start	0.1016	0.2544	-0.0079	-0.4377	1						
HC	0.2578	0.2037	0.0616	-0.1938	0.5045	1					
INV	0.114	0.2782	0.4353	-0.1878	0.2286	0.1911	1				
GOV	-0.1237	0.1591	-0.0105	-0.1896	0.1907	-0.0641	0.3924	1			
EXDT	-0.3077	-0.1575	0.1922	-0.0819	0.316	-0.1063	0.1637	0.3434	1		
POPG	-0.2521	-0.0842	-0.1034	0.0517	-0.2159	-0.4679	-0.1117	0.0467	0.099	1	
INFD	0.3202	-0.0531	-0.137	0.0229	-0.1853	0.2303	-0.1099	-0.4998	-0.8065	-0.2268	1