The Determinants of Immigration: Evidence from Asian Economies

Submitted by
Muhammad Tamoor Asgher
(*MPhil Econometrics*)

Supervisor
Dr. Abdul Jalil
Professor of Economics
Pakistan Institute of Development Economics

The dissertation submitted to the Department of Economics & Econometrics; Pakistan Institute of Development Economics Islamabad, in restricted fulfillment the requirements for the degree of Master of Philosophy in Econometrics & Statistics.

Department of Economics & Econometrics
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CERTIFICATE

This is to certify that this thesis entitled: **"The Determinants of Immigration: Evidence from Asian Economies"** submitted by Mr. Muhammad Tamoor Asgher is accepted in its present form by the Department of Economics and Econometrics, Pakistan Institute of Development Economics (PIDE), Islamabad as satisfying the requirements for partial fulfillment of the degree in **Master of Philosophy in Econometrics**.

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بسم الله الرحمن الرحيم

Dedicated to

My lovely and beloved parents Mr. and Mrs. Muhammad Asgher Tahir (late)

APPROVAL SHEET

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DECLARATION

I "***Muhammad Tamoor Asgher****"*, son of ***"Muhammad Asgher Tahir"***, Registration No: *PIDE2017FMPHILETS13* student of MPhil Econometrics & Statistics at Pakistan Institute of Development Economics, do hereby declare that the Thesis ***"The Determinants of Immigration: Evidence from Asian Economies"*** submitted for the partial fulfilment of Master of Philosophy "***MPhil***" degree in Econometrics & Statistics is my own work. All the error and omission are lonely goes to me and I also solemnly pronounce that it will not submitted for attaining any other degree in the future from any institution.

Muhammad Tamoor Asgher

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Muhammad Tamoor Asgher

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LIST OF ACRONYMS

Abbreviation	*Variable Name*
NM	International migrant stock, total
UN	Unemployment, total (% of total labor force modeled ILO)
RW	Wage and salaried workers, total (% of total employment)
PREM	Personal remittances, received (% of GDP)
POPG	Population growth (annual %)
AGED	Age dependency ratio (% of working-age population)
EM	Employment to population ratio, 15+, total (%) modeled ILO)
GR	GDP per capita growth (annual %)
GFC	Gross fixed capital formation (% of GDP)
TOPN	Trade (% of GDP)
FDI	Foreign direct investment, net (% of GDP)
GDEBT	Central government debt, total (% of GDP)
GCP	General government final consumption expenditure (% of GDP)
REER	Real effective exchange rate index (2010 = 100)
RI	Real interest rate (%)
INF	Consumer price index (2010 = 100)

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ABSTRACT

This study approximate the determinants of immigrants on labor market and economic development in the panel of Asian "*as destination*" economies. The characteristics of immigrants and its linkage is very importnt and mainly determines the potential impct of immigrants on economic developemnt as well as on labor market. Intutively, the data constraint is key obstacle and characterized impact of immigrants cannot be possible to inteperate. This study empirically analyzed panel data of twenty-one Asian countries over the period of 1970-2015. In analysis, econometrics methodology: Generalized Method of Moment is used for all regression specifications. And approximated outcomes revealed that immigrants in the panel of Asian countries are harmful because they increased unemployment rate, declined employment opportunities as well as wage rate. The inimical approximated coefficients of labor market appeared as the reason to increased dependency ratio. The estimated results indicated that the influence of immigrants on economic development is ambiguous because restricted coefficient are favorable and unrestricted coefficients vice-versa. The ambiguous results are due to specific kinds of immigrant's data was not available. The approximated coefficients of economic specification show that impact of immigrants on economic growth and fiscal policy is negligible.

Chapter: 1

Introduction

Immigration is the major concern of developed nation and the countries with higher than average standard of living and per capita income. People from developing countries with lower per capita income and poor standard of living migrate to developed countries for higher expected wage rate and allied facilities[1]. The movement of people form one region to another for multiple reasons, whether these reasons are economic or social, is called immigration and such peoples are called immigrants. These immigrants cannot retain legal citizenship or avail permanent resident facilities such as health, education and employment opportunities etc. until after legal procedure. These immigrants are temporary workers and immigrant stock[2] is the magnitude of populace born "*in another country*" but they live or work in another country, so that immigrants are important for home as well as host countries. The host country is destination economy "*labor move to*" and home country is origin country "*labor move from*". So that, host country faces several issues such as increased unemployment rate, low economic growth, fiscal debt, health and crime etc. as well as home country face brain drain in country.

The pace of migration had accelerated since the 20th century, it would increase further in the 21st century. There are three major types of migration: labor migration, refugee migrations, and urbanization. And many fundamental push and pull factors behind of immigration. The push factors refer primarily for motive of immigration from the country of origin and escape from poverty "*personal or for relatives staying behind*" is a traditional push factor, and the availability of jobs is the related to pull factor. The case of economic migration

[1] Economic development is the key objective for all countries and that is related with higher standard of living as well as quality of life.
[2] The estimate figure of the immigrants stock is specific time and mainly prevail from population censuses as well as include refugees

refers to for the purposes of seeking employment opportunity, differentials in wage rates[3] and improvement in quality of life. An economic migrant is distinct from someone who is a refugee such as religious discrimination, frequent abuse, bullying, oppression, ethnic cleansing, genocide, political instability and social marginalization. Particularly in the 20th and 21st century, economic expansion at global level increased immigrant flow by at 41% and this making up a significant amount of the labor force[4].

Immigration is a political debate and still unresolved throughout the world migration flow may be political phenomena rather than economic one. The essential issue behind contradictory statements is that: immigrant's impact on host country is "measureable or not"? Therefore prior literature and researchers have not conclusively shown exit situation; some argued that immigrants are not beneficial for host country, on the other hand empirically evident that immigrants have influence based on skill composition (Card, 1990 for the Mariel Boatlift and, Hunt 1992 for the repatriation of Pieds Noirs from Algeria in France).

The neoclassical growth model claimed that immigrants reduce the per capita income of host country in long run due to capital dilution. The endogenous growth model also agree this point of view (Mankiw et al. 1992). In contrast, number of economic models on immigration established by (Borjas, 1992; Dolado et al. 1994) revealed that immigrants increased the stock of human capital in destination country, because immigrants come with skillful human capital "*education or skill*", thereby they help in boosting the economic growth of receiving country. Endogenous growth model by quality ladders as well as theoretical

[3] If the value of wages in the new country surpasses the value of wages in one's native country, they may choose to migrate, as long as the costs are not too high.

[4] As of 2015, the number of international migrants has reached 244 million worldwide and the number of international migrants below the age of 20 reached 37 million, while 177 million are between the ages of 20 and 64. International migrants living in Asia were the youngest, with a median age of 35 years.

framework and verified that immigrants have positive impact on economy of host country through large spending on research and development expenditures (Lundborg, 2000; Segerstrom, 2002).

Theoretically as well as empirically the influence of migrants on labor market is explicit. In general, the effect of immigrants on labor market in host economy resolved that immigrants doesn't reduce the occupation opportunities for natives in long run and the influence of immigrants in European countries is relatively less (Angrist and Kugler, 2003). Therefore, European resident's fear of competing with immigrants for the same opportunities and scared of lose job opportunities. Contrary to this, it is also evident that immigrants less likely to reduce employment opportunities and wage rate for natives in long run (Thalhammer et al. 2001). Above studies based on spatial correlation approach (Simon et al. 1993 for USA; Pischke and Velling, 1997 for Germany; Dustmann et al. 2005 for U.K.). But spatial relationship method was not successful to capture the impact of immigrants on economic growth due to natives promptly respond to immigrants (Borjas et al. 1997)

More specifically, two categories of labor exist in market, skilled and unskilled. The skilled labor have knowledge or expertise to perform efficient work, for example, economist, doctors, lawyers, teachers, mechanics, welders etc. On the other perspective, unskilled workers have minor knowledge or less expert to perform specific job[5]. As one might suspect, developed countries have higher levels of skilled labor force, while developing countries have lower level of skilled labor; but in contrary many researcher argue that developing countries also have high skilled labor but due to lack of sufficient opportunities these skilled workers migrate to other countries, such situation may lead to "*brain drain*" in country. Theoretically

[5] no special training or experience

and empirically confirmed that impact of immigrants on economy based on skill composition. Also, other studies confirmed that skilled migrants raised the host economy more rapidly. And high inflow of skillful immigrants is favorable and have positive influence on economic development of the destination country (Dolado et al. 1994; Barro and Sala-i-Martin, 1995).

Although, economic development "*creating employment opportunities and better standard of living*" is a constructive element to drive the economic growth in country. The enhancement in business sector as well as increased investment to attract more workers in the region. Economic development often falls under the radar, producing and sustaining employments opportunity is fruitful for economy and community. So that in the point of immigrants, economic situations of the destination economies play vital role in migration; if economy is growing rapidly than higher expected wage rate attracts more immigrants (Peterson et al. 2006; Bowling and Phillips, 2002; Wortley, 2008). Empirically evaluated that improvement in economic development attract high inflow of immigrants from various region cultural and traditions. It's very challenging to examine cultural diversity as the cause of economic growth or its consequences. Cultural diversity is heterogeneous for native worker fractionalization and polarization index needed to construct for that purpose. Immigrant's contribution to economic growth is progressive in long-run and unidirectional causality is observed between economic growth and immigration (Bove and Elia, 2017).

Correspondingly, the effect of immigrants on unemployment and economic growth wasn't ambiguous. There is no ambiguity that skilled immigrants are beneficial economically for home as well host country. They brings social and cultural norms that could be taken into account for future planning. They help to balance the working age populace and offsets the magnitude of the elderly population (Blanchet, 2002; Chojnicki, 2005). Therefore, inflow

of immigrants increase the share of labor force participation rate and transform the economic situation and demography of host countries. Immigrants contribute to increased production of industrial sector which leads to decline in the cost of production. On taking migration decision workers consider two main factors, if the wage rate is relatively higher than the migration cost and the higher wage rate offered for same skills. The migration cost is the factor of economic situation and geographic boundaries which play massive role in determining the cost of immigration (Alberto, 2010).

As migration decision is the most important decision in someone's life. Which may decide the fate of future decision taker. So on deciding migration location workers considered multiple choices rather than single one to achieve the optimality. Choice of location rely on income differential across locations. Worker also keep in mind maximum expected present value of lifetime income. Migration decisions are least effected by the unobserved locations and specific remuneration because panel locations are too large and migration decision are insignificant (Kenna and Walker, 2011).

The existing literature doesn't cover the endogenous interaction between immigrants in the panel of Asian "*as destination"* economies by using generalized method of moment. This estimation technique is appropriate according to obtain figures of immigrants in case of Asian countries and two step GMM is generic methodology for estimating parameters. Estimating a model by the generalized method of moments has become an important procedure in applied economics. The presence of instrumental variables in determinants of immigrants the problem of endogeneity arise as pointed out in prior studies. In this perspective, most of researchers determine immigrants' impact through spatial correlation approach but exploit prior evidence that is immigrant settlement (Card, 2007). There is also

snowball effect exist in case of migration the old immigrants assist new immigrants and decline the cost of settlement for looking suitable jobs; so the old immigrants are positively associated for the settlements of new immigrants (Beine et al. 2009). However, significant positive correlation of new immigrants with past settled immigrants (Colliner and Hoeffler, 2011).

The system of GMM mitigate and become the reason of biasness due to omitted values "*time invariant and time variant*", and this issue create endogeneity, and measurement errors (Arellano and Bover, 1995; Blundell and Bond, 1997). Generalized method of moment is the system of simultaneous equations, and this system of equation identified over lag values of immigrant as instrument variables (Blundell and Bond, 1997). Dynamic system of GMM technique was used to the inflow of immigration from developed to developing economies is beneficial for host economy. And skilled immigrants from developed economies enhanced economic growth more rapidly due to advanced knowledge on technology (Kang and Byung, 2012). GMM model can also be used for empirical estimation to solve the problem of endogeneity in case of immigrants and result of this estimation in previous studies showed that skilled immigrants are favorable for host country (OreÖce, 2010).

Moreover, another approach frequently used for determinants of immigrants is vector autoregressive VAR and enormous researcher adopted this technique because reported figure of immigrants at segregate level have time serious nature. The panel VAR methodology used in case of OECD countries and the results of this approach told us that immigrants are short run phenomena rather than long run (Damette and Fromentine, 2013). The structural VECM methodology used in case of United Kingdom, and revealed that immigrants increased unemployment in "*short run"* and declined wage rate in "*long run"* (Kasnauskiene &

Vebraite, 2013). The long run bidirectional causality verified in case of Australia, Canada and USA (Morley, 2006). Immigrants become the reason to create new employment opportunities in Canada labor market due to increase in the demand of commodities. That's effect raised the output demand and also increased labor demand the above conclusion derived from VAR (Islam, 2003).

The high inflow of immigrants raised two important question. First, what are the consequences of high inflow of immigrants on natives? Second, what are the drivers enforce immigrants to leave their home country? To answer these questions, this research analyzed the effect of immigrants on labor market and economic performance. For that purpose this research used high frequency data of 35 years panel of 21 Asian countries on economic growth and labor market to evaluate real evidence which is important for citizens as well as government. The enormous cited studies on this area of research have conducted in various region like, America, Australia, Canada, United Kingdom, European Union, and OECDs countries, but not any significant research is found in Asian "*as destination"* economies. The key objective of this study was to investigate explicit empirical evidence on this issue and provide some comprehensive migration policy for Asian countries that stems from the results of this study.

1.1. Scope of Study

The various studies analyzed inflow of immigrants in various regions such as America, Australia, Canada, European Union and OECD etc. countries. A few studies investigated immigrants for Asian countries but no one attempted to analyze immigrants in panel data setting "*as host*" for specific Asian economies. Appropriately, this study try to fill the research gap about the influence of immigrants on Asian economies "*as host*". This

study may be thoughtful and appreciable to investigate the influence of immigrants for Asian economies in terms of economic welfare and society development.

In addition to, this study determining the immigrants inclusive "*no segregated such as legal, illegal, educated, skilled, minorities, ethnic groups*" and data segregation is key hurdle. The available data of migrant is inclusive stock with five year interval span and calculated for particular time period and also include refugees. Correspondingly, it is very important to analyze specific type of immigrant group for better understanding the influence of immigrants on Asian economies because theoretically as well as empirically confirmed specific types of immigrants are beneficial for host countries. The impact of high skilled immigrants and how these immigrants enriched specific sector of economy. Particular type of immigrants are beneficial for economic growth is ambiguous in term of inclusive economic growth because there are many other fundamental factors play vital role. Furthermore, there was no significant research founded the impact of immigrants on the specific sector like building, food, sports, fashion and civil society. One of the main issue to consider these sectors, how was establishing valid measurement for immigrants "*contribution*". This is also a significant research gap exist for further publicized.

Although, available information of immigrants in various region like America, Australia, Canada, European Union and OECDs etc. have potential for providing quantitative facts on different types of immigrants. These quantitative statistics provide holistic experiences of migrants. Similarly, available evidences of immigrants in Asian countries have poor information and available data have no potential for providing quantitative facts on various types of migrants. At present, research gap in Asian economies have been exist and researcher not be explored due to lack of availability in data. While, literature was

consider and identified specific type of immigrants influenced on economic factors rather than noneconomic factors.

It is very important to analyze the effect of immigrants in Asian countries. Because these Asian developed countries have bulk of employment opportunities for skilled worker and undeveloped countries have bulk of skilled worker due to inefficient resources/policies these skilled workers migrate to "*other countries except Asian developed*" in order to look for higher wage rate resulting brain drain in Asian economies.

1.2. Objectives of Study

To fill the gap in literature about immigrants in case of Asian as receiving economies, in the light of preceding arguments the objectives of this study are followings:

- To Test Kennan and Walker, (2011) optimal search model in the context of Asian economies.
- To empirically investigate the determinants of immigrants "*robust model from general to specific methodology*" for Asian economies in a panel data setting.

1.3. Research Hypothesis

There are mainly three hypothesis analyzed in this research regarding immigrants effect on labor market and economic performance of host country, specifically Asian Developed and Developing countries.

H_0: Positive relationship between immigrants and unemployment in Asian Economies

H1: Negative relationship between immigrants and unemployment in Asian Economies

H_0: Negative relationship between immigrants and wage rate in Asian Economies

H2: Positive relationship between immigrants and wage rate in Asian Economies

H_0: Affirmative relationship between immigrants and economic development in Asian Economies

H3: Adverse relationship between immigrants and economic development in Asian Economies

These hypotheses are tested for Asian *"developed and developing"* countries as destination economies. This examines "*immigrants are beneficial or not for the panel of Asian countries*", and identify some significant key point for these countries especially for South Asian countries.

1.4. Strategy of study

The Chapter No. 2 gives a brief review of the literature on the immigrants and highlight the various phenomena about immigrants profitable or not, along with the myth that more immigrants means more crime. The Chapter No. 3 elaborates the theoretical framework, econometrics methodology as well as econometrics models used in this research. The Chapter No. 4 explains the dataset and appropriate variables justification and in Chapter No. 5 discuss in detail the possible interpretation of estimated coefficients. The Chapter No. 6 concludes and summarizes the results along with applicable policy recommendations.

Chapter: 2

Literature Review

Immigration is defined as the movement of the people from one region to another region. Immigrants are not natives and not born in host country. There are some economic and noneconomic factors behind of migration. Economic factors such as higher wage rates, well living standard, better job opportunities and enhanced education and skills. Noneconomic factors such as discrimination, harassment, religions disparities, extermination, war, natural disasters, and political instability. The historical perspective showed that improvement in transportations and technology immigration has increased commonly all over the world. The impact of immigrants is significant for both host and home country. Impact of immigrants on Asian economies "*as host*" is an important area addressing the justification and efficiency. Although, limited studies have been analyzed specific Asian developed countries such as Israel, Japan, but no significant research available in panel data. Therefore, many studies are available on this subject other than Asian countries such as, United State of America, United Kingdom, Australia, Canada, and European Union etc. delineating the importance of this subject.

The prior literature has been deliberated large determinants and modelling techniques for immigrants. Enormous literature has investigated both economic and noneconomic factors about immigrants (Conway and Houtenville, 2001; Cebula, 2007) accommodation costs (Cebula, 2007) tax burdens (Tiebout, 1956; Cebula, 1990; Hsing, 1995; Cebula, 2007) education completion (Winson, 1930) income per capita (Sommers et al. 1973; Wadycki, 1974; Meyer et at. 2001) employment opportunities (Sommers et al. 1973; Wadycki, 1974;

Meyer et al. 2001) as well as individual characteristics such as gender, age and race (Greenwood et al. 1971; Gius, 2011). For example Gabriel et al. (1993) analyzed the determinants of regional immigration in the 1980; using place-to-place logistic regression technique. The estimated results proposed that immigration choices prominently based on wage and unemployment rates. Hsing, (1995) founded high employment opportunities attract high immigrants in metropolitan areas. Preuhs, (1999) observed that state policy play significant role for determinants of immigrants such as small taxation, high investment ratio, better consumption pattern and liberal ideologies become the higher population growth or higher immigrants.

2.1. Significance of Immigrants

The high inflow of immigrants was harmful for United Kingdom economy. The large inflow of immigrants was minor, undesirable, and has temporary effect on economy. The immense immigrants become roots of vulnerable situation for natives and harmful for fiscal variables (Rowthorn, 2004). Wibberley, (2001) concluded that minor immigrants have no significant impact on wage and unemployment at regional level in United Kingdom. Therefore, large-scale immigrants become the reason of permanent change in demographic and environmental situation of host country. In OECD countries, there is no long run significant impact of immigrants, but in short run the unemployment in host country will temporarily increase (Jimenez, 2007). The immigrant's inflow on occupational level for native based on dynamic specification and analyzed in long run as well as short run. Noteworthy, country specific trend has negative correlation between immigrants and women employment opportunities was positive correlation, if immigrants will increase by 10 percent, then the average employment opportunities for native women will increased by 0.4 percent, but in case

of men there is inverse relationship between immigrant inflow and employment opportunities. However, there is no long run impact of immigration inflow, but in short run, there is positive and significant impact (Almosova, 2013).

Karemera et al. (2000) examined the immigrants through linear gravity method, and also incorporate various features of the origin and receiving countries. The study investigated migration movement in Canada and United States from seventy various countries from the period 1976 to 1986. The estimated results show that, per capita income of destination countries and the population growth of home countries were two key determinants of migration. Another study also analyzed the behavior of immigrants through gravity model in 13 destination European countries from 139 origin countries and empirical evidence recommend that the population growth of origin countries, happiness and traditional immediacy were significant exogenous elements (Sejas et al. 2006).

In the context of Algeria's repatriates on French Labor Market, in 1962, 900,000 people were immigrant in France and unemployment rate increased to 0.3 percentage points. In 1968, the researcher reported that 1.6 percent Algeria people were part of total French labor force and in 1967, on average about 1.3 percent annual salary had declined (Hunt J. , 1992). There was small elasticity founded in American labor market due to immigrants but this elasticity was not appropriate in French Labor Market (Freeman, 1992). Immigrants increased rapidly as they assimilate into American Labor Market, within ten to fifteen years; the immigrants' earnings will overtake native's earnings. The structural effect of immigrants has been limited and dynamic in case of Australian economy. Throughout change in immigrant's demand of fixed capital and imports, that is house construction material. The shortage of houses for immigrants had indirect influence on other endogenous variables, such as

investment, personal disposable income, gross domestic product, and industrial production. Therefore, overall immigrant's impact was average and insignificant in long run but not in short run (Kmenta, 1966).

Language fluency play the crucial role in transfer of human capital from one region to another region. This language fluency had boosted the immigrant's rate of success at the destination in labor market, so that the role of language was very important for society building. It was nonrivalrous and benchmark for externalities. Language skills were sunk cost and complements, especially for immigrants, because they increased their economic productivity and improved their social benefits. The language had positive and highly significant impact on wage of immigrant. There was also spurious correlation between immigrants and duration in host country. The estimated results show that programmers and computer technicians get high return as compared to natives, if immigrants improved host country language then wage rate of immigrants will increase by 75 percent, but construction and gas station workers comparatively get low wage due to ability bias. The low skilled worker had less proficiency due to favoritism, for higher wage rate language skill was necessary (Siniver, 2003).

The Hebrew ability for earlier cohort immigrants had negative impact. If immigrants had Hebrew language skill, then they can easily get job as compare to natives. The faster wage growth and improvement of Hebrew language was complement for skilled immigrants. Therefore, increasing fluency increased the productivity of skilled workers by utilizing human capital more effectively with the passage of time the number of African immigrants had increased in American labor market, these immigrants belong to developing regions and also unskilled and illiterate. Tarlebbea, (2010) founded that African immigrants learn native

language and acquire education on priority base for better employment opportunities and high wage rate.

Language effect analyzed in OECD countries, through linguistic distance, linguistic diversity and used proxy for the potential fluency "how speedily they acquired the host country's language". The linguistic distance proxy results showed that, migrant's movement was high towards Non-English speaking destination as compared to English speaking destinations. The linguistic diversity results showed that migrant's language polarized with single language proficiency such as push factor (Pytlikova, 2012). The relationship between gender specific language and behavior of host country in labor market showed that behavior of labor market was favorable throughout in 20th century, and there was a massive amalgamation of women participation in formal American labor market. The relationship between language and gender was not historical coincidence and has influence of immigrants for particular time (Vasut, 2016). Another study also reported that proficiency in host country's language was vigorous for economic growth and social assimilation (Isphording, 2015).

2.2. Proficiency Level of Immigrants

Education is key factor for acquiring knowledge and skill. Education has significant paybacks for individual personal life and whole society. At present education is best asset for country, highly educated persons support the society to become modernized. An educated person is better develop the society in terms of moral and ethical values as compared to uneducated person. Uneducated persons create issues for individual as well as whole society such as misconception, violence, poor health and living standards etc. Noteworthy, in case of immigrant's role of education is very important for both "home and host" countries. There

were various researches in this area, which segregate the educated and uneducated immigrant's effect on native or host country.

Sparber, (2007) massive inflow of less educated immigrants result in decline of wage rate, as compared to educated native. If both immigrants and native workers, performed complement task then immigrant will take advantage due to low wage rate. Therefore, biasness existed between immigrants and native; and native took inherent comparative advantage due to domestic employers. However, low level of education based on two critical factors that were, homogenous and heterogeneous immigrants, these factors specified wage rate of both workers. The inflow of foreign student had significant impact on highly skilled workers. Foreign student in particular field, had adverse and significant impact on the earning of graduate native. Another study did comprehensive analysis of non-return foreign students in America. The estimated result show the high variation founded in non-return foreign students across countries, political influenced is very important for immigrants in American labor market (Bratsberg, 1995).

Dustmann and Soest, (1998) noted that role of father's education was significant for immigrants. The immigrants did not use linkages through their parents. However, parental education significantly correlated with child's education. If immigrants want to get high wage rate, they must acquire high education. The effect of language in this case was ambiguous. There was increase in the number of immigrant student when decreased the quality of native education. If immigrants and natives enrolled in the same classes, teachers of some subjects may slow the pace of teaching to accommodate immigrants. Clark et al. (2007) reported that income disparities and old immigrants play significant role in host country.

The key issue in empirical estimation that is the problem of endogeneity between immigrants and economic performance. Dolado et al. (1994) analyzed the impact of immigrants in OECD countries through use of lagged variables for overcome the problem of endogeneity. The estimated results confirmed that immigrants inversely impacts on economic growth in OECD countries because high inflow of unskilled immigrants enter in these OECD countries. Orefice, (2011) used the data of 24 OECD host countries and apply the instrument variable technique that were based on bilateral immigrants flow. They used bilateral Aid, stock of old immigrants, and geographical variables as an instrument variable. Ortega and Peri, (2009) reported that endogeneity in case of immigrants was a systematic problem. They empirically confirmed in two step estimation technique in case of 14 OECD countries as destination economics. In the first step was to estimate gravity equation and then found the affirmative influence of immigrants on employment opportunities as well as investment but had negative impact on per capita income.

Dinardo, (2000) analyzed skilled specific group of immigrants across Metropolitan Statistical Area (MSA). The demographic balkanization immigrants increased particular skill group of population, so that immigrants had significant impact on skill distribution on various metropolitan statistical area. Another study indicated that 1 percentage point increase in immigrants declined in wage rate of less skilled native by 0.3 percent (Abowd, 1991). Katz, (1992) evaluated that immigrants had adverse effect on the earning of the American high school dropout workers. International migration also influenced human capital, so that there were two types of growth effects due to international migration, first was "*brain effect*" and second was "*drain effect*". However, they defined that international migration was beneficial

and brain effect dominate drain effect. They finalized that in small developing countries chance of drain effect was quietly high (Rapoport, 2001).

Another study investigated that earnings of immigrants differed from natives. They empirically examined the earning of immigrants vary from home country's earning in same education and skill. The immigrants with high income in America had high skill so they must come from industrialized country. The education of immigrants from home or host country were significant issue, most of immigrants acquired knowledge from home country. The age of entry in host country of immigrants used as a proxy, means they acquired their education from home country that was "*appropriate measure*". The age left their home country used as a proxy, means acquired their education from host country that was "*inappropriate measure*". The appropriate measure was lower as compared to inappropriate measure and estimated are imprecise (Beine, 2007).

Heckscher-Ohlin theory examined in context of Mariel boatlift labor market of unskilled Cubans. The empirical evidence did not support Heckscher-Ohlin theory because unskilled workers could not increase production of Mariel boatlift market because technology varies across the region and had impact on production. In this case, evidence indicated that unskilled immigrants raised wage rate and unemployment. Lewis, (2004) pointed out that the Heckscher-Ohlin theory neglected essential issue in real world that is technology not constant. In case of Mariel, immigrants increased the Miami labor force by 7 percent. The inflow of Mariel immigrants could not effect on wage and unemployment rate of Miami unskilled workers because Miami industry structure was well suited for unskilled labor, and secondly the Mariel immigrants well responded to Miami natives. However, Mariel immigrants

proportionally increased in labor supply of unskilled workers as compared to occupation and industries (Card, 1990).

2.3. Immigrants as Source of Disparity

The phenomenon regarding immigrants are a broad topic. Still the research gaps exist and, more than one significant issue described that immigrants decline wage rate and became the main reason of wage inequality. Card, (2009) analyzed that wage inequality due to immigrants in American labor market. Immigrants did not become the reason to raise wage inequality among natives. Immigrants were groups of low and high skills or education, they tend to lead higher inequality as compared to natives, so wage inequality was higher within immigrants. Overall wage inequality was significantly high at national level in America. Autor and Katz, (1999) observed that residual wage inequality significantly in 1980 in United States. During this time period labor force participation rate also increased by 27% for men and 25% for women. Therefore, inequality increased within group and in the presence of market forces to determine the unobserved skills is very complicated. Lemieux, (2006) reported that residual wage for men workers from 1973 to 2003 increased by 0.04%.

There are two important dimensions in employment opportunities that cause wage inequality, that is, whitecollar and bluecollar professions. In case of Australian immigrants, wage rate was favorable as compared to natives, because Australian labor market was suitable for immigrants. At national level wage inequality exist, white-collar migrants had positive wage differential but blue-collar migrants have negative wage differential. The important point observed that is the education plays the significant and effective role for higher wage rate for both immigrants and natives. Similarly, Juhn et al. (1993) also reported that unobserved skill impact on wage of bluecollar as well as whitecollar workers in United States

from the period 1964 to 1988. The estimated results verified that unobserved skill increased wage inequality 65% for whitecollar and 50% for bluecollar. Parasnis, (2009) the residual wage inequality was due to composition effect. There were two composition factors, education and experience, become the reason to increase wage variation within group. Most of the studies observed that level and growth in residual wage inequality were exaggerated (Lemieus, 2006).

Vosko, (2008) investigated various types of employment and its consequences. They defined complex situation of temporary employment opportunities for gender, race and immigrants. The gender, race and immigrants were the main source of wage inequality on temporary employment opportunities; so that temporary employment opportunities become the reason of low wage rate. Kondo, (2012) found that increase in overall wage inequality in Hong Kong was due to high inflow of immigrants from low income countries. This effect increased the wage inequality and reduced the women employment opportunities. The wage inequality in case of cross sectional and time series data. It was very complicated to observe that change in wage rate is due to change in labor supply as a result of immigration in cross sectional data, but in case of time series data result are appropriate and wage inequality was significant effect due to immigrants (Rada, 2002). Hatton and Williamson, (1997) analyzed low skilled immigrants increased labor supply in host country and become the main reason of wage inequality. Similarly, Alderson and Nielsen, (2002) reported that immigrants enhance income inequality in 16 OECD countries. Moore and Pacey, (2003) also confirmed that income as well as wage inequality increased in Canadian metropolitan areas.

Card, (2009) examined wage inequality from 1980 to 2000 in America. The estimated results show that competitive influence of immigrant inflow were determine among the

immigrants themselves. Consequently, the influence of new immigrant on the relative wages on natives is small, the impact of immigrants on overall wage inequality "*between both immigrant and native worker*" are higher. The concentration of immigrants were very high or low in skill types, and the higher residual inequality exist between immigrants and natives. The idea might be critical and unobservable skill element in the immigration process is consistent with the literature of wage inequality. However, unobservable skill quantify by the residual of a Mincer function, that explain increasing and dissimilarity trend observed in wage inequality due to immigrants (Juhn et al. 1993; Autor and Katz, 1999; Acemoglu, 2002; Kearney, 2007; Lemieux, 2006).

The Mincer wage specification model used to analyze the wage inequality. The discrepancy in skilled labor was high due to global wage inequality has increased with the passage of time. The estimated result cannot support the Mincer model, because variation in skilled labor and GDP across region has negative and significant impact on the number and quality of migrants (Rosenzweig, 2010). Another researcher finalized that homogenous biasness exists in wage inequality across the state. Interestingly, reported result show negative correlation between wage inequality and durable manufacturing employment opportunities (Feenstra, 2000). The capacity of firms to transform their technology and that effect can reduce the minimum wage rate of immigrants because firms adjusted their technology advancement to absorb abundant workers that are immigrants. Lewis, (2013) confirmed that capital skill is complementarity and assume that highly skilled immigrants are complements as well as low skilled immigrants are substitutes. Under this assumption capital has abundantly adjusted all wages are adjusted to their preceding level "*before immigrants*" and immigrants has no distributional importance.

Chiswick, (1978) reported that initial earning of immigrant was less relative to native, but with passage of time, after long duration the earnings of immigrants became equal or exceeded from natives' earnings. However, immigrants wage growth was significantly low within immigrant's groups as compared to cross section immigrants. Conway and Okkerse, (2008) examined that immigrants adversely affected on native job opportunities and wage rate. The estimated result showed that there was no significant influence of immigrants on long run unemployment but had significant effect in short run. Therefore, some studies found that in long run unemployment rate would increase (Winegarden et al. 1991) unemployment frequency, (Winkelmann et al. 1993), unemployment duration, (Winter- Ebmer et al. 2000).

2.4. Immigrants and Economic Performance

The cultural conflict and economic growth is problematic issue in case of immigrants. Immigrants retain cultural or religious rehearses are very challenging with the rules or traditions in their host country. However, various cultures may not allow particular forms of domestic violence such as strict obedience to religious scriptures, may be these forms of physical punishment ample in their home country. Correspondingly, prostitution and the use of particular drugs allow or acceptable in their country or cultural, but some countries or cultural strictly prohibit. The cultural diversity effects on economic growth, to analyze through bilateral immigrant's data and compute indices of fractionalization and polarization. The cultural diversity has same effect on economic growth over time and across countries, there was no systematic pattern to examine the cultural diversity, so that cultural diversity had idiosyncratic effect on economic growth. Bove & Elia, (2017) finalized that cultural diversity is heterogeneous for native worker; fractionalization and polarization had positive effect on economic growth over the long run period. The

unidirectional causality observed between economic growth and immigration in European Union. The demographic change due to immigrants had significant effect on economic growth. Income difference between host and home countries fill gap in labor market and result high inflow of immigrants in the industrialized countries.

Giraldez, (2017) Immigrants belong from various region, traditions, cultures, skills, environments, and demography they subsequently pay various taxes imposed on different public services. The spending of public expenditure on immigrants varies according to economic and political situation. Unfortunately, there was no general conclusion valid in all situations for all countries about immigrants being valuable for public finance. The overall net immigrant's effect dynamic and increases the public finance (Perston, 2014). Ronconi, (2007) investigate that overall new immigrants had ambiguous effect on native employment opportunities and wage rate.

Manning, (2010) elaborated the first and second generation immigrants in France, Germany, and United Kingdom. The second-generation immigrants had lower gap in education as compared to first generation. In the situation, labor market performance was not ample, most of immigrant groups "on average" adversely effect on native employment opportunities and wage rate. Although an increase in the number of various studies on immigrants documented immigrant's especially second generation were not part of crime as compared to natives. The second-generation immigrants are educated and favorable for economic growth in host country (Peterson et al. 2006, Bowling and Phillips, 2002; Wortley, 2008). Most of researcher agreed that at preliminary based immigrants significantly adversely impact on labor market then economic performance of destination economy. Enormous studies finalized that influence of immigrants on wage rate, activity rate, industrial production

and adoption of latest technology in various host countries (Lewis, 2004; Kangasniemi et al. 2012; Nickell and Saleheen, 2015; Wadsworth et al. 2016). Houtenville, (2003) analyzed elder generation behavior of immigrants and estimated results showed that "old generation immigrants try to evade or move another state "where low rate of taxes". On the other perspective, younger older desired to move another destination, "where environment as well as government policies were favorable on the way to income tax and welfare of the people. However, both younger and older immigrants likely to be moved "*where minor cost of living and low income and property taxes*".

The dynamic process of migration on economic growth in case of internal migration in Pakistan. Most of migration due to noneconomic factors, such as better facilities in health, education, and transportation. Similarly, majority of the migration from rural to urban areas, the role of female education was very important and significant for economic growth. So that internal migration enhanced economic growth and efficiency of resources (Hussain, 2012). Income inequality and poverty are key factors for international migration of Pakistani worker. International migration of Pakistani worker had strong and positive relation with inflation and unemployment, and negative relation with real wage. Therefore, pull and push factors were basic roots for international migration of Pakistani worker. Thus inflation, unemployment, and low wage rate were push factors for international migration of Pakistani worker. Furthermore, international migration was influenced by the inflow of remittances; they were significant and positively correlation. Noteworthy, inflow of remittances considered as pull factor and mainly based on the economic condition of host country (Akram, 2008).

The key issue in empirical estimation that was the problem of endogeneity between immigrants and economic performance. Dolado et al. (1994) analyzed the impact of

immigrants in OECD countries through use of lagged variables for overcome the problem of endogeneity. The estimated results confirmed that immigrants inversely impacts on economic growth in OECD countries because high inflow of unskilled immigrants enter in these OECD countries. There was no empirical conclusive evidence in literature about immigrants profitable or not. The association between immigrants and GDP per capita could be or could be not possible (Tapinos, 1993).

Iqbal, (2015) examined the health expenditure pattern of migrants and non-migrant's household in South Punjab. The annual per capita health expenditure was higher for migrants as compared to non-migrants. Immigrants over the period 1980 to 2013 in case of Pakistan. However, immigrants had significant impact on unemployment rate in short run and long run. Regarding policy point of view deliberate to decrease the unemployment rate by improved real sector of economy and regulate international migration (Ahad, 2015).

The effect on economic growth in case of Germany and Switzerland by using co-integration econometric methodology. In 1973, Germany stopped immigrants but estimated result suggests that inflow of immigrants still effect on economic growth. In the presences of immigrant workers effective migration policy had also played significant role for political discussion. The reported results recommended that immigrants had sufficient effect on economic growth in case of Switzerland because Swiss policies were more restricted and effective as compared to Germany (Gomez, 2011).

The relationship between immigrants and economic growth was ambiguous, because huge difference exist in theoretical justification and empirical approximation. Most of studies analyzed the relationship between immigrants and economic growth at general level without considering the channel of immigration through which economy is effected (Felbermayr et al.

2008; Bellini et al. 2009; Ortega and Peri, 2009). In this point of view, some researcher confirmed that impact of immigrants on economic growth for host country based on the skill of immigrants (Dolado, et al. 1994; Orefice, 2011).

2.5. Contamination due to Immigrants

International Migration whether voluntary or forced has increased globally with passage of time. At present, many researchers observed that growth in migration was larger and faster as compared to history. When immigrants' desensitization had increased in many countries that changed in demography, public policies and attitudes of population. The health policies play significant role especially for immigrants. The relationship between illness and death rates within immigrants had deteriorated. There was no proper policy about public health expenditure regarding immigrants. The health issues in case of immigrants were naturally in wide range due to demographic, environment and cultural differences. There were communicable and noncommunicable diseases, and injuries that were related to work atmosphere and generate psychological issues. There were two different aspects or literatures about immigrants in terms of health that was social science and medical science. However, nature of health was fundamentally different among new and old immigrants; in case of United States, immigrants were significantly harmful for natives.

Smith, (2004) concluded that there were positive consequences of health due to immigrants. The movement of people is considerable hazardous in terms of psychosocial disorder, reproductive, infant mortality, nutrition, drug abuse and alcoholism. The reported results showed that immigrants were highly risky for natives in terms of health, because increase in number of immigrants has also increased the vulnerability to noncommunicable disease (Jakab, 2011). Mostly immigrants come to America for better employment

opportunities not for health benefits. The recent study showed that immigrants belong to low wage rate and employers were not offered health insurance. Furthermore, immigrants were noncitizens and faced the high obstacles to obtain primary health care services as compared to native citizens. Commission, (2008) at present European Union member states had highlighted the health consequences due to immigrants. There are some political and technical issues to obtain data. The available data presents complex picture regarding health of immigrants and points out various issues across time, space, age, gender, region and most importantly type of immigrants "first generation or second generation".

Mladovsky, (2007) found that inequality also exist in health sector particularly for immigrants. However, immigrants face obstacles to take primary health services and this effect increased mortality rate in immigrants. Nerurkar, (2001) analyzed the migration process in European Union and changing the health structure. Tuberculosis was an infection of scarcity and it was not shocking because most of immigrants belonged from poor countries which were highly risky. The main reason of Tuberculosis was due to poor living standard and most of immigrants came from low income, poor housing structure and overcrowded populations. In this case, the illegal immigrants were highly risky for Tuberculosis.

In the context of Alameda public health expenditure, the health department was liable to protect health and wellbeing of Alameda residents as well as 525,000 immigrants; who are engaged in different activities. The result shows that public health policy must be reviewed at local state and federal level particularly for immigrants (Department, 2017). There were number of studies that had conducted on immigrants but not clearly defined the immigrant's effect on native's health or not most of existing literature are uncertain. There were various crucial health issue analyzed in immigrants that is mental health problem, diet related issues,

infectious diseases, reproductive issues, disability, gender base violence, and health care services. There was highly significant and positive relationship between immigrants and health issues. This study concluded that policies regarding public health expenditure for immigrants are complicated (Attanapola, 2013)

2.6. Prohibited Immigrants are Harmful

Undocumented or illegal immigrants rapidly change the dynamic of population in host country and these immigrants become the reason of overcrowding. Appropriately, the available studies on immigration ethnicity and crime were quietly restricted. Data allow analyzing across nation comparisons with respect to this issue was mainly to locate. Indeed, various nations simply did not regular basis break down their cumulative crime statistics by immigration or ethnicity. Importantly, immigrants were origins of crime presence rigorously challenged for current scholars. As we learnt that, the inverse correlation between immigrants and crime had been recently documented, that a large survey "approximately 2,000 respondents" of graduate students drawn from culturally different areas of Toronto, Canada (Hagan, 2008).

Illegal immigrants change the dynamic of labor market. Prior literature verified that high inflow of immigrants adversely impact on host country in terms of employment opportunities as well as wage rate. Rattner, (2007) investigated that immigrants from Russia in Israel do commit crime at a greater than natives Israelis. Siegel et al. (2007) and Roos, (2011) analyzed that Russian immigrants were answerable for maximum prearranged crime in The Netherlands. Similarly, Jones, (2007) study on "Jamaican possess" that developed the economic and political mayhem of their birthplace and inaugurate a comprehensive international criminal system that involved in gun running, drug trafficking, and money

laundering. The illegal immigrants decreased by 10 percent, then real wage increased in Mexico by 7.5 to 8.8 percent due to “apprehension at the border”. The illegal immigrants’ have significant negative effect on economic stability border apprehension was large when Mexico real wage decline. However, there was negative significant correlation between Mexico real wage and border apprehensions and positive correlation between American real wage and border apprehensions (Spilimbergo, 1996).

Another study found that undocumented immigrants had significantly increased the unemployment in American labor market. Unfortunately, empirical evidence showed that undocumented immigrants had inverse relationship with unemployment in case of various states or region but similarity exists in various occupational industrial groups (Khor, 1991). Wiehe, (2015) reported that undocumented immigrants had significantly contributed in taxes. They reported that undocumented immigrants paid local taxes worth $11.84 billion in 2012 to get legal work permits the undocumented immigrants paid taxes worth $11.4 million. Huntingot, (2004) new immigrants were the cause of more violence as compared to old immigrants. More immigrants mean more crimes. The relationship between immigrants and violent crimes is negative. Most of immigrants engaged their racial or ethnic groups and utmost of violence crime and homicides occur across the immigrant groups.

Illegal immigrants raised the fiscal debt of host country because enormous researcher reported that most of illegal immigrants were unskilled. These immigrants had low employment opportunities, so that these immigrants violate the law of host country and increased the crime rate. Storesletten, (1998) reported that low skilled and illegal immigrants were not favorable for aggregate level of public revenue of government. On the other perspective, phenomenon about more immigrants mean more violence was vague, crimes and

homicides high at national level across the states in 2000. Because enormous studies empirically confirmed that immigrants were less likely to engage in violent activities as compare to natives. At maximum native's students in United State "*middle and high*" were involved in antisocial behavior activities. The immigration policy must be reviewed for public revenue, skills and ages of immigrants were important for fiscal policy (Stowell, 2012).

2.7. Illusion about Immigrants

There was no empirical evidence support that the large or skilled immigrants rise the fiscal cost of host country. There was huge literature and empirical studies verified that skilled immigrants increase the host country's national income and reduce the fiscal debt. (Borjas G. J., 1995) analyzed that immigrants became the reason of reallocation of wealth in economy and significantly declined the income of native workers but increased the income of capitalist that enjoy the services of immigrants.

Another study also confirmed that there was no empirically significant decline in native employment opportunities due to immigrants. Most of research in case of American labor market is ambiguous. If native was close substitute to immigrants then immigrants were no significant impact on wage and employment opportunities for natives (Hunt R. M., 1995). Ortega and Peri, (2009) reported endogeneity in case of immigrants is a systematic problem and empirically confirmed that two step estimation technique in case of 14 OECD countries as destination economics. In the first step is to estimate gravity equation and then find the affirmative influence of immigrants on employment opportunities as well as investment.

The overall net migration effect on per capita income was ambiguous because educated immigrant's affirmative effect. Orefice, (2011) use the data of 24 OECD host countries and apply the instrument variable technique that are based on bilateral immigrants

flow. They use bilateral Aid stock of old immigrants and geographical variables as an instrument variable.

The relationship between immigrants and United State wage rate was positive in long run because immigrants had various skill composition and most of immigrants in United State were skilled. However, natives and immigrants had different skill as well as language abilities but immigrants were more productive due to enhance the wage rate of low skilled natives. At most, United State natives had less than high school degree and suffer from minute wage rate. The immigrant's worker increased the America's GDP because most of native were wealthy. The phenomena about immigrants adversely effect on native wage and employment opportunities was vague due to native employer gain benefit to hire them at low wage rate (Rubenstein, 2016).

Boeri, (2010) reported that negative thinking about immigrants in Europe countries was misleading paradox. There was no empirical evidence against legal migrants especially skilled migrants had not adverse effect on fiscal position and welfare of host country. Noteworthy, illegal immigrants especially unskilled and illiterate based on home country they adversely affect the fiscal position and welfare of host country. Most of existing literature on immigrants neglected the perspective about immigrants that they were temporary or permanent. This study investigated both temporary and permanent immigrant's impact in case of Netherland. The estimated result showed that temporary migration due to job was high as compared to permanent "family migrants". Author has been finalized that temporary immigrants left job after short run and there was no long run probability exist at host country (Bijwaard, 2008).

Overall, net immigrants decline in Norway was due to financial crisis (Cappelen, 2009). Ottaviano and Peri, (2012) investigated that immigrants to the United States from 1990 to 2006 enhanced the native wage by 0.6% in long run. They also reported that new immigrants has declined the average wage of the old immigrants commonly the close substitutes for new immigrants.

The impact of migration and its remittances with passage of time. International migration grows and became important factor for policy point of view. Migration and received remittances lead to increase in income and reduced poverty, improved health and education. Author founded that immigrants significantly influence climate change, democratic values, and demography. Policies regarding immigrants were very poor. Naturally, various experiments show that developed economies are capable to absorb immigrant without effect on native job opportunities (Scheja, 2011). Portes, (1998) represented well-justified criticism on unsatisfactory theories on biasness. With the passage of time, debate became more common about immigration in field of media, nonprofit organizations and in public offices. Most of the researches reported results were astray from this field due to political interest and bureaucratic issues. The policy relevant results were ambiguous and improvements for policy are biased.

Conclusion

As already discussed that immigrants have considerable significance issues at present. Enormous studies acknowledged immigrants leave their home country due to economics and noneconomic factors. Economic issues include seeking higher wages rate, better employment opportunities, higher standards of living, and educational opportunities. Noneconomic issues such as discrimination, harassment, religions disparities, extermination, war, natural disasters,

and political instability. Immigrants increased the labor supply in host country and host country faced multiple challenges such as population surges, support services, employment opportunities, health issues and national security. In the short run immigrants have sizable effect on host country but in long run immigrants have sizeable effect on home country. There was no such reason why immigrant's decided to leave home country because majority of issues immigrant's face in the host country.

As per prior theoretically and empirically confirmed that role of immigrants is very important for host country. The enormous literature or researcher examined immigrants other than Asian regions such as America, Australia, Canada, European Union, Israel, Russia, OECDs countries and United Kingdom etc. but there is no significant research available in case of Asian "*as destination"* country.

Chapter: 3

Theoretical Framework and Econometric Specification

The pervious chapter of literature review detail describe about immigrants. There was empirical confirmed various pros and cons of immigrants on host economy. The main theme of pervious chapter that are mostly research in developed economies like America, Canada, Australia, Israel, European Union, and OECD countries etc. but researcher couldn't focus on Asian "*as destination*" economies. There is a motivation for them to work in it because no one attempt to analyze immigrants "*as host*" in Asian countries. This study elaborate the importance of immigrants for policymakers in Asian countries "*the fruitless migration policy significantly effect on economic development in case of Germany* (Gomez, 2011)" and on primarily bases this study emphases on labor market and economic condition in a panel data setting.

This chapter will divide into two main part. In the first part will gave the analytical framework and second part will focus on estimation technique. Initially developed the theoretical framework and defined the appropriate variables. The short run panel equations were develop to analyze the impact of immigrants in Asian "*as host*" countries, and it's very comprehensive to analyze the explicit impact of immigrants.

Therefore, appropriate iterative process and research methodology makes it easy to understand the impact of immigrants. The prior literature about immigrants being profitable or unprofitable for host country is ambiguous. The language is essential and vital important in case of immigrant because language proficiency increased the productivity as well as wage rate. The low skilled immigrants had low language proficiency, so that these immigrants were

unfavorable in host country (Berman et al. 2003). The massive inflow of immigrants in nine different OECD countries have significant and inverse impact on natives "*low skilled or high skilled*" worker but this negative effect was only in short run (Longhi et al. 2006). Similarly, Damette and Fromentin, (2013) investigated unbalanced and non-stationary panel data of fourteen OECD countries and verified that increased in the number of immigrants increasing the wage rate in short run and also decline employment opportunities. However, skilled immigrants in case of Israel were beneficial and boost the Israel economy more rapidly (Eckstein and Weiss, 1998).

3.1. Theoretical Framework

The enormous theoretical approaches and models were used to analyze the effect of immigrants. The immigrants change the labor market equilibrium and naturally a dissimilarity exist between skilled and unskilled labor. So that, theoretical analysis regarding the effect of immigrant on labor market described that high inflow of immigrants increased the labor supply "*skilled or unskilled"* which leads to change in the labor market equilibrium in host as well as home country. However, this alteration in labor market and disequilibrium in labor market affects wage rate and employment opportunities "*at different skilled group"* in short run. For better understanding, this study used Kennan and Walker, (2011) optimal model consider for the investigation of immigrants on "*labor market as well as economic situations*". The role of aggregate variables was unambiguous.

The neoclassical migration model is same as with human capital model of investment. Every individual must choose whether to stay or move to another place at any given time and net moving cost of every individual maximizes expected present value. However, immigration problem becomes the labor problem and the objective of worker is to get high paid job that

can minimize the cost of migration. For simplicity Kennan and Walker, (2011) optimal model assumes that every individual knows about the wage rate at current location as well as locations visited in the recent past but will move to new location in order to get high wage rate. Moreover, wage was paid in local currency and individual skills limited, which shows individual's earning power in his utility. This model also incorporate location specific shock. The individual's migration decision is based on following recursive utility maximization problem.

$$\boldsymbol{V(x,\zeta) = max_j[v(x,j) + \zeta_j]} \quad \text{.....(3.1)}$$

whereas,

$$\boldsymbol{v(x,j) = u(x,j) + \beta E[v(x' \mid x,j)]} \quad \text{.....(3.2)}$$

Workers are to maximize their overall utility flow from choosing location j, $v(x,j)$ plus a location specific shock j, ζ_j[6]. x is the state vector which includes the individual's wage, preference information, age and current location. The overall utility flow $v(x,j)$ is a function of the current utility from choosing location j, $u(x,j)$ plus the discounted value of the expected utility if the individual transits to a new state vector x' in the next period, given location j is chosen.

Kennan and Walker, (2011) specify the utility function $u(x,j)$ as following:

$$\boldsymbol{u(x,j) = aw_j + \Gamma Y_j - c(x,j) + \zeta_j} \quad \text{.....(3.3)}$$

Whereas w_j is the wage in location j, $Y_j$is the amenity vector in j, $c(x,j)$ is the transportation or migration cost and ζ_j is a location specific utility shock.

[6] ζ_j represent random variable that is presumed independent and identically distributed through locations and times.

Above described framework analyzed the aggregate economic cycle in migration process. Many factors become the reason for migration that is high wage rate, employment opportunities, low migration cost and economic shocks. Therefore, economic condition of host country play a significant role that are if economy is growing more rapidly than expected high wage rate attract more immigrants. In addition, economic situation for migration is normal for host country because native employer takes advantage of immigrants.

On the other hand, moving cost $c(x, j)$ is based on cyclical variability. Migration behavior is procyclical and moving cost always differ according to location. The job searching cost is less significant in developed countries but desirable job seeking cost is high. However, in developed countries renting and buying accommodation facility is easily available at low cost. Many other factors not relating to labor market play significant role. To capture these factors the model used ζ_j in utility function. In concluding remarks, economic fluctuations will also lead to change in the behavior of migration.

The above depiction shows that a multiple possible outcomes are intimate with economic theory. Immigrants may reduce wage rate and employment opportunities for natives in short run. On the other perspective, there is no sense of unpredictable with economic theory and deliberate that immigrants may not effect in long-run, and increased in wage rate is complementary for immigrants. As for the long-run influence, what matters if the economic structure is openness and flexible adjusted, then immigrant's effect on wage rate and employment opportunities is synthesis. The prior literature confirmed that if the host country economy is developed and they absorbed immigrants then immigrants have affirmative effect on wage rate and employment opportunities.

Therefore, studying the behavior of immigrants is very complicated and ambiguous specifically in panel data setting. This research tried to evaluate real economic performance due to immigrants in panel of Asian "*developed and developing*" countries but it is very complex due to lack of availability in data.

3.2. Regression Specification

The most suitable model for analysis of the factor of immigrant's is system of GMM with two step for panel data. This GMM system allows to solve the issue of heteroscedasticity, endogeneity and contemporaneous response among appropriate variables used in estimation. Nickell, (2010); Quibria and Islam, (2010); and Perakis, (2011) argued that immigrants significantly affect short run on labor market, but in long run these immigrants absorbed in host country especially in developed economies. Jimenez, (2007) analyzed immigrants' effect in OECD countries, and reported that in long run immigrants had no significant effect but in short run these immigrants increased unemployment rate in OECD countries. Hercowitz and Yashiv, (2002); and Jean and Jimnez, (2011) described that high inflow of people in a country increased the demand of "*consumption"* commodities after that they effect on labor market. So that, high inflow of immigrants increased commodities demand and thereafter-increased labor demand. In long run immigrants had not influenced on native labor market.

3.2.1. Specification # 1

The regression specification no 1, endogenous variable ***NM*** stand for international immigrants is the number of people born another country but live or work in Asian countries, including refugees. The exogenous variables such as; ***UN*** refer to joblessness peoples are the share of labor force participation and seeking job opportunity. Whereas ***RW*** stand for wage and salaried "paid employment jobs", and ***PREM*** refer to personal remittances comprise

personal transfers and compensation from owner. The ***POPG*** stand for population growth rate annual which estimate all residents of national regardless of legal status or citizenship and ***AGED*** refer to age dependency ratio is the working age population those ages 15-64. Whereas ***i*** stands for the ***i*** cross-sectional unit, i = 1to N and ***t*** stands for the ***t*** time period, t = 1to T.

$$NM_{it} = \alpha_0 + \alpha_1 UN_{it} + \alpha_2 RW_{it} + \alpha_3 PREM_{it} + \alpha_4 POPG_{it} + \alpha_5 AGED_{it} + \varepsilon_{it} \ldots (3.4)$$

3.2.2. Specification # 2

In second model, unemployment rate exchanged with employment rate or total labor force participation rate because influence of immigrants has significant effect in short run on employment opportunities and wage rate, so that second estimated model is unbiased due to inflow of immigrants declined job opportunities for native job seekers. The prior literature regarding immigrant finalized that educated or skilled immigrants are beneficial for host country if native and immigrants are close substitute to each other as compared to immigrants who have no sizeable effect on labor market.

$$NM_{it} = \beta_0 + \beta_1 EM_{it} + \beta_2 RW_{it} + \beta_3 PREM_{it} + \beta_4 POPG_{it} + \beta_5 AGED_{it} + \varepsilon_{it} \ldots (3.5)$$

3.2.3. Specification # 3

Further extend this estimation and examine immigrant's influence on economic performance. At present most of economies are globally attached among each other and labor market performed vital role for enhancement of economic growth. There are many fundamental factors having meaningful contribution to economic growth that are natural resources, human and physical capital, technology, political stability, law and order situation, sustainability and happiness, etc., so economic growth due to immigrants was ambiguous. Gomez et al. (2011) reported that causality between economic growth and migration exist

because the role of economic situation of home country immigrant "*skilled or unskilled"* and per capita national income of immigrants' country are significant.

The following specification no 3, exogenous variable ***TOPN*** refer to trade openness is the amount of exports and imports of goods and services calculated as a share of gross domestic product. Whereas ***GFC*** stand for gross fixed capital formation that is "*formerly gross domestic fixed investment*" and ***FDI*** stand for foreign direct investment refers to direct investment equity net flows in an economy. Whereas ***GCP*** stand for government final consumption expenditure includes all government current expenses for purchases of goods and services. The ***GDEBT*** refer to government debt that is the entire stock of domestic and foreign liabilities. Whereas ***RI*** used as real interest rate that is adjusted for inflation and ***REEF*** refer to the real effective exchange rate estimated the value of a currency compared to a weighted average of several foreign currencies then divided by a price deflator and ***INF*** stand for inflation calculated through consumer price index that is annual percentage change and ***GR*** stand for growth rate of income per capita form and calculated based on constant local currency.

$$NM_{it} = \theta_0 + \theta_1 TOPN_{it} + \theta_2 GFC_{it} + \theta_3 FDI_{it} + \theta_4 RI_{it} + \theta_5 REER_{it} + \theta_6 GCP_{it} + \theta_7 GDEBT_{it} + + \theta_8 INF_{it} + \theta_9 GR_{it} + \varepsilon_{it} \quad \text{.....(3.6)}$$

Kim et al. (2010) found that immigrants are favorable for host country and economic growth and pointed out unskilled immigrant are unfavorable for economic growth. Skilled immigrants had boosted the innovations in America and 21 percent patent rights per capita increased due to immigrants. Tarlebbea, (2010) most of unskilled African immigrants increased unemployment and declined wage rate in different states of America. In this regard

to analyze impact of immigrant on economic situation, this study empirically estimate specification no 3.

There are many other fundamental factors also deteriorates due to immigrants such as Health, Education, Wage Inequality, Crime and Cultural diversity etc. due to lack of availability in data these issues cannot be analyzed or made part of this research. Smith, (2004) the movement of people is considerable hazardous and estimated results showed that immigrants were highly risky for natives in terms of health, due to increase in number of immigrants has also increased the vulnerability to noncommunicable disease. Huntingot, (2004) reported that new immigrants were the cause of more violence as compared to old immigrants. The relationship between immigrants and violent crimes is negative. Similarly, Storesletten, (1998) concluded that low skilled and illegal immigrants were not favorable at aggregate level for public revenue of government.

3.3. General-to-Specific

There are two types of model design, it can be either implicit or explicit. In implicit model normally happens when models indicate the misspecification. For instance, at initially model might be specified for diagnose the problem of autocorrelation, heteroscedasticity, and omitted variables. The implicit types of models designed for "*don't accept the null hypothesis*" or increased the rejection probability of null hypothesis. The objective to design the explicit types models are mimic reduction theory for empirical modeling and try to lose minimum information after impose restrictions. Mostly, explicit types of models design for general to specific "*GUM*" modeling (Gilbert, 1986) and this section comprehensively deliberate general-to-specific modeling. Commonly general-to-specific model is the formulation of

fairly unrestricted dynamic model. Herewith, general model consequently tested and reduced in size by imposing liner restrictions.

The common problem occur to apply restrictions on above model that is include appropriate variables from the real world. In the regression analysis determined endogenous variables but to incorporate exogenous variables with the help of theory. However, theory as well as prior literature guide to include appropriate variables but some time overarching theories may be failed to prescribe parsimonious variables. The ambiguity situation occur in the selection of specific regression model and econometric theory illustrate and proposed valuable direction for researchers. This study apply appropriate liner restrictions on general equation # 3.7 and which are eventually lead to economical interpretable.

$$NM_{it} = \alpha_0 + \alpha_1 UN_{it} + +\alpha_2 RW_{it} + \alpha_3 PREM_{it} + \alpha_4 POPG_{it} + \alpha_5 AGED_{it} + \theta_1 GR_{it} + \theta_2 TOPN_{it} + \theta_3 GFC_{it} + \theta_4 FDI_{it} + \theta_5 INF_{it} + \theta_6 RI_{it} + \theta_7 REER_{it} + \theta_8 GCP_{it} + \theta_9 GDEBT_{it} + \varepsilon_{it} \quad \text{(3.7)}$$

General-to-Specific modelling is a prescriptive way to select a miserly and instructive final model from large set of variables. One of the main methodological advancement to develop good empirical econometric model relatively general model and by gradually reduce its size and transforming the variables through the testing different linear and nonlinear restrictions. The definition of general model to incorporate all essential theoretical variables and those variables statistically insignificant or empirically irrelevant to eliminate from general model.

The enormous considerable literature identify various pros and cons for general-to-specific model or model simplification. There are many fundamental approaches used for model simplification such as, pre-eminence theory they argue that economic theory should be drive a model and data only quantify the theory. However, econometric procedures bring data

into line for certain theory. The modern view Hendry, (2009) explained that theory and real world phenomena play significant role for constructing undeniable model. However, applied econometric cannot directed without theoretical framework and help-out for interpretation its conclusions. Although, economic theory is incomplete, correct and immutable and will be never validate until persistence on driving empirical models from theory.

Analogous, the equations # 3.7 is general without restrictions on parameters for determine the impact of immigrants on labor market as well as economic performance. However, equation # 3.8 is specific or reduce form after imposing liner parameters restrictions. There are following liner parametric restrictions apply:

$H_0 = \alpha_3 = \alpha_4 = \alpha_5 = 0$

$\boldsymbol{H_A = at\ least\ one\ (\alpha)\ \neq 0}$

$H_0 = \theta_2 = \theta_3 = \theta_4 = 0$

$\boldsymbol{H_A = at\ least\ one\ (\theta) \neq 0}$

$H_0 = \theta_5 = \theta_6 = \theta_7 = 0$

$\boldsymbol{H_A = at\ least\ one\ (\theta)\ \neq 0}$

$H_0 = \theta_8 = \theta_9 = 0$

$\boldsymbol{H_A = at\ least\ one\ (\theta)\ \neq 0}$

3.3.1. Specification # 4:

After imposing liner restrictions on two regression specifications. The reduce form of final specification is 4; equation 3.8 There are three exogenous variables empirically estimate. The estimated variables in restricted specification are combination of both labor market as well as economic performance. The key variables that are related to labor market is

unemployment as well as wage rate. However, to analyze the economic performance of host country due to immigrants used growth rate in per capita form (GDP per capita).

$$\boldsymbol{NM_{it} = \vartheta_0 + \vartheta_1 UN_{it} + \vartheta_2 RW_{it} + \vartheta_3 GR_{it} + \varepsilon_{it}} \quad \text{(3.8)}$$

Furthermore, restricted as well as unrestricted model estimate and compared these results that are general-to-specific coefficients. In the concluded remarks, could be possible unrestricted models seemed to close those implied by the restricted model. The unrestricted equation no # 3.7 or unrestricted equations # 3.4, 3.5, and 3.6, may be valid because general model did not contradict. Specifically, the restricted model considered "*immigrants are beneficial or not in the panel of Asian countries*" and identify key points for policy purpose.

3.4. Econometric Methodology

This study analyzed the immigrant's impact on labor market as well as economic development through two step generalized method of moments (GMM). Usually it is applied in the context of semiparametric models. Where the parameter of interest is finite-dimensional and the full shape of data distribution function may not be known and maximum likelihood estimation is not applicable. This method requires that a certain number of moment conditions were specified for the specifications. These moment conditions are functions of the model parameters and the data such that their expectation is zero at the parameters true values. The GMM estimators are known to be consistent, asymptotically normal, and efficient in the class of all estimators that do not use any extra information aside from that contained in the moment conditions.

3.4.1. Generalized Method of Moments

The underlying moment of generalized method of moment (GMM) model describe whereas βdenote a $p \times 1$vector parameter $w_i$is no of observation with $i = 1, \dots \dots . n$ whereas

n is the sample size. Let $g_i(\beta) = g(w_i, \beta)$be $m \times 1$ are parameters and vector functions. The GMM estimator are based on a model. Where for the true parameter value $\beta_0$the moment situations.

$$\boldsymbol{E[g_i(\beta_0)] = 0} \quad \text{(3.9)}$$

are satisfied

The estimator is formed by choosing βso that sample average of $g_i(\beta)$ is close to its zero population value.

Let

$$\boldsymbol{\hat{g}(\beta)\ \frac{1}{n}\sum_{i=1}^{n} g_i\,(\beta)} \quad \text{(3.10)}$$

denote the sample average of $g_i(\beta)$.

Let $\hat{A}$ is a $m \times m$ positive semidefinite matrix. Now GMM estimator is following

$$\boldsymbol{\hat{\beta} = arg\ \min_{\beta}\ \hat{g}(\beta)'\ \hat{A}\hat{g}(\beta)} \quad \text{(3.11)}$$

That $\hat{\beta}$ is vector parameter that minimize the quadratic form $\hat{g}(\beta)'\ \hat{A}\hat{g}(\beta)$.

The GMM estimator choose $\hat{\beta}$ so the sample average $\hat{g}(\beta)$is approach to 0.

Let $\|g\|\ \hat{A} = \sqrt{g'\ \hat{A}g}$ which is defined $\hat{A}$ is average positive. When take the square root then become strictly monotonic transformation. So that, transformed function does not change after the minimization as following.

$$\boldsymbol{\hat{\beta} = arg\ \min_{\beta}\ \|\hat{g}\ (\beta) - 0\|\hat{A}} \quad \text{(3.12)}$$

Thus the average consistent to $\hat{A}$ the estimator $\hat{\beta}$ are being chose. The distance between $\hat{g}(\beta)$is approaches to zero. When $m = p$ then number of parameters same as in moment function, $\hat{\beta}$ will be invariant to $\hat{A}$ asymptotically. When $m > p$ then $\hat{A}$ will be affect $\hat{\beta}$.

The classical method of moments is based from p moments of variables y as function of the parameters as on.

$$\boldsymbol{E[y^j] = h_j(\beta_0), (1 \le j \le p)} \quad \text{.....(3.13)}$$

The method of moment's estimator β of β_0 is obtained by replacing the population moments by sample moments and solving for$\hat{\beta}$, that is, following

$$\boldsymbol{\frac{1}{n}\sum_{i=1}^{n}(yi)^j = h_j(\hat{\beta}), (1 \le j \le p)} \quad \text{.....(3.14)}$$

On the other hand,

$$\boldsymbol{g_i(\beta) = \left(y_i - h_i(\beta), \ldots\ldots yi^p - h_p(\beta)\right)} \quad \text{.....(3.15)}$$

method of moments unravels $\hat{g}(\hat{\beta}) = 0$. That means minimize $\hat{\beta}$ equal to $\hat{g}(\hat{\beta})' \hat{A}\hat{g}(\beta)$ for any$\hat{A}$, is a GMM estimator. GMM is more general in allowing moment functions of various form that is, $yi^j - h_j(\beta)$ allows more moment functions in parameters.

The important function applies in GMM setting that is instrumental variables estimation for that purpose following model estimate.

$$\boldsymbol{y_i = X_i'\beta_0 + \varepsilon_i, E[Z_i\varepsilon_i] = 0} \quad \text{.....(3.16)}$$

Whereas $Z_i$is an $m \times 1$iinstrumental variables vector and $X_i$is a $p \times 1$vectos of exogenous variables. The condition $E[Z_i\varepsilon_i] = 0$ is often called a population "orthogonality restriction" or moment condition. Orthogonality restriction refer to the elements of $Z_i$and $\varepsilon_i$are expected to being orthogonal. The moment condition refers to the fact that the product of $Z_i$and $y_i - X_i'\beta$has been expected equal to 0 at the true parameter. These instrumental variables condition stimulates a GMM estimator and the moment function are the vector of residual and instrumental variables as following.

$$\boldsymbol{g_i(\beta) = Z_i(y_i - X_i'\beta)} \quad \text{.....(3.17)}$$

So that, GMM coefficients can be minimizing from$\hat{g}(\beta)'\hat{A}\hat{g}(\beta)$, because moment function in GMM is liner. The liner estimated parameters can be explicit and closed to true estimator. The detail describe as following;

Let

$Z = [Z_1, Z_2 \dots \dots \dots \dots Z_n]', X = [X_1, X_2 \dots \dots \dots \dots X_n]'$ and$[y_1, y_2 \dots \dots \dots \dots y_n]'$

So that sample moment is following.

$$\widehat{\boldsymbol{g}}(\boldsymbol{\beta}) = \sum_{i=1}^{n} \boldsymbol{Z_i}\left(\boldsymbol{y_i} - \boldsymbol{X_i'}\boldsymbol{\beta}\right)/\boldsymbol{n} = \boldsymbol{Z'}(\boldsymbol{y} - \boldsymbol{X}\boldsymbol{\beta})/\boldsymbol{n} \quad (3.18)$$

The first order conditions for parameter minimization $\hat{g}(\beta)'\hat{A}\hat{g}(\beta)$ as following.

$$\mathbf{0} = \boldsymbol{X'Z}\widehat{\boldsymbol{A}}\boldsymbol{Z'}\left(\boldsymbol{Y} - \boldsymbol{X}\widehat{\boldsymbol{\beta}}\right) = \boldsymbol{X'Z}\widehat{\boldsymbol{A}}\boldsymbol{Z'y} - \boldsymbol{X'Z}\widehat{\boldsymbol{A}}\boldsymbol{Z'X}\widehat{\boldsymbol{\beta}} \quad (3.19)$$

So that assume $X'Z\hat{A}Z'X$ is nonsingular this problem overcome following.

$$\widehat{\boldsymbol{\beta}} = (\boldsymbol{X'Z}\widehat{\boldsymbol{A}}\boldsymbol{Z'X})^{-1}\boldsymbol{X'Z}\widehat{\boldsymbol{A}}\boldsymbol{Z'y} \quad (3.20)$$

This is some time referred to generalized instrument estimator. This is usually two stage least square estimator. Whereas$\hat{A} = (Z'Z)^{-1}$.

Although when $m > p$ then GMM estimator based on the choice of weighting matrix$\hat{A}$ know the question is that how to optimally choose$\hat{A}$. To overcome this issue through minimize the asymptotic variance of GMM. The optimal choice of $\hat{A}$ is any such that$\hat{A} \xrightarrow{p} \theta^{-1}$, whereas $\theta$is the asymptotic variance of$\sqrt{n}\hat{g}(\beta_0) = \sum_{i=1}^{n} g_i(\beta_0)/\sqrt{n}$. Whereas choosing $\hat{A} = \hat{\theta}^{-1}$to be the inverse and consistent estimator $\hat{\theta} = \theta$ will be minimize the asymptotic variance of the GMM. This leads to two step optimal GMM estimator at the first step develop $\hat{\theta}$ and second step GMM is$\hat{A} = \hat{\theta}^{-1}$.

We know that for the optimal choice of $\hat{A}$ based upon the θ. According to central limit theorem$\theta = \lim_{n\to\infty} E[n\hat{g}(\beta_0)\hat{g}(\beta_0)']$ when apply this limit and assume that variables must be

stationary $E[g_i(\beta_0)g_{i+L}(\beta_0)']$ and doesn't based on$i$. Let assuming that $E[g_i(\beta_0)g_{i+L}(\beta_0)'] = 0$ for whole positive figures$L$. Then $\theta = E[g_i(\beta_0)g_{i+L}(\beta_0)']$ and θ can be estimate through expectation by sample average and β_0 approaches to $\tilde{\beta}$ as following

$$\boldsymbol{\theta} = \frac{1}{n}\sum_{i=1}^{n} \boldsymbol{g_i}(\tilde{\boldsymbol{\beta}})\, \boldsymbol{g_i}(\tilde{\boldsymbol{\beta}})' \quad \text{.....(3.21)}$$

Therefore, $\tilde{\beta}$ estimate from GMM method by using choice of $\hat{A}$ that doesn't based on estimated parameters because instrumental $\tilde{\beta}$ is the two stage least square estimator from$\hat{A} = (Z'Z)^{-1}$. In the instrumental setting θ is consistent estimator from heteroscedasticity due to$\tilde{\varepsilon_i} = y_i - X_i'\tilde{\beta}$.

So that;

$$\hat{\boldsymbol{\theta}} = \frac{1}{n}\sum_{i=1}^{n} \boldsymbol{Z_i Z_i'}\, \tilde{\boldsymbol{\varepsilon}}_{\boldsymbol{i}}^{\boldsymbol{2}} \quad \text{.....(3.22)}$$

Now optimal two step GMM estimator that is;

$$\hat{\boldsymbol{\beta}} = (\boldsymbol{X'Z}\hat{\boldsymbol{\theta}}^{-\boldsymbol{1}}\boldsymbol{Z'X})^{-\boldsymbol{1}}\boldsymbol{X'Z}\hat{\boldsymbol{\theta}}^{-\boldsymbol{1}}\boldsymbol{Z'y} \quad \text{.....(3.23)}$$

When $m > p$ then 2SLS estimator become a non-optimal weighted matrix and have minimum asymptotic variance. However, homoscedasticity prevails $\hat{\theta} = \hat{\sigma}_{\varepsilon}^2 Z'Z/n$ is a reliable estimator of $\hat{\theta}$ and the 2SLS become BLUE. The 2SLS estimator have better small sample properties as shown in (Monte Carlo, 1996) because $\hat{\theta}$ used heteroscedasticity as reliable estimator.

In case moment condition are associated across observation and reliable autocorrelation variance estimate as following.

$$\hat{\boldsymbol{\theta}} = \hat{\boldsymbol{\varphi}}_{\boldsymbol{0}} + \sum_{\boldsymbol{l=1}}^{\boldsymbol{L}} \boldsymbol{w_{lL}}\,(\hat{\boldsymbol{\varphi}}_{\boldsymbol{l}} + \hat{\boldsymbol{\varphi}}_{\boldsymbol{l}}'), \hat{\boldsymbol{\varphi}}_{\boldsymbol{l}} = \frac{\sum_{\boldsymbol{i=1}}^{\boldsymbol{n-l}} \boldsymbol{g_i}(\tilde{\boldsymbol{\beta}})\boldsymbol{g_{i+l}}(\tilde{\boldsymbol{\beta}})'}{\boldsymbol{n}} \quad \text{.....(3.24)}$$

Whereas L is the number of lags and w_{lL} is represent weight matrix for $\hat{\theta}$ estimation of positive semidefinite. The asymptotic distribution is the same as like two step GMM estimator. It is very complicated to compare asymptotic distribution with two step GMM.

3.4.2. Estimation Technique

The empirically estimated equations are dynamic and include the lag of exogenous variable. The key problem occur during the estimation that is lag of dependent variable highly associated or influence with the individual and in this situation pooled ordinary least squares estimator are biased and spurious. The modification in variables may be wipeout the individual influence by taking difference from individual sample means resultantly fixed effect estimator is biased and spurious for fixed T and infinity N (Nickell, 1981).

Therefore, prior literature emphasis on first difference modification for elimination the individual effects. On the other hand, left over correlation control with the transformed residual by using instrumental variables in GMM estimation. The advantage of GMM estimation that are reliable for fixed T and large N. Unfortunately, GMM estimators have larger standard error as compared to the fixed effect estimator (Arellano and Bond, 1991; Kiviet, 1995) and may be estimated coefficients are spurious for finite sample size due to weak choice of instrument variables (Ziliak, 1997; Bun and Kiviet, 2006; Bun and Windmeijer, 2010). Thus two step GMM estimator approximate very well even sample size is small T. The use of systematic rectifications in practical applications may be restricted as the theoretical constraints in which these rectifications essentially are not hold.

As an alternative choice is panel VAR technique may be use due to following reasons. In the first reason, the panel VAR technique allow to elaborate the endogenous interface between appropriate variables. However, this technique also highlight the lag effects of endogenous variables on exogenous variables and whether the response is valid or not. On the second reason, granger causality permits to isolate the direction of appropriate variables. At the last, analyzed the impulse response functions (IRF) for determine the dynamic relations among variables.

This study can't estimate through panel VAR because obtain figures of endogenous variable is with five year interval span and detail describe in chapter # 4, section #4.1. The obtain panel data series of international migration stock[7] from the period of 1970 to 2015, and is disaggregated by gender, origin of country, destination of country as well as education. However, large period interval and used the previous year data "*as lag*" is enables and problematic in empirical estimation. Moreover, it is very complex to examine the impact of immigration on labor market as well as the economic performance of host country through panel vector autoregressive. Additionally, obtain data is more trustworthy due to estimated figure of international migration stock are collected by destination countries. In concluded remarks, the appropriate technique for possible interpretation of estimated coefficients is generalized method of moments.

In this scenario, it is more appropriate to determine the effect of immigrants through two step generalized method of moments as compare to panel VAR (Roodman, 2006). The two step generalized method of moments is a dynamic estimation technique that deals with endogeneity problems. The generalized method of moments supports to avoid parametric restriction in the panel data setting. The number of instrument variables must be less than number of observation and the instrument variables must be tested through Sargan test for unbiased results (Arellano, 2003; Park et al. 2011; Biorn, 2015). Moreover, two step generalized method of moments is very sensitive to the selection of instrument variables and the lag specification of the instrument variables. So that, Arellano and Bover, (1995); Blundell and Bond, (1998) recommended technique used of generalized method of moments for estimation. This study specify models by using the endogenous as well as exogenous variable

[7] https://databank.worldbank.org and http://www.un.org/en/development/desa/population/migration/data/estimates2/estimates17.shtml

as instrument[8] variable and constrain with 1 lags and ends with p lags until the null hypothesis of the Sargan test is not rejected and the number of instruments is <N.

In addition to, if write dynamic panel VAR system with jth equation lag order 1 as following.

$$\boldsymbol{y_{it}^{j} = \beta_1^{j} y_{it-1}^{j} + \Gamma^{j} X_{it-1}^{j} + \delta_i^{j} + \mu_{it}^{j}} \quad \text{.....(3.25)}$$

Whereas for i=1,…., S cross section dimension "*countries*" and t=1,….,T time dimension "*periods*", y_{it}^{j} is the endogenous variable and $y_{it-1}^{j}$is the lag of one period. $X_{it-1}^{j}$is vector of first period lagged values of y_{it-1}^{j} for i≠s and δ_i^{j} is unobservable fixed effect and μ_{it}^{j} is the error term.

In empirical estimation one issue occur that is y_{it-1}^{j} is unobserved correlated fixed panel are essentially part of μ_{it}^{j} error term. This issue rise the dynamic panel bias and to overcome this issue commonly transform the variable at first difference. Which is called "first difference GMM". The first difference transformation eliminate the fixed effect δ_i^{j} from equation.

$$\boldsymbol{\left(y_{it}^{j} - y_{it-1}^{j}\right) = \beta_1^{j}\left(y_{it-1}^{j} - y_{it-2}^{j}\right) + \Gamma^{j}\left(X_{it-1}^{j} - X_{it-2}^{j}\right) + \left(\mu_{it}^{j} - \mu_{it-1}^{j}\right)} \quad \text{.....(3.26)}$$

In the above equation # 3.26, error terms $\left(\mu_{it}^{j} - \mu_{it-1}^{j}\right)$ again correlated with $\left(y_{it-1}^{j} - y_{it-2}^{j}\right)$ and to overcome this issue by instrumenting lag difference with difference and levels from earlier periods. Anderson and Hsiao, (1981) primarily propose an estimator that is based upon the first difference transformation by presenting instrumental variables based on the previous values of the lag explained variables. The instrument variable can either be in levels y_{it-2}^{j}or

[8] In empirical estimation lags of endogenous and exogenous variables used as instrumental variables.

lag difference$\left(y_{it-2}^{j}-y_{it-3}^{j}\right)$. Moreover, $y_{it-2}^{j}$and $\Delta y_{it-2}^{j}$are correlated with Δy_{it-1}^{j}but not correlated with error term $\Delta\mu_{it}^{j}$, as long as statistically error terms are not sequentially correlated. Anderson and Hsiao, (1981) recommended the two stage least squares (2SLS) is simplest way for estimation. However, pervasive issue in empirical estimation that is heteroscedasticity "*standard error are inconsistent in two stage least squares estimation technique*" and presence of heteroscedasticity in empirical estimation then most commonly method apply for estimation that is generalized method of moments. The benefit to use GMM over 2SLS is explicit; if heteroscedasticity present then GMM estimator is more efficient as compare to 2SLS because GMM estimator use orthogonality condition for unbiased coefficients. On the other perspective, if heteroscedasticity is not present then GMM estimator asymptotically is not inferior as compare to 2SLS estimator (Baum et al. 2003). Therefore, it is also important to note that instrument variables at levels y_{it-2}^{j} instead of lag difference Δy_{it-2}^{j} for maximizing sample size. Generally Δy_{it-2}^{j} is not possible until$t=4$ although y_{it-2}^{j} is possible at$t=3$. The orthogonality conditions fulfill as following. $\boldsymbol{E\left(y_{it-2}^{j}\Delta\mu_{it}^{j}\right)=0}$

or

$$\boldsymbol{E\left(\Delta y_{it-2}^{j}\Delta\mu_{it}^{j}\right)=0} \quad \text{(3.27)}$$

For more proficiency, Arellano and Bond, (1991) take the Anderson and Hsiao, (1981) approach and use valid lags of the untransformed dependent variable as additional instrument. After apply Anderson and Hsiao, (1981) restriction the orthogonality conditions as are following.

$E\left(y_{it-2}^{j}\Delta\mu_{it}^{j}\right)=0$ for $t=3,\ldots.,T\ and\ s\geq 2$

Furthermore, in panel VAR system of equations the error terms are to be correlated across equation $\Delta X_{it-1}^{j}$is explained variable and required to separate set of instrumental variables. Hereafter, apply the Arellano and Bond, (1991) technique for both set of instrument variable the full set of instrument variable the first difference model as following.

$$\boldsymbol{Z_i^j = \left(Z_i^{j,y}, Z_i^{j,x}\right)} \quad \text{(3.28)}$$

Whereas, $Z_i^{j,y}$is the $(T-2) \times m$ instrument matrix as given below. $m = 0.5(T-1)(T-2)$.

$$\boldsymbol{Z_i^{j,y} = \begin{bmatrix} y_{i1}^j & 0 & 0 & \dots & 0 & \dots & 0 \\ 0 & y_{i1}^j & y_{i2}^j & \dots & 0 & \dots & 0 \\ . & . & . & \dots & . & \dots & . \\ 0 & 0 & 0 & \dots & y_{i1}^j & \dots & y_{i(T-2)}^j \end{bmatrix}}$$

Correspondingly the set of predetermined exogenous variables ΔX_{it-1}^{j}

$$\boldsymbol{Z_i^{j,X} = \begin{bmatrix} X_{i1}^j & 0 & 0 & \dots & 0 & \dots & 0 \\ 0 & X_{i1}^j & X_{i2}^j & \dots & 0 & \dots & 0 \\ . & . & . & \dots & . & \dots & . \\ 0 & 0 & 0 & \dots & X_{i1}^j & \dots & X_{i(T-2)}^j \end{bmatrix}}$$

After the construction of instrument matrix the moment conditions as following.

$$\boldsymbol{E\left(Z_i^j \Delta \mu_i^j\right) = 0} \quad \text{(3.29)}$$

Whereas $\Delta \mu_i^j$is the $(T-2)$ vector of$(\Delta \mu_{i3}^j, \Delta \mu_{i4}^j, \dots, \Delta \mu_{iT}^j)'$.

In addition to, the GMM estimator under these moment conditions reduces the quadratic interval $\left(\Delta u'^j Z^j A_N Z'^j \Delta u^j\right)$ for some $m \times m$ matrixA_N, whereas Z'^j is the $m \times N(T-2)$matrix $(Z_1'^j, Z_2'^j, \dots, Z_N'^j)$and $\Delta u'^j$ is the $N(T-2)$ vector of$\left(\Delta \mu_1'^j, \Delta \mu_2'^j, \dots, \Delta \mu_N'^j\right)$, after that GMM estimator as following.

$$\boldsymbol{\widehat{\varphi}_{GMM}^j = \left(X'^j Z^j A_N Z'^j X^j\right)^{-1} X'^j Z^j A_N Z'^j y^j} \quad \text{(3.30)}$$

Although $\hat{\varphi}^{j}_{GMM} = \left(\beta^{j}_{1}, \Gamma^{j}\right)'$ and X^{j} is the $N(T-2) \times 2$matrix of regressand as well as regressors y^{j}_{it-1} andΔX^{j}_{it-1}. $Y^{j}$is the simple $(T-2)$vector $(\Delta y^{j}_{i3}, \Delta y^{j}_{i4}, \dots, \Delta y^{j}_{iT})$weighted across Nindividuals. Furthermore, optimal weights as following.

$$\boldsymbol{A_N} = \left(\boldsymbol{N^{-1}} \sum_{\boldsymbol{i=1}}^{\boldsymbol{n}} \boldsymbol{Z'^{j}_{i} Z^{j}_{i}} \widehat{\Delta \boldsymbol{u}}^{j}_{\boldsymbol{1}} \widehat{\Delta \boldsymbol{u}}'^{j}_{\boldsymbol{1}}\right)^{-1}$$

After this at preliminary stage $\widehat{\Delta u}^{j}_{1}$ residuals are reliable estimator. According to Arellano and Bond, (1990) u^{j}_{iT}residual are independent and identically distributed (iid) as following.

$$\boldsymbol{A_N} = \left(\boldsymbol{N^{-1}} \sum_{\boldsymbol{i=1}}^{\boldsymbol{n}} \boldsymbol{Z'^{j}_{i} Z^{j}_{i} M}\right)^{-1}$$

Whereas;

$$\boldsymbol{M} = \begin{bmatrix} \mathbf{2} & \mathbf{-1} & \mathbf{0} & \dots & \mathbf{0} \\ \mathbf{-1} & \mathbf{2} & \mathbf{-1} & \dots & \mathbf{0} \\ \mathbf{0} & \mathbf{-1} & \mathbf{2} & \dots & \mathbf{0} \\ . & . & . & \dots & . \\ \mathbf{0} & \mathbf{0} & \mathbf{0} & \dots & \mathbf{2} \end{bmatrix}$$

According to Arellano and Bover, (1995) reported that estimator at fist difference can be contemptible performed and lag levels give fragile instruments. To overcome this issue recommended that instead transformation of the exogenous variables appropriate way to eliminate the fixed effect and fixed effect technique is feasible as compare to differencing in the instrument variables. In other words, used of lag difference could be possible for variables in equation at level in this perspective moment conditions as following.

$\boldsymbol{E}\left(\Delta \boldsymbol{y}^{\boldsymbol{j}}_{\boldsymbol{it-1}} \boldsymbol{u}^{\boldsymbol{j}}_{\boldsymbol{it}}\right) = \mathbf{0}$……………………………………………………………………….(3.31)

To be concluded by, Blundel and Bound, (1998) formalize GMM estimator depend upon the weighted system and encompassing the equations both at levels as well as first difference. The technique usually called system of GMM. The system of GMM is estimated

in single equation and the liner relationship with the coefficients is representative in both ways "*at level and first difference*". So that the instrument matrix for the system of GMM as following.

$$\boldsymbol{Z}^{\boldsymbol{j}}_{\boldsymbol{i,sys}} = \begin{bmatrix} \boldsymbol{Z}^{\boldsymbol{j}}_{\boldsymbol{i}} & \mathbf{0} & \mathbf{0} & \dots & \mathbf{0} \\ \mathbf{0} & \Delta \boldsymbol{y}^{\boldsymbol{j}}_{\boldsymbol{i2}} & \mathbf{0} & \dots & \mathbf{0} \\ \mathbf{0} & \mathbf{0} & \Delta \boldsymbol{y}^{\boldsymbol{j}}_{\boldsymbol{i3}} & \dots & \mathbf{0} \\ . & . & . & \dots & . \\ \mathbf{0} & \mathbf{0} & \mathbf{0} & \dots & \Delta \boldsymbol{y}^{\boldsymbol{j}}_{\boldsymbol{i(T-1)}} \end{bmatrix}$$

Although, $Z^{j}_{i,sys}$ is the analogous instrument matrix that are used Arellano and Bond, (1998) specification. The choice of additional instrumental variables as per recommended by Arellano and Bover, (1995) for series at levels. The estimation of GMM system is analogous as described above. In the empirical estimation of our panel VAR models this study apply the GMM for each equation.

Appropriately, this research analyzed immigrants through two step GMM. This estimator allows to solve the problems of serial correlation, heteroscedasticity and endogeneity among explanatory variables. These econometric issues were resolved by Arellano and Bond, (1991); Arellano and Bover, (1995) and Blundell, (1998); Bond, (2000) developed the first differenced GMM (GMM-DIF) estimator and the GMM system (GMM-SYS) estimator. The GMM technique allow using the lag of immigrants as the instrument variable. For the estimation of panel GMM two assumptions must be satisfied, first assumption check serial correlation exists among the error terms or not. And the second assumption Sargan test indicate to avoid over identified restriction. The GMM system is consistent if there is no second order serial correlation in the residuals. Then dynamic panel data model GMM is valid in case estimated coefficients are consistent and the instrument variables are valid.

Therefore, the panel of 21 countries the problem of endogeneity may be detect in empirical estimations and immigrants incorporate as an exogenous variable because immigrants select a country to live or work on the base of high wage rate or high per capita income between the innate places to destinations place. However, economic circumstances of the host country play vital role for migration decision and this migration decision become the reason of reverse causality. This reverse causality become the biased approximation so overcome this issue use an instrument variables technique that deal with endogeneity. This study select the instrument variable on the base of prior literature as well as Sargan test. The economic situation of host country "*developed economies*" is very important to receive high inflow of migrants.

Chapter: 4

Data and Variables

This research following Kennan and Walker, (2011) theoretical framework and use data over the period 1970-2015 for Asian "*developed and developing*" countries[9]. The data span covers the period 1970 to 2015 with the interval of 5 years (1970, 1975, 1980, 1985, 1990, 1995, 2000, 2005, 2010, and 2015). All relevant variables data were taken from United Nation Population Division and World Development indicator (WDI)[10]. The panel of countries used in this analysis was 21 and this study is limited to Asian *"developed and developing"* countries. On the other perspective, explanation of relevant variables used in empirical estimation as following.

4.1. Explained Variable

This study used total international migrant stock as endogenous variable. The standard definition of international migrant stock is the number of persons born in a country but they live or work in another country and also include refugees. The obtained data of the immigrants stock at a particular time and specifically prevail from population censuses. The estimated figures are originate from the foreigner born population but foreigner born population data are not available, data on foreigner residents that are populaces are citizens of a country other than the country in which they live. When those countries have no statistics regarding international migrant then interpolation or extrapolation technique used to estimate the immigrants stock on July 1 of the reference years. The plus point to use the data of international migrant stock

[9] List of 21 panel Asian countries in Appendix-A
[10] https://databank.worldbank.org and http://www.un.org/en/development/desa/population/migration/data/estimates2/estimates17.shtml

were attained generally from population censuses held during the decennial sequences of censuses.

The various studies reported as reference that are used international migration stock as endogenous variable. Ruyssen et al. (2012) used international migration stock in dynamic panel data model at nineteen OECD countries and the estimated results significantly support human capital theory as well as network theory of immigrants. Similarly, Bove and Elia, (2017) develop fractionalization and polarization index in panel data setting for investigation culture diversity effect on economic growth. Kang and kim, (2012) used international migration stock and estimate through dynamic GMM (system) in case of OECD countries.

Vast of literature exist "*other than Asian countries*" researcher used other than international migration stock indicator for approximation or analysis. Jacob, (2014) used international migration stock as a percentage of total population. There was no significant dissimilarity observed in estimated coefficients because endogenous variable in percentage form of population. Boubtane et al. (2012) used net migration rate as compare to international migration stock and examined immigrant's impact on unemployment as well as wage rate. Barcellos, (2009) analyzed immigrant's impact on wage rate in case of United State through panel vector autoregressive approach. Similarly, Kasnauskiene and Vebraite, (2013) analyzed immigrants influenced in annual data series in case of United Kingdom and estimated coefficients from structural vector error correction. However, interested series of net migration easily available in annual format from various developed countries "*expect Asian*"[11]. That's reason these studies used cointegration approach for approximation of immigrant's impact in short-run as well as long-run.

[11]Why this study used GMM as compare to vector autoregressive detail describe in chapter #3 section # 3.4.2.

4.2. Explanatory Variables

There was mainly three models empirically estimate in panel data of 21 Asian developed and developing countries. The first two models are related to labor market and third model are related to economic performance of host country. These models empirically confirmed the determinants of immigrants in the panel of 21 Asian countries. So that, role of apropos "*exogenous*" variables is very important. The details description of appropriate variables as following.

The unemployment rate used as exogenous variable in model one. The standard definition of unemployment rate according to ILO is referred by the share of the labor force participation that is without work but available and find work, because prior literature empirically confirmed that immigrants significantly increased unemployment rate at host country. The is no ambiguity unemployment rate increased in receiving country due to immigrants but ambiguity exist, this unemployment rate increased in short run or in long run. Most of researcher argued that, economic condition of host country paly vital role. If the host country economically developed or rapidly growing, they attract more immigrants in their country Gallowy, (2008); Jean and Jimenez, (2011); Boubtane et al. (2012); Kasnauskiene and Vebraite, (2013); Jacob, (2014); and Ortiz et al. (2015).

The most important variable used in first model that is wage rate and immigrants significantly influence on wage rate. Therefore, standard definition of wages and salaried labors "employees" and these kind of worker have "*paid employment opportunity*" and also officially have written or implicit service agreement. That specify basic compensation and this compensation is not directly related to the income of organization where they work.

Meanwhile, theoretical framework recommend that impact of immigrants on wage rate for native workers based upon skills. In other words immigrants "complements or substitutes" at skill level for natives Borjas, (1995); and Card, (2009). However, impact on wage rate is ambiguous because various studies reported that wage rate decline Glitz (2006); Nickell and Salaheen, (2008); Reed and Latorre, (2009); Manacorda et al. (2010) and Kasnauskiene and Vebraite, (2013) and other argue that wage inequality increased Rada, (2002); Lemieus, (2006); Voslo, (2008); Parasnis, (2009); and Kondo, (2012).

The personal remittances used as exogenous variable and the standard definition of personal remittances that is contain personal transfers and compensation of employees. Personal transfers contain of all current transfers in cash or received by inhabitant of households or nonresident households. Personal transfers contain all current transfers between residents and nonresidents. Compensation of employees refers to the income from boundary, periodical, and other short-run workers which they are employed in an economy. Where they are not resident and residents employed by nonresident entities. Therefore, personal remittance figures 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. Moreover, there is no ambiguity and the impact of personal remittance is positive Rosenzweig, (2008); Antman, (2012); Kalinowska, (2018); and Haller et al. (2018).

There is no ambiguity immigrants significantly increased the population of host country. This study used population growth annual percentage as exogenous variable and the standard definition of population growth rate is yearly population growth rate for year t is the exponential rate of growth of midyear population from year t-1 to t, expressed as a proportion. The populace is based on the de facto definition of populace, which sums all inhabitants

irrespective of permissible status or nationality Richard, (2002); Andrew, (2014); and Rubenstein, (2016). There is numerous studies used age dependency ratio as an exogenous variables for determinant of immigrants. The standard definition of age dependency ratio estimate as proportion of working age population. The ratio of dependents people younger than fifteen and older than sixty-four as the working age population those ages 15-64 and obtain statistics are shown as the ratio of dependents per 100 working age population. Additionally, there is no ambiguity in literature because researcher empirically confirmed that immigrant's affirmative effect on dependency ratio Gagnon, (2014); Anzelika, (2014); Jacob, (2014); and Santacreu, (2016)

In the second model unemployment rate exchange with employment rate or labor force participation rate because some studies recommended that immigrants significantly effect in short run on employment opportunities or declined job opportunities for native job seekers. This study used employment rate or labor force participation rate for unbiased estimation Schoeni, (1997); Card, (2001); Borjas, (2003); Dustmann et al. (2008); Peri, (2010); Glitz, (2012); and Avila and Bacarreza, (2016). The all other exogenous variables are same expect unemployment rate and the standard definition of employment is defined as peoples of working age who, time period short reference period, were part of any activity to produce goods and services against pay or profit, whether at work during the reference period (that is who worked in a job for at least one hour) or not at work due to temporary absence from a job and the age of 15 and older are generally considered as the working age population.

The phenomenon regarding immigrants are a broad topic and the still explicit research gaps exist. More than one significant issue detail[12] described due to immigrants. Furthermore,

[12] Chapter # 2, literature Review

extend this estimation and investigate the factors of immigrant's influence on economic performance. At present most of economies are globally attached among each other and there are many fundamental factors having meaningful contribution to economic growth that is, natural resources, human and physical capital, technology, political stability, law and order situation, sustainability and happiness etc., because theoretically and empirically confirmed that impact of immigrants on economic growth was ambiguous. Gómez, (2011) reported that causality exist between economic growth and immigration and reported that economic situation of host country and immigrant "*skilled or unskilled*" also play vital role.

The regression specification no 3, are related to analyzed the economic performance of host country. This study used gross domestic product per capita annual growth as exogenous variable and standard definition of gross domestic product per capita is yearly proportion progress rate of gross domestic product per capita based on constant local currency unit. Gross Domestic Product per capita is gross domestic product divided by midyear populace. Gross Domestic Product at purchaser's prices is the sum of gross value added by all inhabitant manufacturers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is estimated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. In addition to, the impact of immigrants on economic situation based on skilled composition and empirical evidence support that the large or skilled immigrants is enhanced the welfare of host country and declined the fiscal debt. The negative thinking is a misleading paradox about immigrants because skilled immigrants boots the host country economy more rapidly as compared to unskilled natives Borjas, (1995); Portes, (1998); Rowthorn, (2004); Boeri, (2010); Scheja, (2011); Almosova, (2013).

In theoretical point of view, investment is indispensable factor for economic development of a country and investment play significant role for real economic improvement. However, investment is prime factor for formation of infrastructure in agriculture sector, manufacturing sector and services sector. The enrichment in these sector leads to production and consumption in various products and services, and that escalation create employment opportunities. These obtainability of resources enhance the quality of life in country. The role of immigrants is very important in terms of investment.

Furthermore, this study used three important variables for determine the impact of immigrants on investment behavior. The different studies investigate through trade openness and reported that impact of immigrants on investment is optimistic "*if immigrants are skilled*". The standard definition of trade as proportion of gross domestic product is the totally of exports and imports of goods and services calculated estimated as a share of gross domestic product. The alternative variable that is gross fixed capital formation and the gross fixed capital formation used as proxy of domestic net investment and this is measure on expenditure base method of calculating gross domestic product.

Formerly in the estimation of gross domestic fixed investment includes land enhancements, fences, ditches, drains, plant, equipment, equipment purchases the construction of infrastructures, railways, including schools, offices, hospitals, private residential dwellings, and commercial and industrial constructions. According to the 1993 SNA, net acquisitions of valuables are also considered capital formation. The numerous studies reported that, there is undesirable association between immigrants and domestic investment Gould, (1994); Head and Ries, (1998); Foad, (2010) and Ma, (2014)[13]. The most

[13] World Trade Organization, 2013

important variable for determine the influence of immigrants on investment that is foreign direct investment. The standard definition of foreign direct investment are the net inflows of investment to obtain a lasting organization interest "*10 percent or more of voting stock*" in an initiative functional in an economy other than that of the investor. It is the amount of equity capital, reinvestment of remunerations, other long-run capital as well as short run capital are shown in the balance of payments. These statistics are reporting in the economy from foreign financiers, and is divided by gross domestic product. The prior literature confirmed that economic performance of host country based on the skilled composition of immigrants and most of studies verified that high inflow or unskilled immigrants are harmful for economic growth in term of foreign direct investment Wei, (2000); Eckel, (2003); Lewer and Berg, (2009); Vijayakumar et al. (2010); Economou et al. (2017); Bahar and Selin, (2017).

The impact of immigrants on fiscal policy is a multidimensional phenomenon because the taxes that immigrants contribute to make public revenue, and the cost of immigrants they receive benefits form government. To analyze the impact of immigrants on fiscal debt is multiple scenarios, there is no single possibility to estimate this impact. However, this study determine the impact of immigrants on fiscal debt or government expenditure through central government debt and government final consumption expenditure. The standard definition of central government debt proportion of gross domestic product is the entire stock of direct government permanent pledged commitments to others unpaid on a particular date. It is also includes domestic and foreign liabilities such as currency and money deposits, securities other than shares, and loans. The gross expanse of government liabilities reduced by the amount of equity and financial derivatives held by the government due to debt is a stock variable rather than flow variable, it is estimated as of a given date, usually the last day of the fiscal year.

This study also incorporate general government final consumption expenditure as proportion of gross domestic product. The standard definition of general government final consumption expenditure "formerly government consumption" and incorporate all government current expenditures for purchases of goods and services. They incorporate remuneration of employees as well as also includes most expenses on national defense and security, but excluded government military expenditures that are part of government capital formation.

The fiscal impact is inclusive and based on the characteristics of immigrants, meanwhile what the purpose, they migrate. Therefore, if immigrants are skilled and get high wage rate, they are likely to make positive fiscal impact, otherwise contrariwise. The prior literature recommended that, the impact of immigrants on fiscal policy depend upon the assumption that the researcher used for their objective. In concluded remarks fiscal impact "*positive or negative*" are vary from region to region and there is ambiguity increased or decreased fiscal debt (Pines, 1997; Poot and Cochrane, 2004).

This study also incorporate real interest rate and real effective exchange rate as exogenous variable as control variable. The standard definition of real interest rate is the offering interest rate adjusted for inflation as estimate by the incorporate gross domestic product deflator. The terms and conditions devoted to lending rates vary by region to region, however, restrictive their comparability as well as the standard definition of real effective exchange rate is the nominal effective exchange rate "*as a measure of the value of a currency against a weighted average of several foreign currencies*" divided by a price deflator or costs index. If the capital per worker increased with low interest rate, then a reduction in the marginal product of capital Canner, (1981); Stiglitz and Weiss, (1981); Bkanch flower et al. (2003); Serrano and Raya, (2014); Carvalho et al. (2016) analyze the positive association

between real effective exchange rate and immigrants Challinor, (2011); Ley, (2011); Dungan et al. (2012); Combes et al. (2012); Nusrate et al. (2017)

The high inflow of people in a country increased in the demand of commodities "*consumption*", and thereafter increased labor demand Hercowitz and Yashiv, (2002); Jimnez, (2011) and inflation perform push factor in case of immigrants. The standard definition of consumer price index reflects changes in the cost to the average consumer of attaining a basket of goods and services that may be permanent or transformed at identified intervals, such as yearly. The Laspeyres technique usually adopt and data on averages per period. Therefore, empirically confirmed that there is positive relationship between inflation and immigrants because immigrants increased the demand of food commodities Williams, (1995); Ghironi, (2002); Dustmann et al. (2007), Fernandez, (2007); Nickell, (2011).

As already discussed that immigrants have considerable significance issues at present. The prior literature or massive studies acknowledged that immigrants leave their home country due to economics or noneconomic factors. However, this study determine the immigrant's factors that are, related to economic factors and variable used for estimation such as wage rate, employment opportunities, economic performance. Furthermore, there are many other fundamental factors are considerable for estimation such as health, education, language, first generation and second generation, crime and cultural diversity etc. but due to lack of availability in data, these issues cannot be analyzed or made part of estimation in this research. The following ***Table 4.1***, is summary of above details describe variables.

Table #4.1	Short Summary of Variables
International migrant stock, total	Immigrants stock at a particular time and specifically prevail from population censuses. The estimated figures are originate from the foreigner born population but foreigner born population data are not available.
Unemployment, % of total labor force by ILO	Unemployment rate according to ILO is referred by the share of the labor force participation that is without work but available and find work.
Wage and salaried workers, % of total employment	Wages and Salaried labors (employees) and these kind of worker have paid employment opportunity
Personal remittances, received % of GDP	Personal transfers contain of all current transfers in cash or received by inhabitant of households or nonresident households
Population growth % annual	Population growth rate is yearly population growth rate for year t is the exponential rate of growth of midyear population from year t-1 to t, expressed as a proportion
Age dependency ratio % of working-age population	Age dependency ratio estimate as proportion of working age population and ratio of dependents people younger than fifteen and older than sixty-four as the working age population those ages 15-64 and obtain statistics are shown as the ratio of dependents per 100 working age population
Employment to population ratio % 15+, total by ILO	Employment is peoples of working age who, time period short reference period, were part of any activity to produce goods and services against pay or profit, whether at work during the reference period.
GDP per capita growth % annual	Gross domestic product per capita is yearly proportion progress rate of gross domestic product per capita based on constant local currency unit
Trade % of GDP	Trade as proportion of gross domestic product is the totally of exports and imports of goods and services calculated estimated as a share of gross domestic product.

Gross fixed capital formation % of GDP	Gross fixed capital formation is the measure of expenditure on base method of calculating gross domestic product.
Foreign direct investment, net % of GDP	Foreign direct investment are the net inflows of investment to obtain a lasting organization interest "*10 percent or more of voting stock*" in an initiative functional in an economy other than that of the investor.
Central government debt, total % of GDP	Central government debt proportion of gross domestic product is the entire stock of direct government permanent pledged commitments to others unpaid on a particular date
Government Final Consumption Expenditure % of GDP	General government final consumption expenditure "formerly government consumption" and incorporate all government current expenditures for purchases of goods and services
Consumer price index (2010 = 100)	Consumer price index reflects changes in the cost to the average consumer of attaining a basket of goods and services that may be permanent or transformed at identified intervals, such as yearly

Chapter: 5

Empirical Results and Discussion

This chapter will present and detailed discussion of estimated outputs of generalized method of moments. This study shall be focus on Asian "*as destination*" economies and the key objective of this study to approximate determinants of immigrants as well as its consequences for Asian developed and developing countries. To do so, this study approximate determinants of immigrants through three different models, which are related to labor market and economic performance. The first and second model analyzed the labor market situation but third model related to analyzed the economic performance due to immigrants in the panel of 21[14] Asian countries.

The expected sign of estimated coefficients are related to prior empirical studies as well as theoretical framework because (Kasnauskiene and Vebraite, 2013; Winter- Ebmer et al. 2000; Wibberley, 2001), reported that due to immigrants unemployment rate significantly increased in host country. The estimated parameter of unemployment rate have low coefficient value; If immigrants stock increased by one percent in the panel of Asian countries then unemployment raised by twenty seven percent and slope coefficient significant at low critical region.

[14] List of 21 Asian countries in Appendix-A

The following ***table # 5.1.*** estimated output of model # 1 and equation # 3.4 that is related to labor market.

Table No 5.1: **Determinants of Immigrants**

Model #1

	Coefficients	**Standard Error**	**T-stats**
Unemployment	0.2718*	0.1571	1.7298
Real Wages	-0.6890***	0.2641	-2.6088
Populations Growth	0.5962***	0.1869	3.1995
Personal Remittances	0.2771***	0.0849	3.2663
Age Dependency	0.4817*	0.2470	1.9502
Lagged Dependent	0.2998**	0.1440	2.0824
Constant Term	0.7104	0.8838	0.8038
	Diagnostic Test		
F-Stat	46.0644		
Shea Partial R-squared	0.1975		
Sargan Test	0.3376		

Note 1: *, ** and *** show that the coefficients are significant at 10 percent, 5 percent and 1 percent level of significance

Note 2: Stock Yogo (2005) F-Critical value at 5 percent level of significance is 16.85 for instruments strengths.

Note 3: Dependent Variable is number of international migrants stock

The second predictor variable "wage rate", which an important in terms of labor market, and expected parameter sing of this coefficient also support the prior literature as well as theory. The calculated coefficient have large value and negative relationship between immigrants; If immigrants stock increased by one percent in the panel of Asian countries then wage rate declined by sixty-eight percent and slope coefficient highly significant. (Lundborg, 2000; Segerstrom, 2002; Siniver, 2003; Alberto, 2010). Furthermore, vast of literature

empirically observed that immigrants become the main reason of residual wage inequality in host countries but due to data constraint this study unable to analyze residual wage inequality due to immigrants and wage rate phenomena is long run not short run (Autor and Katz, 1999; Vosko, 2008; Parasnis, 2009; Kondo, 2012).

Most of literature incorporated population growth rate in estimation as control variable, because they indicated that inflow of immigrants changed the population dynamic of host country (Blanchet, 2002; Chojnicki, 2005; Sejas et al. 2006). There is no ambiguity that immigrants boost the population of host country, and estimated parameter of population growth rate is positively associated with immigrants; if immigrants stock increased by one percent in the panel of Asian countries then population growth rate boosted by fifty-nine percent and not only slope coefficient significant but its significant at higher level (Hagan 2008). The predictor variable of personal remittance is also used as control variable because different researcher observed that transmit rate of personal remittance in both countries has been increased "host country in terms of debt and home country in terms of credit". So that, in other words remittance are favorable for immigrants and estimated coefficient is positively affiliated with Asian countries. The estimated value of parameter is low; if immigrants stock increased by one percent in the panel of Asian countries then remittance increased by twenty seven percent with highly significant (Rosenzweig, 2008; Antman, 2012; Kalinowska, 2018).

Lastly, predictor variable of labor market specification, is age dependency ratio incorporated as control variable, and enormous literature empirically confirmed that immigrants raised unemployment and this unemployment increased the dependency ratio in host country. To do so, the relationship between immigrants and age dependency is positive. The estimated coefficient is also supporting the prior empirical results; if immigrants stock

increased by one percent in the panel of Asian countries then dependency ratio raised by forty-eight percent and it is statistically significant at higher level of confidence interval (Gagnon, 2014; Anzelika, 2014); Jacob, 2014). There are a lot of fundamental instrument variables possible in this specifications but estimated slope coefficient give appropriate outcome; when used lag of variables as instrument variable.

These diagnostic statistics such as F stat, Shea Partial R-Squared and Sargan test, describe the intensity of model. The calculated F statistics is significant and doesn't accept the null hypothesis. In other words, all estimated coefficients of labor market specification is significantly considerable and these slope parameters have predictive capability for the panel of Asian countries. The estimated result of Shea Partial-squared is less than one means that identification of instrumental variable in labor market specification is not fragile and instrumental variable is appropriate with weak identification about immigrants. Furthermore, these estimated values considerably verified that instrumental variable have appropriate weak strength and Sargan stat also support that is overidentifying restrictions are valid.

The following ***table # 5.2.*** is estimated output of model # 2 and equation # 3.5 that is related to unbiased labor market.

Table No 5.2: **Determinants of Immigrants**

Model #2

	Coefficients	Standard Error	T-Stats
Employment	-0.8879***	0.3664	-2.4235
Real wages	-0.5484***	0.0864	-6.3486
Personal Remittances	0.9459***	0.2285	4.1396
Populations Growth	0.5811***	0.1542	3.7681
Age dependency	0.6486**	0.2772	2.3401
Lagged Dependent	0.3152*	0.1616	1.9502
Constant	0.8235***	0.1448	5.6877
Diagnostic Test			
F-Stat	57.5865		
Shea Partial R-squared	0.5236		
Sargan Test	0.8684		

Note1: *, ** and *** show that the coefficients are significant at 10 percent, 5 percent and 1 percent level of significance

Note 2: Stock Yogo (2005) F-Critical value at 5 percent level of significance is 16.85 for instruments strengths.

Note 3: Dependent Variable is number of international migrants stock

Pope and Withers, (1985) for Australia; Marr and Siklos, (1994) and Islam, (2007) for Canada; studies verified that immigrants could not become the reason of unemployment and second regression specification, unemployment replace with employment rate. Islam, (2007) empirically verified that immigrants create new employment opportunities in Canada labor market due to increase in the demand of commodities. So that, for unbiased analyses this study captured employment effect due to immigrants on host country labor market. However, there is no significant change observed in estimated output and expected sign of parameter are

favorable and also support prior empirical literature. The estimated parameter of unbiased specification is negatively associated with immigrants; if immigrants stock increased by one percent then employment opportunities for the panel of Asian countries reduced by eighty-eight percent and coefficient value is highly significant (Nickell and Salaheen, 2008; Reed and Latorre, 2009; Manacorda et al. 2010; Tarlebbea, 2010; Almosova, 2013).

Furthermore, other exogenous variables such as wage rate, personal remittance, population growth, and age dependency ratio likely to be same as estimated in preceding regression specification. However, estimated parameters sign also support prior empirically provided evidence. There no significant change observed in estimated coefficients except high values of parameter and interesting point observable is that the significant criteria vary "in both models" because all estimated coefficient are highly significant in unbiased specification.

The estimated diagnostic values; F statistics is significant and reject the null hypothesis means that all estimated coefficient of unbiased labor specification is expressively substantial and slope coefficient have competency. The estimated value of Shea Partial-squared is less than one but larger means that identification of instrumental variable in unbiased labor specification is not ineffective and instrumental variable are relevant identification about immigrants. Moreover, these estimated values considerably verified that instrumental variable have not weak strength as compare pervious estimated model. On the base of diagnostic values unbiased labor market is more reliable and Sargan stat also favorable in this model and that is verified overidentifying restrictions are valid.

To apprehend the inclusive or exclusive economic performance of country is very comprehensive because economic development is long run as well as multidimensional aspect. To do so, this study try to evaluate inclusive or exclusive economic performance due

to immigrants and following estimated coefficients approximated the economic situation. The following ***table # 5.3.*** is model # 3 and equation # 3.6 that is related to economic performance.

Table No 5.3: **Determinants of Immigrants**

Model #3

	Coefficients	**Standard Error**	**T-Stats**
Trade Openness	0.7933*	0.4828	1.6432
Gross Fixed Capital Formation	-0.6996***	0.2346	-2.9819
Foreign Direct Investment	0.7679**	0.3495	2.1974
Govt. Central Debt	0.1254*	0.0725	1.7293
Govt. Consumption Expenditure	0.3038	0.2180	1.3932
Real Interest Rate	-0.8036***	0.1548	-5.1916
Real Effective Exchange Rate	0.4464***	0.1754	2.5450
Inflation	0.6703***	0.1498	4.4743
Lagged Dependent	0.5272***	0.1854	2.8437
Constant	0.1275	0.1575	0.8093
Diagnostic Test			
F-Stat		76.1680	
Shea Partial R-squared		0.8335	
Sargan Test		0.5313	

Note1: *, ** and *** show that the coefficients are significant at 10 percent, 5 percent and 1 percent level of significance

Note 2: Stock Yogo (2005) F-Critical value at 5 percent level of significance is 16.85 for instruments strengths.

Note 3: Dependent Variable is number of international migrants stock

The first three predictor variables determined the impact of immigrants on investment. The estimated coefficient of trade openness is positively associated with immigrants; if immigrants stock increased by one percent then trade activities in the panel of Asian countries increased by seventy-nine percent and the coefficient value is significant at low level of

confidence interval. On the other perspective, the second predictor variable analyzed the domestic investment behavior. In this case estimated coefficient is highly significant but harmful for domestic investor in the panel of Asian countries; if immigrants stock increased by one percent then share of domestic investment declined by sixty-nine percent for panel of Asian countries.

The prior empirical evidence are ambiguous because they argue that skilled immigrants are favorable to attract investment and numerous studies verified that there is undesirable association between immigrants and domestic investment (Gould, 1994; Head and Ries, 1998; Foad, 2010 and Ma, 2014). Therefore, foreign direct investment is imperative variable to determine the behavior of investment and prior studies reported that there is positive affiliation observed between immigrants and foreign direct investment. The estimated coefficient also support prior empirical research; if immigrants stock increased by one percent then foreign investment in the panel of Asian countries increased by seventy-six percent and not only slope coefficient statistically significant but it's also highly significant Wei, (2000); Eckel, (2003); Lewer and Berg, (2009); Vijayakumar et al. (2010); Economou et al. (2017); Bahar and Selin, (2017) studies investigated that illegal or unskilled immigrants not profitable.

The fiscal impact is inclusive and based on the characteristics of immigrants meanwhile what the purpose, they migrate. The prior researcher recommended that the influence of immigrants on fiscal policy based on the objective of study and fiscal impact may be positive or negative and vary from region to region. So that this study determined the impact of immigrants on fiscal policy using government debt and government consumption expenditure as a predictor variable. In case of panel Asian countries estimated slope coefficients are optimistic means that immigrants increase fiscal debt as well as government

expenditure; if immigrants stock increased by one percent then government debt increased by twelve percent and slope coefficient statistically significant. Therefore, slope coefficient of government expenditure also have positive sign but in case of this study slope coefficient of government expenditure is insignificant Pines, (1997); Poot and Cochrane, (2004).

In addition, to incorporate interest rate as well as exchange rate as control variables in estimation. There is no significant empirical literature exist regarding these two variables, but theoretical foundation reported that immigrants declined interest rate and raised the exchange rate (Bkanch flower et al. 2003; Serrano and Raya, 2014; Carvalho et al. 2016). The estimated parameter of interest rate is negatively associated with immigrants; if immigrants stock increased by one percent then real interest rate in the panel of Asian countries declined by eighty percent and not only slope coefficient statistically significant but also highly significant. Therefore, estimated coefficient value of exchange rate is also positive relationship with immigrants; if immigrants stock increased by one percent then real effective exchange rate in the panel of Asian countries increased by forty-four percent and slope coefficient statistically highly significant (Challinor, 2011; Ley, 2011; Dungan et al. 2012; Combes et al. 2012; Nusrate et al. 2017). Lastly, inflation is very important in case of immigrants because enormous researches argued that impact of immigrants on labor market and economic condition can be observed after short period of time, on first priority immigrants increased the demand of consumption commodities and thereafter increased labor demand (Hercowitz and Yashiv, 2002; Jimnez, 2011). Theoretically and empirically confirmed that, there is a positive association between immigrants and inflation rate. The estimated slope coefficient of this study also consistent with prior literature; if immigrants stock increased by one percent then inflation in the panel of Asian countries increased by sixty seven percent and

not only slope coefficient statistically significant but it's also highly significant. There are lots of essential instrument variables probable in economic development specifications and empirically estimated slope coefficient give appropriate outputs; when incorporate lag of exogenous variables as instrument[15].

These diagnostic statistics such as F stat, Shea Partial R-Squared and Sargan test, describe the rationality of model. The calculated F statistics is significant and accept the alternative hypothesis. In simple words all estimated parameters of economic performance specifications is meaningfully significant and slope parameters have predictive proficiency in the panel of Asian economies. In case of Shea Partial-squared and estimated results is less than one with higher figure, means that identification of instrumental variable in economic performance specification is not weak and instrumental variable appropriate with insubstantial identification about immigrants. Although, these statistics extensively tested that instrumental variable have not weak strength and instrumental variables strongly appropriate. The Sargan stat also confirmed that overidentifying restrictions of instrumental variables are valid.

[15] The empirically estimated output, GR variable cannot incorporate in the unrestricted regression specification # 6, table # 5.3. However, GR variable estimate in the restricted regression specification #8, table # 5.4.; because this study try to evaluate the determinants of immigrants on "*economic performance*" through specific variable.

The following ***table # 5.4.*** estimated output of model # 4 and equation # 3.8 is restricted regression specification obtain after apply liner restrictions.

Table No 5.4: **Determinants of Immigrants**

General to Specific

	Coefficients	**Standard Error**	**T-Stats**
Unemployment	0.4903***	0.1719	2.8529
Real wages	-0.6588***	0.2274	-2.8971
Growth Rate	0.8022*	0.4162	1.9276
Lagged Dependent	0.8902*	0.5005	1.7785
Constant	0.6336**	0.1696	3.7363
Diagnostic Test			
F-Stat		90.3756	
Shea Partial R-squared		0.1982	
Sargan Test		0.3607	

Note1: *, ** and *** show that the coefficients are significant at 10 percent, 5 percent and 1 percent level of significance

Note 2: Stock Yogo (2005) F-Critical value at 5 percent level of significance is 16.85 for instruments strengths.

Note 3: Dependent Variable is number of international migrants stock

In table # 5.1., 5.2., and 5.3; empirically confirmed that all estimated unrestricted specified variables are significant expect government consumption expenditure. For simplicity, this study assume that all liner restrictions are valid on regression specifications and then estimate restricted model table # 5.4.; for more realistic results.

Estimated model is a reduced form of all preceding estimated models[16]. The linear parametric restriction apply on all coefficients except essential variables that are key

[16] Chapter # 3, section # 3.3 details describe of final estimated equation "General to Specific".

determinants of immigrants on labor market and economic performance, which are unemployment, wage rate and growth rates. Therefore, expected sign of estimated coefficients are consistent with preceding estimated models as well as prior empirical evidence and interesting point is notable that slope coefficients of labor market is not only statistically significant but also significant at ninety-nine percent. The estimated slope coefficient of unemployment rate is positively related to immigrants; if immigrants stock increased by one percent then unemployment in the panel of Asian countries increased by forty-nine percent. However, slope coefficient have high value as compared to previous estimated model with higher significant level.

Moreover, estimated parameter of wage rate is inversely related to immigrants as per consistent with preceding estimated model as well as literature; if immigrants stock increased by one percent then wage rate in the panel of Asian countries declined by sixty-five percent with high significant level (Boubtane et al. 2012; Jacob, 2014; and Ortiz et al. 2015). In addition to, the slope coefficient determined economic performance of immigrants is favorable in the panel of Asian countries, the expected sign is confirmatory; if immigrants stock increased by one percent then economic development in the panel of Asian countries increased by eighty-nine percent and slope parameter statistically significant at low confidence interval (Borjas, 1995; Portes 1998; Rowthorn, 2004; Boeri, 2010). The instrument variables of restricted specifications and slope coefficients give appropriate outcome; when used lag of variables as instrument variable.

These diagnostic statistics such as F stat, Shea Partial Square and Sargan test, describe the rationality of model. The estimated F value is significant and doesn't accept the null hypothesis in case of reduce specification. In other words all estimated parameters of reduce

specification is significantly substantial and reduce slope coefficient have strong predictive ability as compare to general specifications. The estimated value of Shea Partial-squared is less than one but smaller, means that identification of instrumental variable on reduce specification is effective and instrumental variable in reduce specification are relevant and resilient identification with immigrants. The estimated figures of these test verified that instrumental variable have strong strength as compare to preceding estimated labor market models and economic performance. And the diagnostic values restricted regression specification is more consistent and Sargan stat also favorable of this model as compare to preceding models and that is verified overidentifying restrictions are appropriate in this specification.

Therefore, comparative analysis of regression specification interpreted as estimated slope coefficients of labor market justify prior literature as well as empirical evidence analyzed in various region except Asian countries. The exogenous variable of unemployment have positive influence and empirically confirmed that immigrants become the determinate of Asian labor market "raised unemployment". The unbiased labor market specification is not contrary and empirically proofed that employment opportunities of natives declined in the panel of Asian economies. The second most important variable examined labor market situation that is wage rate and empirically estimated specifications confirmed that immigrants reduce age rate in the panel of Asian countries for native.

Although, empirically proofed that immigrants are harmful for labor market, but this effect also accelerate the dependency ratio as well population. In point of view, remittance empirically and prior reported results confirmed that immigrants are favorable for both countries "host as well as home. These exogenous variables such as, population growth,

personal remittances and age dependency ratios in both estimated specifications "*labor market and unbiased labor market*" and empirically estimated slope coefficients are persistent with prior studies. There is no empirically meaningful diversification observed in both specifications that are related to labor market.

Correspondingly, empirically estimated slope coefficients in regression specification of economic performance illustrated that economic performance in the panel of Asian economies. The slope parameters of unrestricted specification are unfavorable such as, domestic investment and government revenue. To do so, the empirically estimated slope coefficient of inflation consistent with prior empirical evidence but predictor variables of interest and exchange rate give confusing outcome in panel of Asian countries.

Although, empirically estimated slope coefficient of restricted model is favorable for economic development in the panel of Asian countries. Intuitively, ambiguous empirically estimated results in the panel of Asian countries because prior empirically confirmed that economic development due immigrants based on skilled composition. Therefore, empirically estimated slope parameters ascertained that immigrants are profitable for Asian native is very comprehensive because characterized wise figure of immigrants not reported especially for Asian countries.

The diagnostic values of the economic performance specification are appropriate and significantly meaningful. Moreover, reduced estimated specification is virtuous as contrary with general estimated specifications. Yet, slope coefficients of reduce specification have better value with consistent sign and statistically significant at low confidence level. The estimated diagnostic figures of reduced specification are more appropriate as compare to general specifications.

5.1. Robustness Check

Although, robustness checks are common in applied economics, their use is subject to various consequences. If they cannot implemented accurately may be useless as well as entirely deceptive. Consequently, specifying an empirical liner regression specifications make arbitrary assumptions and usually researchers have assumed that these assumptions are accurate, though of course they knew these assumption are problematic. However, researcher assume that residuals are uncorrelated among each other or exogenous variables in regression specification. So that, these types of assumptions are unrealistic. The disturbing influences must be explicitly brought into model but at some point one must stop and make the simplifying assumption that variables left out do not produce confounding influences (Blalock, 1964). Luke Keele, (2008) argue that econometric regression specifications are always simplifications, and even the most of complicated regression specifications will be pale imitation of reality. This study check the robustness of estimated parameters from Generalized Method of Moment. Robustness analyzed the biasness, inconsistency as well as uncertainty by comparing approximated regression specification parameters.

In the prime light of this study response variable of interest is counted number of occurrences. One of the key assumption of liner regression specification is residuals are normally distributed. When the endogenous variable in counted number, categorical or in discrete form they violate the key assumption of liner regression specification that is residuals are normally distributed. However, transformation of variables cannot able to solve this issue "*residuals are not normally distributed*". Besides, alternate and most frequent technique used that is; Poisson Regression Specification and Negative Binomial Regression Specification. These estimation techniques have of lot of advantages over to liner regression specification,

when the endogenous variable in count number form. Therefore, some restrictions on Poisson regression specifications is similar to liner regression specifications and then estimated coefficients of Poisson regression specifications are appropriate. However, Poisson regression specifications has strong assumption that is Equidispersion "*restrictive assumption assume that mean and variance of error are equal*". Usually, in empirical estimation this assumption is not satisfied and mostly prior literature indicated that variance of the error is larger than mean. Although, when variance of the error is larger than mean, the problem of overdispersion occur in the data. In this situation estimated parameters of Poisson regression specification are not viable because large variance of error term effect the significance level.

Intuitively, to overcome this problem and alternate technique to deal with overdispersion is Negative Binomial regression specification instead of Poisson regression specification. The Negative Binomial distribution is a form of the Poisson distribution and distributed parameters are deliberately random variables. The estimated parameters reduce the variation that is variance of error larger than mean and estimated coefficients are representative. So that, Negative Binomial regression specification is explicit likelihood estimator and this approach become more elastic. Meanwhile, estimated parameters from negative binomial specification is marginal effects or derivatives. These marginal effect of variables on the average number of endogenous variable. In the other words, marginal effect interpreted that one unit change in exogenous variable will affect the average number of endogenous variable. The following ***table # 5.5.*** estimate output of Marginal Negative Binomial Regression.

Table No 5.5: **Marginal Effects on Panel Data**
Negative Binomial Regression

	Model # 1	Model # 2	Model # 3	Model # 4
Growth Rate				0.9483** (**0.2746**)
Unemployment	0.6278*** (**0.1976**)			0.7053** (**0.3881**)
Employment		-0.2796** (**0.1255**)		
Real wages	-0.2954*** (**0.0866**)	-0.6722** (**0.3942**)		-0.7887* (**0.4767**)
Population growth	0.7993** (**0.2931**)	0.8128** (**0.4887**)		
Personal Remittances	0.1980*** (**0.0387**)	0.7017*** (**0.2950**)		
Age Dependency	0.1114*** (**0.0386**)	0.2438*** (**0.0425**)		
Trade openness			0.9082*** (**0.1957**)	
Gross Fixed Capital Formation			-0.3640*** (**0.1411**)	
Foreign Direct Investment			0.8687*** (**0.3355**)	
Govt. Central Debt			0.0399** (**0.0169**)	
Govt. Consumption Expenditure			0.7727*** (**0.0978**)	
Real Interest Rate			-0.7540** (**0.4356**)	
Real Effective Exchange Rate			0.8618*** (**0.1828**)	
Inflation			0.8625*** (**0.1275**)	

Note1: *, ** and *** show that the coefficients are significant at 10 percent, 5 percent and 1 percent level of significance

Note 2: Dependent Variable is number of international migrants stock

Note 3: In parentheses are Standard Errors

Our formal robustness check is a Negative Binomial Regression Specification. This diagnostic check due to response "*endogenous*" variable are count number for specific time period[17]. This robustness reject "*residuals are not normally distributed"* as well as identifying set of covariates are invalid. These feasible optimal result also strengthen the previous finding as the impact of immigrants on labor market as well as economic performance. The negative binomial regression specification provide a relatively efficient parameters and there is no significant change observed. The estimated robust parameter sing are consistent with theory as well as previously interpreted finding. Interestingly, estimated coefficient of government consumption expenditure is significant with positive sign. Therefore, all estimated parameters value relatively high as well as significance level also change. In concluded remarks, estimated robust parameters will encourage to subject their analysis for more informative, strengthening the validity and reliability of structural inference in economics.

[17] Details describe in Chapter #4, Section 4.1.

Chapter: 6

Conclusion and Policy Recommendations

This chapter presents concluding remarks as well as possible policy recommendations of estimated outputs. Also, the explanation of approximated determinants of immigrants that are verified through generalized method of moments and to clarify labor market as well as economic situation in the panel of Asian countries. Lastly, the policy recommendations for Asian countries especially in the context of South Asian economies and define the consequences of immigrants.

6.1. Conclusion

There are three estimated regression specifications framed in this study. The main issue faced in the estimation was omitted variable bias and multicollinearity among variables. For example, the association between immigrants stock and exogenous variables such as dependency ratio, population growth; similarly the relationship between the immigrants stock and unemployment, as well as the relationship between governments expenditure, investment "gross capital formation and foreign direct investment" consequential the crowding out circumstances. The crowding out circumstances in data reduced the reliability of outcomes. The issue is highly significant and highlighted for legislators.

The estimated slope coefficients of labor market are strongly consistent with prior empirically provided results in various region such as America, European Union and OECD countries (Jimenez, 2007)**.** The situation in the panel of Asian countries is not contradictory because slope coefficients empirically verified that international migrants are the main reason for raised unemployment rate. To avoid investigation bias the researcher used employment

rate in place off unemployment rate to examine the impact of immigrants on employment opportunities in various regions such as Canada, Australia, and United Kingdom. The slope coefficient for the panel of Asian countries support prior empirical evidence that immigrants declined the employment opportunities for natives. Immigrants declined employment opportunities for low skilled natives in case of Canada**.** There is another key variable used to examine the labor market situation wage rate. There is no ambiguity in the literature immigrants declined the wage rate and became the reason for the raised residual wage inequality. The estimated slope coefficients are consistent in the panel of Asian countries. Therefore, predictor slope coefficients of population growth, personal remittances and age dependency ratio are consistent with prior literature and estimated slope coefficients in the panel of Asian countries are reliable (Akram, 2008; Antman, 2012).

Empirically examining Kenna and Walker, (2011) in the context of this study was problematic due unpredicted location specific remuneration data constraint. Kenna and Walker, (2011) approximated location specific remuneration that was computationally infeasible. To do so, large restrictions significantly affected the fitness of model but less restricted wage specifications indicated that individual fixed effects and movements along the age-earning did not part of migration decisions.

It is confirmed theoretically as well as empirically that skilled migrants boost the host economy more rapidly and high inflow of educated immigrants are profitable (Dolado et al. 1994; Barro and Sala-i-Martin, 1995). Similarly, this study examined economic performance in the panel of Asian countries. There was significant issue in estimation of slope coefficients that segregated data was no available, such as legal, illegal, skilled and unskilled etc. So that, estimated parameters are generalized and determined the impact of immigrants on economic

situation in the panel of Asian countries. The slope coefficients gave ambiguous outcomes. In case of investment behavior immigrants are harmful for domestic investor but at national level migrants are favorable for investment. In case of fiscal debt, empirical results described that immigrants are the burden at national revenue but estimated result of inflation are consistent with prior literature and supports in the panel of Asian economies. However, estimated outcomes in case of economic development do not provide explicit results in the panel of Asian countries because reduced slope coefficient of the growth rate is favorable for Asian economies. As a result, restricted regression specification do not give any significant change and slope coefficients are consistent with preceding estimated results in the panel of Asian countries.

Concluding, there is no significant policy exist regarding immigrants especially in Asian countries. However, it is exceptionally observed that the share of immigrants in population considerably large in Southeast and Western Asian countries but asylum/refugees share of population meaningfully large in South Asian countries[18].

[18] Table available in Appendix-B

6.2. Policy Recommendations

Leading economic objective of policy regarding immigrants should be to find their impact on native labor market and economic development. So that, segregation of immigrants is very important: such as legal, illegal, literate, illiterate, skilled and unskilled. For a comprehensive and implementable policy regarding, immigrants this study suggests that Southeast and Western Asian countries should reconsider "*from family amalgamation to employment based migration policy*" to boost the legal and skilled rate of migration. The South Asian countries should adopt "*elastic or guest worker migration policy*" to hinder the inflow of unskilled and illegal migrants/asylum/refugees. Congruously panel of Asian countries should introduce "*point based or merit based migration policy*" to increase employment opportunities and regularize minimum wage rate especially for Asian natives. This sway will unsurprisingly reduce dependency ratio. In the prime light of data, due to unavailability of segregated immigrant's statistics the economic development in the panel of Asian countries is ambiguous. At last, Asian countries should devise a proper mechanism to record segregated immigrant's statistics and same should be published annually which will be obliging for future researches.

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APPENDIXES

Appendix-A

PANEL OF ASIAN COUNTRIES

Sr. No	***Country Name***	***Abbreviation***
1	Afghanistan	AFG
2	Bahrain	BAH
3	Bangladesh	BANG
4	Brunei Darussalam	BUR_DAURI
5	China	CHI
6	India	IND
7	Indonesia	INDON
8	Iran, Islamic Rep.	IRAN
9	Israel	ISR
10	Japan	JAP
11	Korea, Rep.	R.KOR
12	Kuwait	KUW
13	Malaysia	MALY
14	Pakistan	PAK
15	Qatar	QAR
16	Saudi Arabia	SUDA
17	Singapore	SING
18	Sri Lanka	SRI.LAN
19	Thailand	THAI
20	Turkey	TUR
21	United Arab Emirates	UAE

Appendix-B

Immigrants % of Population		Asylum/Refuges % Population	
Qatar	70.5511	Sri Lanka	1.4116
United Arab Emirates	69.6506	Thailand	1.4019
Kuwait	62.5829	Saudi Arabia	1.4018
Bahrain	35.9082	Malaysia	1.3958
Israel	33.5752	Afghanistan	1.3927
Singapore	30.7712	Brunei Darussalam	1.3626
Brunei Darussalam	26.7534	Pakistan	1.3555
Saudi Arabia	23.7641	Japan	1.3396
Malaysia	6.1655	India	1.2733
Pakistan	4.6937	Iran, Islamic Rep.	1.2716
Iran, Islamic Rep.	3.5759	Israel	1.1792
Sri Lanka	2.3850	Kuwait	1.1582
Thailand	2.1646	Bangladesh	0.9309
Turkey	1.9013	United Arab Emirates	0.8643
Japan	1.0925	Bahrain	0.7130
Korea, Rep.	1.0542	China	0.5529
Bangladesh	0.9035	Turkey	0.4201
India	0.8972	Korea, Rep.	0.2568
Afghanistan	0.4955	Qatar	0.2148
Indonesia	0.3570	Singapore	0.1456
China	0.0426	Indonesia	0.1160

These estimated figures are on average values over the period 1970 to 2015 for individual countries.