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**EXPLORING TRANSACTION COST AND
REMITTANCES FLOW TO PAKISTAN: EVIDENCE FROM
TOP CORRIDORS**



*A dissertation submitted to the Pakistan Institute of Development Economics Islamabad,
Pakistan in partial fulfillment of the requirement for the degree of master's in philosophy
in Public Policy*

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DEDICATION

To my **“beloved family”** who gave me lessons in many things. To the hundreds of men and women, Who are in the community in pursuit of a healthy living To the **“Mentor and velvety personality”** my supervisor in particular with bright-eyed and bushy-tailed, to the lady who I loved the most, **“My mother”** and most especially to **“Al-Mighty Allah”**. This Research is dedicated to you

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I am thankful to Al-Mighty Allah who bestowed hubris and power to me for competing this provocative Research. I am thankful to my parents especially to my mother whose prayers, courage and help made my research efficaciously completed

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Not least of all, I present my obligations a heartfelt admiration to my loving parents, sister, and brothers because; my success is the fruit of their support and devoted prayers.

ALI RAZA

LIST OF ABBREVIATIONS

Acronym	Prolongation
BEOE	Bureau of Emigration and Overseas Employment
CIMRAD	CENTRE ON INTERNATIONAL MIGRATION, REMITTANCES AND DIASPORA
CEPII	The Centre d'Études Prospectives et d'Informations Internationales
FDI	Foreign Direct Investment
ILO	International Labor Organization
GFD	Global Financial Development
IMF	International Monetary Fund
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
PRI	Pakistan Remittances Initiative
MTO	Money Transfer Operator
RPW	Remittance Price Worldwide
SBP	State Bank of Pakistan
UN	United Nations
UNDESA	United Nation Department of Economics and Social Affairs
WB	World bank
WDI	World Development Index
WEF	World Economic Forum
ABD	Asian Development Bank
OPHRD	Overseas Pakistanis and Human Resource Development

ABSTRACT

Exploiting the bilateral data on remittance flow and transaction cost to Pakistan for 23 major corridors, this research explores what explains the cost of remitting to Pakistan and its impact on remittance flow. What is the role of Pakistan Remittances Initiative with respect to flow of remittances and its associated cost? Since, two models, gravity model of remittances, and transaction cost model are used to examine the impact of significant variables on remittances flow to Pakistan and on its transaction cost using the actual cost dataset. Previously, the researches focused on calculated data due to the unavailability of the actual data. Data is tested through panel approach including Random effect and fixed effect model. Additionally, to determine the estimates of time invariant variables in fixed effect model, Mundlak approach is used to determine the actual impact of these variables. The estimation found that remittances flow is altered by a variety of variables primary, one of the major factor of remittances flow is the transaction cost. it is found that both remittance flow and cost of USD 200 have significant and negative relation. Other variable like financial development, exchange rate stability, GDP of home country and migration stock are also important factors and bears significant relation with remittance flow. Moreover, In case of cost model GDP per capita, transparency, speed of transfer, coverage rural percentage and financial development are founds as significant relation with remittance cost. Even though, policy and regulations such as PRI have a strong influence on these remittances flow and transaction cost. The research finds that PRI is strongly correlated with Remittances flow and its transaction cost. Finally, in response to considering the effect of one independent value on another, interaction terms are used. The estimation shows that interaction terms between remittance transaction cost and migration stock are statistically significant. It means that transfer cost USD 200 value depends on the migration stock whopping over the host countries that tend to affect the value of the transaction cost and uplift the flow of remittances. Finding suggests the following policy recommendations:

To encourage the remittances flow and maximize the impact of the remittances on the home country, policies should be directed at reducing the transactions costs for other corridors which are significantly contributing in the remittances. Promoting financial sector development and improving the existing policies and regulation can help to encourage the remittance flow to the country and maximize their economic impact.

Keywords Bilateral Remittances, Transaction cost, PRI, Home Country, Host Country

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CHAPTER 1

INTRODUCTION

1.1 Migration outflow and remittances to Pakistan

Migration is an increasingly significant feature of the global economy and a result of globalization. International Migration can be categorized as “voluntary and involuntary”¹ migrations. However, voluntary migration depends on a person’s will that amid to initiative and desired to live in a place where there are greater economic opportunities through which they can improving their core financial status. Among the other side, Involuntary migration based on a person is forced out of his country due to some unfavorable environmental and political situations (WEF, 2017). Many migrants work temporarily in the destination countries but in also many migrants worked for extended period. However, the main reason of leaving own country is no job opportunity or low job opportunity, unequal income and resource distribution and rising trends of poverty and inflation are the major cause that compel people to migrate to other countries and find new world of opportunities for them across (OPHRD², 2018). Similarly, International migration allows many people to seek new opportunities and help to reduce global disparities (United Nation, 2020).

Most people migrate due to economic restructuring, job scenarios often contrast from one country to another, and within regions of the same country (UNDESA, 2018). Similarly, United Nation used the term “economic migration”³ which refers to the migration by a individuals to move in a region or across the border (international migration) to seek improved living standards because fewer economic opportunity exists in the origin country (UNDESA, 2014). However, Cutting the high migration cost can lead to more migrants "winning" from the migration process, enabling more individuals from low-income families to avail more foreign employment opportunities (ILO, 2017). The increase in the international volume of migration over the recent past years has led to a significant uplift in

¹ *The voluntary migration is subjected to the will of the person whereas the involuntary migration based on a person is forced out of the country. Here the study considers only the voluntary migration.*

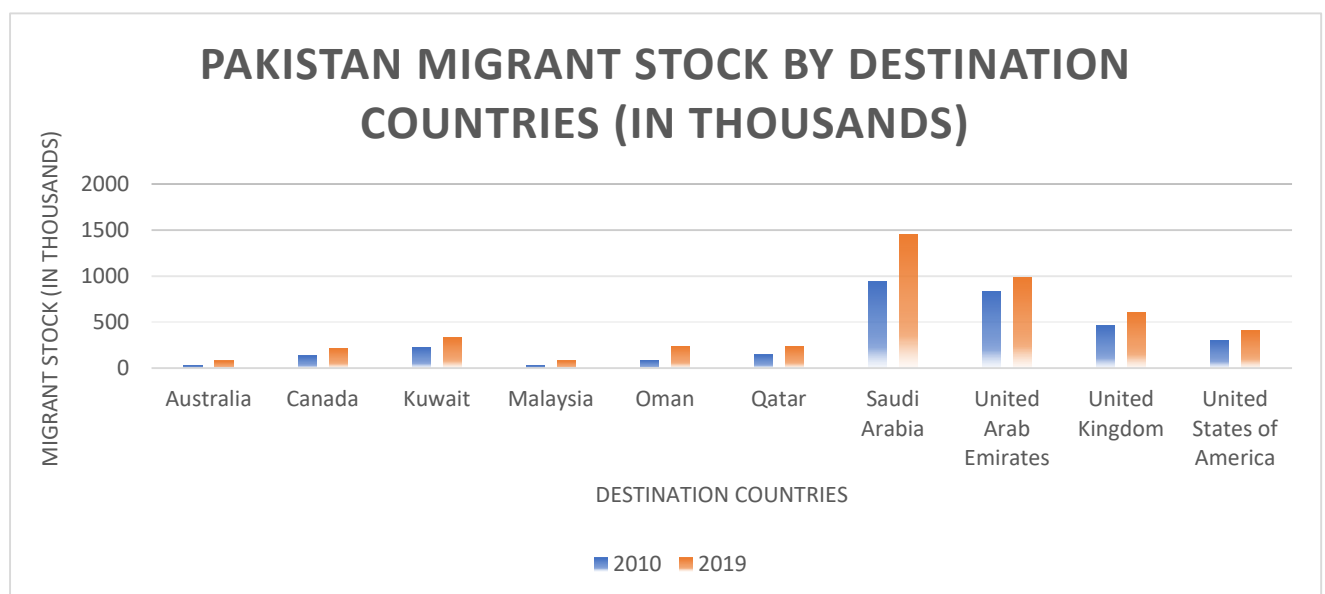
² *Ministry of Overseas Pakistanis and Human Resource Development, Government of Pakistan*

³ *Economic migration refers to the voluntary migration of an individual across the border to determine a better life standard.*

financial flow. Subsequently, international migration is merged as a significant source of foreign financing for developing countries (ABD, World Bank, 2018).

Pakistan contain a long history about international migration. A mix of voluntary and involuntary migration prevails in Pakistan. These migrations are attributed to development differences between urban and rural areas where people move to gain better employment opportunities and to overcome the poverty (Sadia et al., 2017). Major wave of international migration from Pakistan started from 1970s when thousands of Pakistani labors leave for the Gulf countries to work in the newly developed oil-rich countries. Recently, Pakistan exist on the list of the 2nd largest labor exporting countries in South Asia (IOM, 2020)⁴. In this manner Pakistani emigrants left for neighboring countries especially Gulf states; Since 1971, the bureau if emigration and overseas employment has registered some 11.11 million migrants (BEOE(a), 2020)⁵. On the other hand, the migrant stock determine by the United Nation department of Economic and Social Affair is about 6.8 million in which 4.7 live in the Gulf states (UNDESA, 2019)⁶.

Figure 1.1: Pakistan Migrant stock by destination countries (in thousands)



source: UNDESA, 2019

⁴ Net migration rate for Pakistan in 2020 is -1.016 percent per 1000 population. Pakistan is ranked 13th in the world and 2nd in South Asia (IOM, 2020).

⁵ The Bureau of Emigration and Overseas Employment estimates includes the cumulative series of the Pakistani Migrants.

⁶ while in case of the United Nation department of Economic and Social Affair it determines the actual migrant stock resides in the destination country.

Figure 1.1 indicates that Saudi Arabia, UK, UAE and USA has relatively more migrants from Pakistan as compare to that of Australia, Canada and Malaysia etc. However, the migrant stock is increased significantly over the decade.

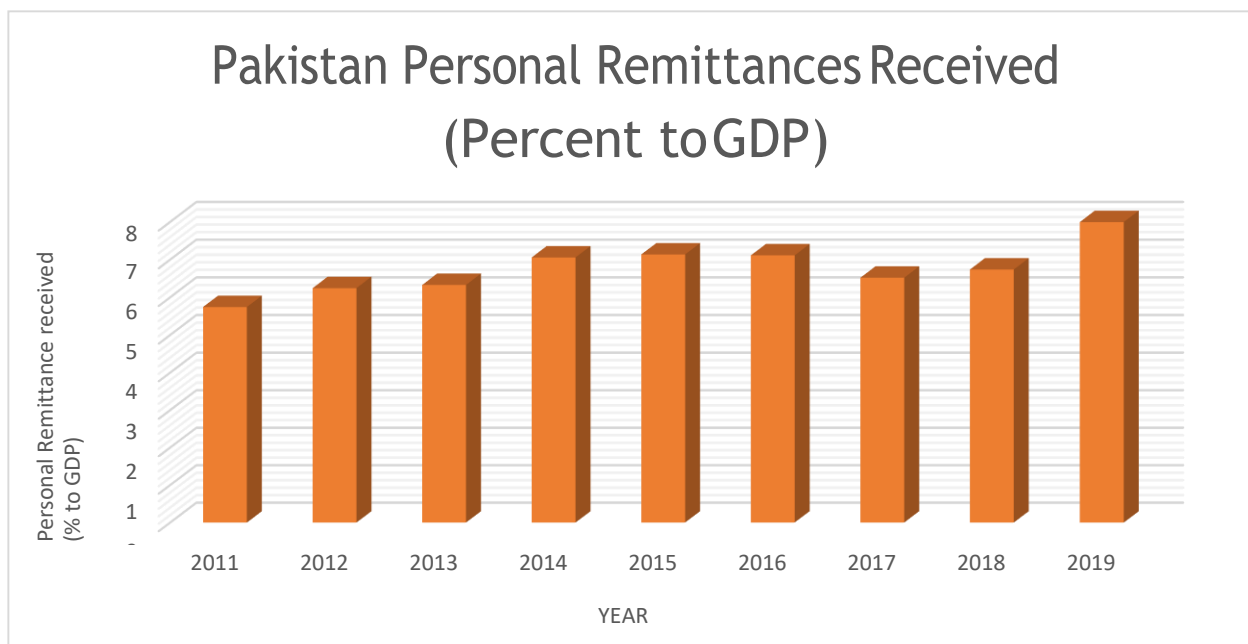
Remittances are the ripen fruit of migration process. These are the cross-border transfer of money by workers of the one country bringing back to their own country of origin for the use of household financing. These financing includes the two basic types of remittance, personal transfer⁷ in cash and the compensation of employees⁸ (World Bank, 2018). Indeed, international migration is a significant source of external financing for many of the developing countries. In this sense, Pakistan is considered a labor exporting country whose migrants brought a significant portion of foreign currency to the country. However, Centre on International Migration, Remittances and Diaspora (CIMRAD, 2020) stated that migration and remittances will carry on show its significance in molding the Pakistan's economy, it is an engine for the economic growth and render as ease for the domestic pressure of employment. Although, it will provide a much-needed support to the balance of payment. Remittances received by Pakistan make up 6.5 percent of the country's GDP and covered \$ 22.5 billion of remittances in the year 2019, hence representing a core part of the economy of Pakistan (World Bank, 2019).

Figure 1.2 shows the personal remittances received by Pakistan percent to GDP. In the years of 2014 to 2016 the remittance percent to GDP were 7 percent. Despite the oil slumps in these years Pakistan received a significant flow of remittances. As pointed by State Bank of Pakistan (2015) that GCC spending plan was no affected by the declining oil prices due to the large sovereign funds. The overall shares of GCC at that time estimated to 65 percent which forebode high flow of remittances to Pakistan. However, world in 2019 the remittance percent to GDP remains the highest at 8 percent. World Bank (2019) stated that the value of remittances percent to GDP is estimated as 8.02 percent comparatively 4.65 percent of the world average based on 163 countries.

⁷ *Personal transfers: These are all current transfers in cash or in kind made or received by residents (be it migrants or non-migrants) from or to individuals in other countries ("all current transfers between resident and non-resident individuals (IMF, 2009).*

⁸ *Compensation of employees: This refers to income earned by temporary migrant workers in the host country, and the income of workers who are employed by embassies, international organizations and foreign companies (or "the income of border, seasonal, and other short-term workers who are employed in an economy where they are not resident and of residents employed by non-resident entities (IMF, 2009).*

Figure 1.2: Pakistan Personal Remittances Received (percent to GDP)



Sources: World Bank, 2019

Every year billions of dollars are transferred by migrant workers to their home countries. According to the World Bank (2019) in the of 2019 the total value reached a record of \$554 billion. Remittances are the private saving of the abroad workforce and families that are spent in the home country for many of purposes. Previously, exploration has also shown that migrants coming back from working abroad have a higher propensity for establishing their own business. Hence, remittances in this regard have extensively appeared as an important role in the prosperity of the country (Zheng and Musteen, 2018).

For Pakistan, remittances have a huge share in foreign exchange and the part of the balance of payment. Pakistan gains remittances worth \$1.79 billion out of which inflows from GCC countries amounted to \$958.51 million (State Bank of Pakistan, 2020). Thus, remittances can be utilized in many applications like foreign exchange earing, micro economic stability and economic development. These are considered as powerful tool to hinder the adversities in economic activities. According to the Economic Survey of Pakistan (2020) Pakistan current account deficit is contracted to \$3.3 billion, this contraction is due to reduction in import by 12 percent and increase in remittances by 5.6 percent. World Bank (2020) report stated that despite the overall negative impact of Covid-19 pandemic, Pakistan remittances are projected to grow at around 9 percent in 2020.

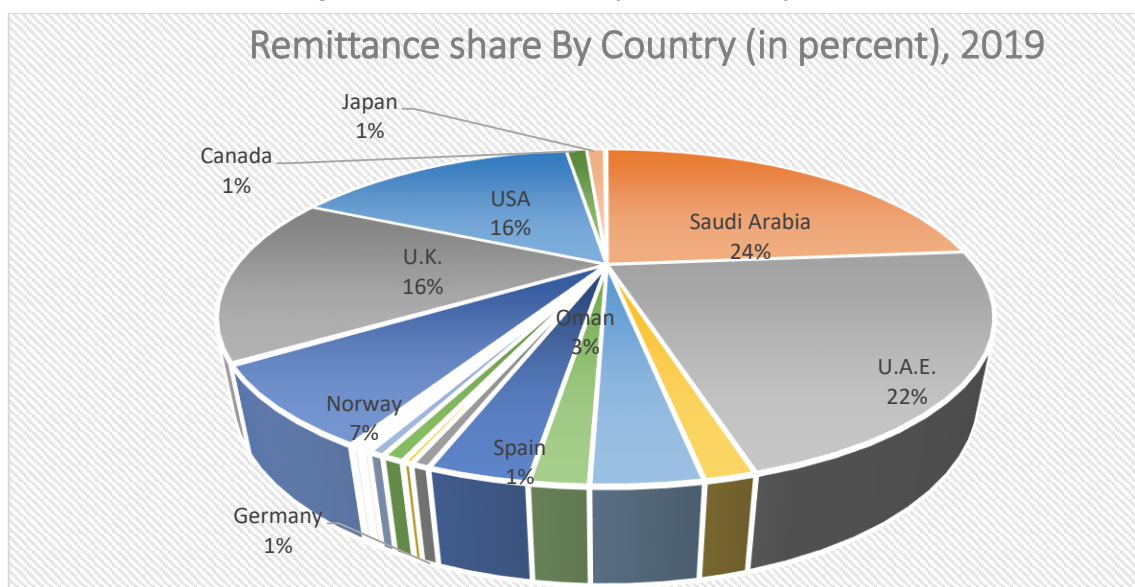
Table 1: Remittances by Host Countries				
Host Countries	(A)	(A-1)	(B)	(B-1)
Year	2011	2019	2011	2019
GCC Countries				
Saudi Arabia	2,670.07	5,003.01	23.84	23.01
U.A.E.	2,597.74	4,617.27	23.19	21.24
Bahrain	167.29	340.18	1.49	1.56
Kuwait	495.19	725.77	4.42	3.34
Qatar	306.11	385.94	2.73	1.78
Oman	337.59	667.17	3.01	3.07
Europe Countries				
Germany	123.53	1,199.67	10.71	0.57
France	61.40	106.64	0.95	0.28
Netherland	6.83	39.68	0.35	0.03
Spain	10.97	150.94	0.10	0.69
Italy	53.43	111.15	0.48	0.51
Greece	48.89	49.62	0.44	0.23
Sweden	11.09	16.95	0.10	0.08
Denmark	9.90	15.81	0.09	0.07
Ireland	24.47	51.15	0.22	0.24
Belgium	21.65	46.28	0.41	0.10
Norway	3.41	1,551.74	0.03	7.14
Switzerland	36.99	43.47	0.33	0.20
U.K.	31.67	3,412.31	0.28	15.70
North America				
USA	2,068.67	3,309.08	18.47	15.22
Canada	184.62	246.04	1.65	1.13
Asian Specific			0.00	
Japan	8.13	213.03	0.07	0.98
Australia	31.07	89.14	0.80	0.14

Source: State Bank of Pakistan and own calculations. Column (A): Remittances by the host country (2011). Column (A-1): Remittances by the host country (2019). Column (B): share of remittances from the host with total remittance (in Percentage, 2011). Column (B-1): share of remittances from host with total remittance (in Percentage, 2019).

Table 1 indicates the remittances flow from the top corridors during the year 2011 and 2019. A significant increase in the flow of remittances can be observed for the table. Similarly, Figure 1.4 shows the share of remittances by host country which in percentage, UAE and Saudi Arabia are the top corridor showing large shares of remittances.

Additionally, according to annual performance review of state bank of Pakistan (SBP, 2019) 23.36 percent (US \$ 4175.32 million) of remittances received by the side of Saudi Arabia which makes Pakistan-Saudi Arabia corridor the most important. In this regard, 21.19 percent (US \$ 3786.96 million) of remittances come from the UAE. However, other countries of Gulf 9.61 percent (US \$ 1717.86 million) are important in this esteem. After that, United Kingdom Pakistan and United State-Pakistan way are dominating with USA 15.6 percent (the US \$ 2786.35 million), U.K 15.41 percent (US \$ 2755.52 million) shares respectively in the overall inflow of remittance to Pakistan. Besides, Malaysia 7.06 percent (US \$ 1262.67 million), EU 2.72 percent (the US \$ 485.89 million), and other countries 5.07 percent are those countries from which Pakistan has received a considerable portion of remittances and thus making significant corridors with Pakistan.

Figure 1.3: Remittance Shares by the host country, 2019



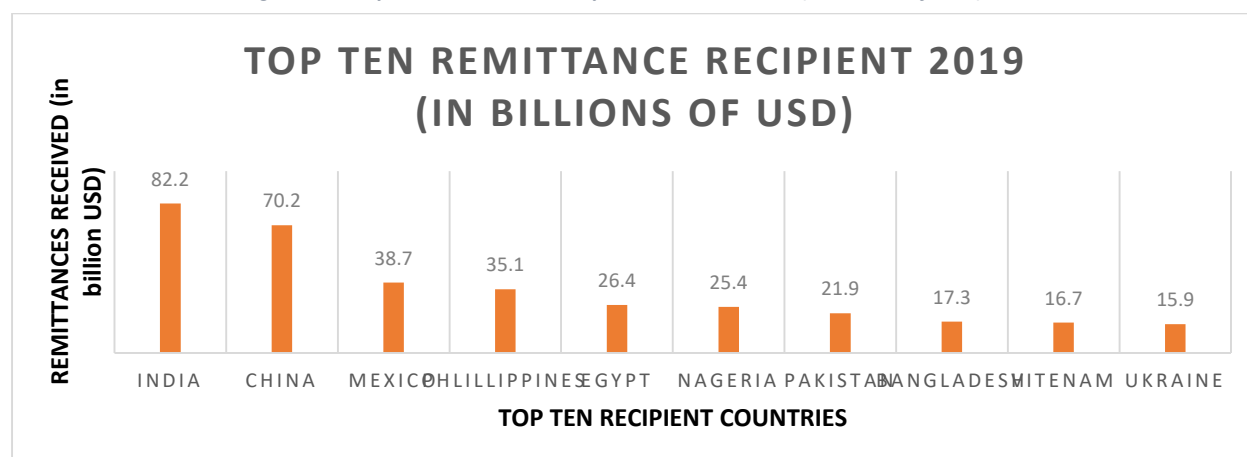
Source: State Bank of Pakistan, 2019

Figure 1.4 illustrate the share of the remittances received from top corridors, among these Saudi Arabia placed on top with about 24 percent share of remittances. Similarly, U.A.E is second with 22 percent following by the UK and USA having 16 percent share each.

Pakistan received a record workers' remittance at 23.10 billion in the year 2020. All time high at 2.77 billion in the single month of July at the first month of the fiscal year 2021. Pakistan is among the nations that rely on remittances, as the inflows stand at 7.9pc of its gross domestic product (GDP) World Bank issued the ranking of the top ten recipient remittance recipient countries. Among which, India is on top with over 82.2 billion U.S.

dollars, or 2.8 percent of its GDP, followed by China with nearly 70.3 billion U.S. dollars, or 0.5 percent of its GDP. Pakistan is placed on seventh topmost country with \$ 21.9 billion (World Bank, 2019).

Figure 1.4: Top Ten Remittance recipient countries 2019 (in billions of USD)



Sources: World Bank Report, 2019

Figure 3 shows the ranks of the top ten remittance recipient, India tops the list containing the first slot with \$82.2 billion while China is following with second slot with \$70.2 billion. Pakistan is ranked 7th with \$21.9 billion. With around 6 million emigrants, which refers to 3 percent of the all-out Pakistani population, Pakistan is ranked in one of the top ten remittance countries in the world (World Bank, 2019).

1.2 Remittances and Modes of Transfer

Remittance can be sent through different channels which takes the form of formal and informal channels. A formal channel counts true remittance transfer and has a true impact on the development of the country while the informal channels including “hundi and hawala”⁹ understate the statistics of the remittances (Agunias and Newland, 2012). Workers use the informal channels for the transfer of the funds due to inflexibility in the regulatory measures which significantly understate true remittances (Freund and Spatfore, 2008). In one of few empirical attempts to cover or instigate the size of the informal remittances Freund and

⁹ Hundi: This is an informal method of sending remittances. The sender contacts a broker who acts as an intermediary and arrange the transfer. The sender remits a certain amount in host currency and the broker contacts a counterpart in Pakistan, who makes the payment in Pakistani rupees to the family of remitter. Through out the whole procedure, no money crosses the boarder and no official records exist for the transaction.

Spatfora (2005) exploited the prior literature on shadow economies to estimate informal remittances for more than 100 developing countries. The finding proposes that the size of informal remittances changes by region: informal remittances to Eastern Europe and Sub-Saharan Africa are higher, while those to East Asia and the Pacific are in comparison low. Geographically, the terms which is used to describe informal remittance frameworks include Fei-ch'ien (China), Hundi (Pakistan, Bangladesh), Hawala (India and the Middle East), Padala (Philippines), Hui Kuan (Hong Kong), and Phei Kwan (Thailand).

Notwithstanding, the distinctions in terms, the operational instruments of the different systems are basically the same. A survey for remittances conducted in 2016 found that around 54 percent of remittances got through the mean of informal channel, including hundi 40 percent, companions and family members is 5 percent, and hand to hand is 8 percent (Siddiqui and Abrar, 2017). The inflow of remittances by formal channels to Pakistan is increasing over the period from \$11.2 billion of 2011 to \$19.6 billion in 2018 (Pakistan Economic Survey, 2018).

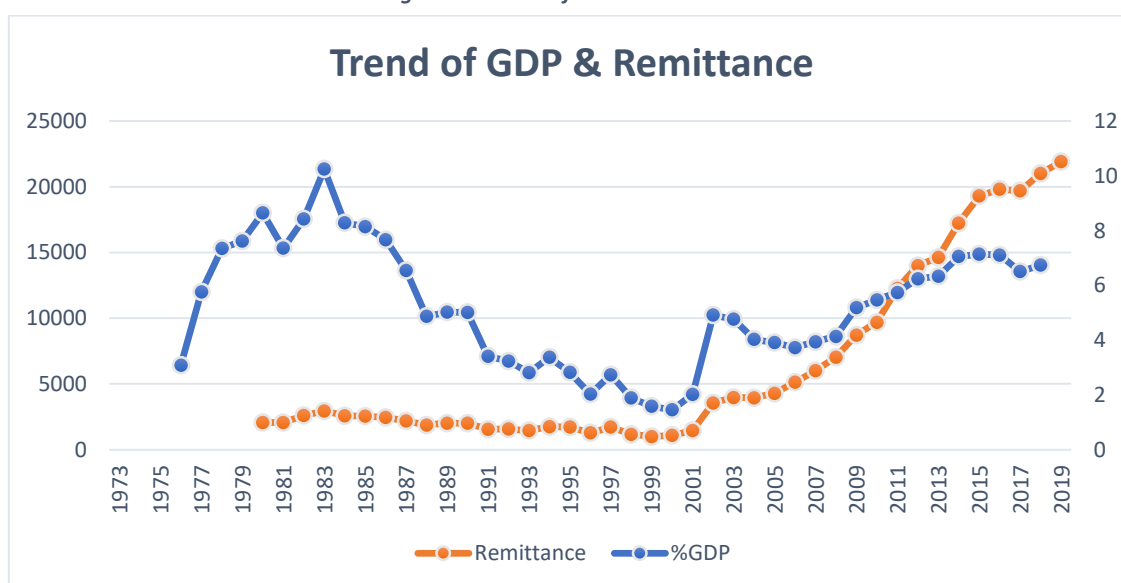
Such in order, to grow remittances inflow, numerous issues like the use of the informal channel and controlling growth of illegal recruitment agencies must be curbed. In the midst, the policy struggles to uplift formal remittance inflows, an existing example is the Pakistan Remittances Initiative which has provided incentives to remitter and receiver to lead a smooth foreign transaction. similarly, banks bringing in remittances into the country provided with tax credits for renouncing the “remittance fees”¹⁰ otherwise charged to remittances receivers. This incentive is to stab remitter to make more flows through banking channels, away from hundi channels or other informal channels.

There are other factors for the existence of the fund transfer through informal channels, these include the low speed of transfer, lower reliability, insecurity, inconvenience and more significantly the high cost of remitting. However, Macroeconomics variables interest rate, exchange rate, real GDP, development expenditures, stock market performance and political stability appeared important determinant of workers' remittances. The remittance flows increase with the development of these determinates (Sciopu and Siegfried, 2006).

¹⁰ Remittance fee refers to the transaction cost of remittances.

A former study Amjad, Arif and Irfan (2012) analyzes the likely reasons for this increase, in its findings suggested that the rise is mainly due to switching from informal channels to formal channels, rise in the stock of migrants abroad and a enhancement in migrants' skill levels, resulting in increase of wages and incomes migrant abroad. Figure 1.5 shows the trend of GDP and Remittances which shows that in 2000-2001 the remittances shift upward. The upward trend is started from the 2001 which is remains mounting in the preceding years. This upward trend or double increase in remittances is due to the vast increase in the use of the formal channel which make remittances transfer reliable and easy (Amjid et al., 2012).

Figure 1.5 Trend of GDP & Remittance



Source: World Bank, 2019

1.3 Mechanism of Remittance Transfer through Formal Channel¹¹

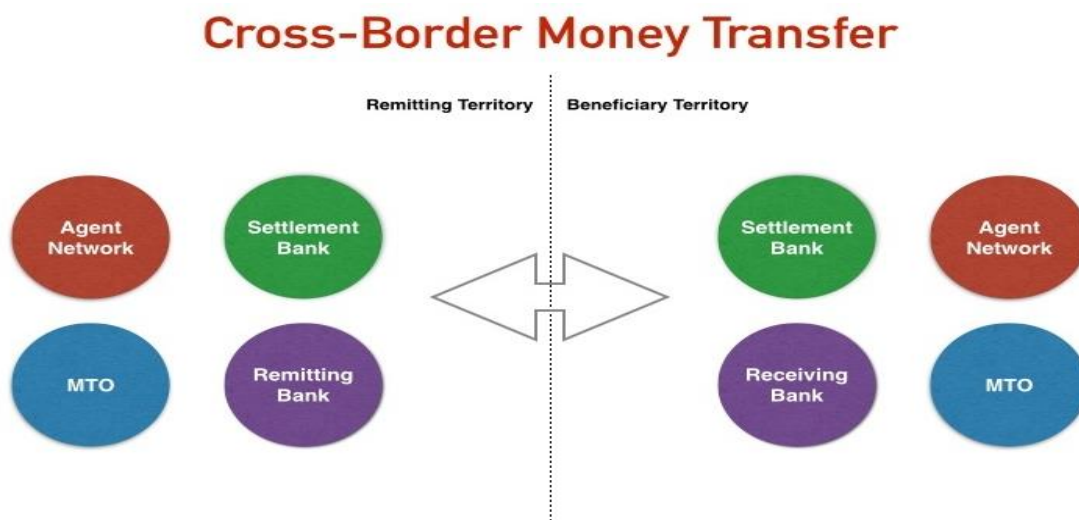
The cross-border money transfer involves various parties; the settlement bank (at the sender's and recipient's countries), the MTO¹² and the correspondent. The sender visits a choice agent network, e.g., Western Union, Money gram, or other agents, provides his details and those of the recipient and pays for the remittance. The agents accumulate all the cash to be remitted to other countries and send it to the money transfer operator (MTO) who prepares a single transaction. The operator also makes a record that shows how the remittances will be broken

¹¹ Formal channel: A formal channel is an official medium of sending money across the border which contains an official record of transaction.

¹² Money transfer operators: Money transfer operators (MTOs) are financial companies (but usually not banks) engaged in cross border transfer of funds using either their internal system or access to another cross-border banking network.

down into individual orders for the final distribution. These records are usually prepared for the recipient's bank territory and is sent via email. At this point, the MTO sends the money to the sender's settlement bank. Since not all banks deal with remittances, the MTO assigns this role to banks that work with MTOs. The sender's settlement bank then initiates the transfer through the different methods and sends the money to the recipient's Settlement bank through an intermediary called a correspondent bank. The receiving bank alerts the recipient's settlement bank (the final destination) and the US dollars, or other denominations are remitted to the central bank for the exchange to the local currency. The Settlement bank also notifies the recipient and the MTO that it has received the money and is available for collection in the local currency. The MTO on the beneficiary's side then distributes the cash through cash over the counter payments or direct bank deposits to complete the remittance cycle. This process is applicable when the two MTOs (the sender and the beneficiary) can trust each other as they barely integrate during the entire process. The only unifying factor is the record sent to the recipient's settlement bank that shows a breakdown of remittances.

Figure 1.6: Cross-Border Money Transfer



1.4 Remittance Flow to Pakistan and its Transaction Cost

Pakistan is listed among those countries which significantly rely on remittances for its socio-economic development. Among these indicators, the trade deficit is the everlasting economic problem, in 2017-18, about 63 percent of this deficit is financed through workers' remittances

(Pakistan Economic Survey, 2018). Despite, the role of remittances in the economy of Pakistan, the cost of remittance transactions in Pakistan is yet to be revealed.

The flow of remittances can be influence by a verity of factors, nonetheless, the most significant, visible and calculable seems to be its cost or price of sending remittances. Freund and Spatafora (2008) study based on household survey data, that stock of migrants influences recorded remittances positively while transaction expenses and exchange conversion rate affect it adversely. Essentially, migrants abstain from sending remittances if the expense is high or they decide to use informal channels to send remittances.

Nasir et al. (2016) measure the cost of remittance transfer to Pakistan both at aggregate and corridor level. The study identified transaction cost as a significant factor to influence the remittances flow. Similarly, Ahmed and Martinez-Zarzoso (2016) examine the effect of transaction cost on bilateral remittances. The study suggested that both have significant but negative relation with each other. A higher cost refrains the remitter from sending remittances through formal channel and send it through informal channel. Another study reveals that to what extent reduction in cost of remittances to developing countries increase the remittances flow. The study found that 1 percent reduction in the cost of remittances transfer tends to increase its flow by 1.6 percent (Ahmed et al., 2020).

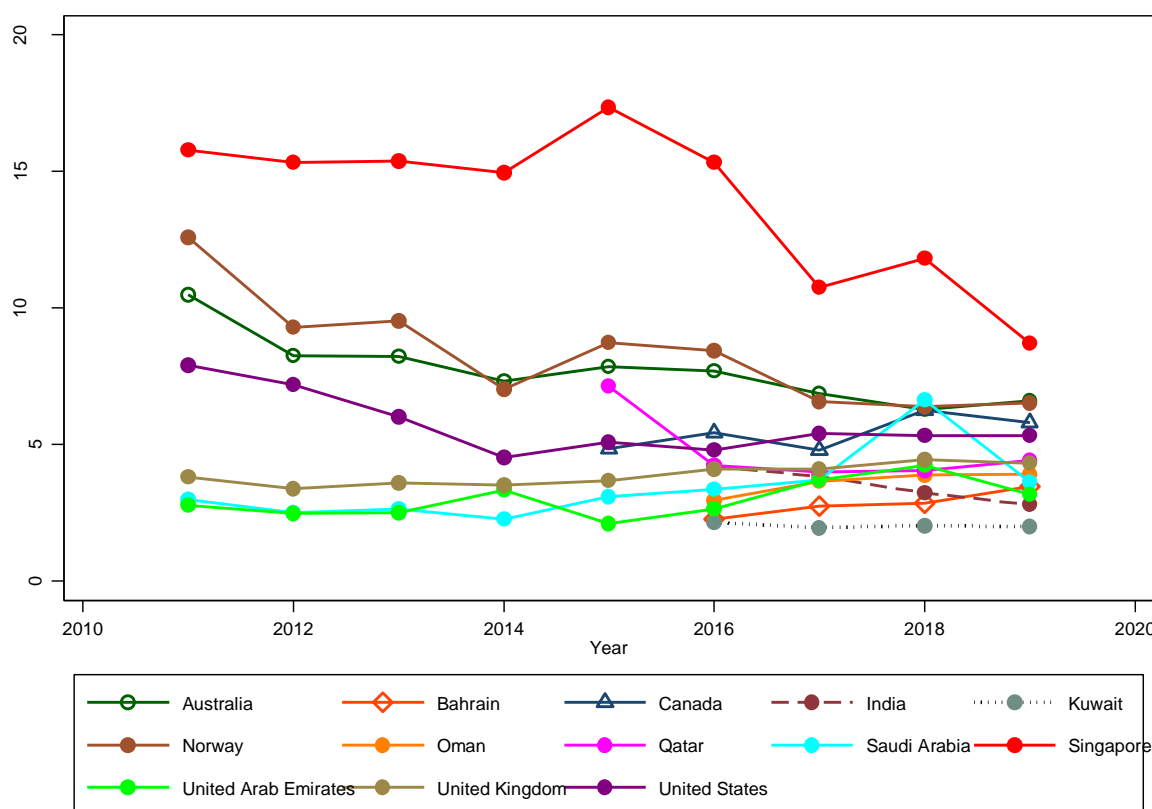
Likewise, the identical study found that migrant stock and nourished financial services in the home country enable a smooth flow of remittances. The average transaction cost of remitting to Pakistan dropped to 5.19 percent in 2019 which was 8.2 percent in 2011. The cost of using formal channels for remitting such as banks and Money Transfer Operators (MTOs) however remains in high related to that charged by various Hundi operators (world Bank, 2019(a))¹³.

On the other hand, transaction cost is a crucial driver of remittances which itself depends on variety of variables. There are many determinants of cost which is empirically tested by the literature. In the case of Pakistan, there are significant determinants of the transaction cost and the inflow of the bilateral remittances which one way or another way linked with cross

¹³ World Bank 2019(a), *leveraging economic migration for development. A brief for the World Bank Board.*

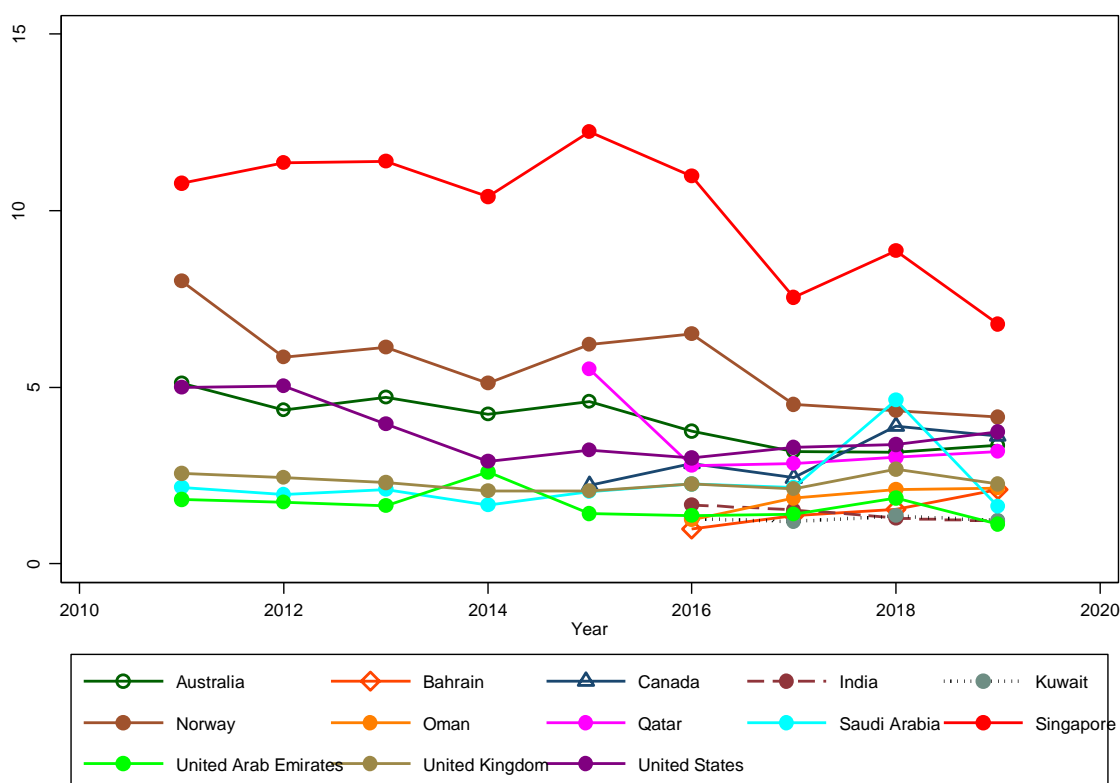
border financial transfer. Hence, alter the decision of the remitter. Thus, those factors which attract the migrant towards formal channels include transaction cost, convenience, speed, security, trust and familiarity, the maximization of these factors have a significant impact on the use of the formal channels (CFPB, 2011). The graphs reveal an obvious picture of the cost of the remittance. Over the time the graph is downward sloping which gives the sense that remittances are lowering with the passage of time. As, World Bank (2019) point that, this decline comes after remittances to lower-middle-income countries reached a record USD 554 billion in 2019, overhauling Foreign Direct Investments.

Figure1. 7: Cost of sending 200 U.S dollars (in percent)



Source: Remittance Price Worldwide, World Bank 2020

Figure 1. 8: Cost of sending 500 U.S dollars (in percent)



Source: Remittance Price Worldwide, World Bank 2020

The above graph 1.7 and 1.8 indicates the cost of sending 200 and 500 U.S dollars in present time. Over the time the cost has shown a significant decline in the cost of remitting but for some countries still remain lofty. In particular, the figure reveals that it is pointedly cheaper to send remittances to Pakistan from Saudi Arabia, UAE and United Kingdom as compared to other corridors. Gulf countries are less expensive corridors with cost being ranging in 2 to 4 percent. On the other hand, the cost for Norway and Singapore shows the highest touches, upped in the years of 2010 to 2015 while slope downwards subsequently. It is most costly for a Pakistani worker to send remittances home from Singapore and Norway as compared to the GCC countries and UK. Cost of sending remittances is considered as a primary factor for the remittance flow. The high cost is the one leading obstacle that discourages the use of formal channels (World Bank, 2014). The implementation of effective government regulations and policies as advancing bank branches on the domestic and foreign level and improving the technological system can help to decline the cost of the remitting to the home country.

1.5 Pakistan Remittance Initiative, Remittance Flow and Transaction Cost

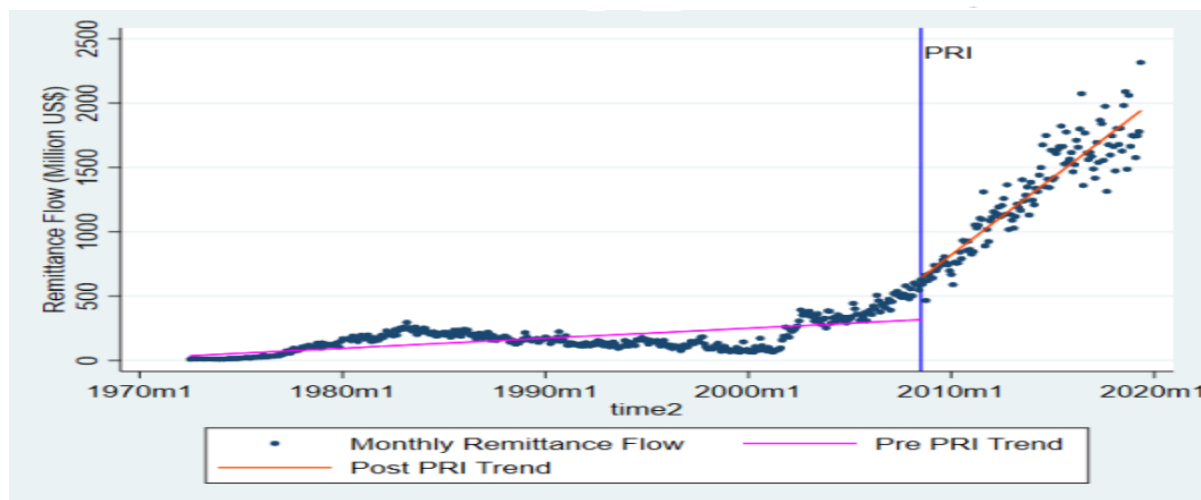
In order to settle ownership structure for remittances in Pakistan, State Bank of Pakistan with two ministries i-e Ministry of overseas Pakistanis and Ministry of Finance launched a joint initiative in 2009 called as Pakistan Remittance Initiative. This step is taken to achieve the objective of facilitating, supporting, faster, cheaper, convenient and efficient flow of remittances. PRI has given many incentives to facilitate a smooth transfer of remittances. It has enhanced the distribution channels, provide advisory service to banks for the use of innovative remittance products, training programs for potential overseas Pakistanis and most specially challenges to the informal channel.

Opening an account is now an easy task to tackled down likewise those dealing with sending and receiving of remittances can open these accounts with a modest one-page account opening form, which is both paper-oriented and electronic structure, requiring only elementary customer information. The forthcoming beneficiaries and their relatives can open a banking account at banks' branches or through banks' changeless staff visiting customers' places. International Bank Account Number (IBAN) and names of forthcoming remitter expressing a relationship with the record holder is a compulsory necessity for the Asaan Remittance Account.¹⁴

The new Asaan account is planned uniquely for recipients of home remittance settlements and will be taken care of with the returns of home remittances. A most extreme credit balance breaking point of Rs 2 million, money withdrawal limit of Rs50, 000 every day and the same amount of fund transfer amount per day has been set for these records. (PRI, 2019).

¹⁴ Asaan Account is meant for resident individuals having Pakistani nationality only. The bank may guide non-residents or foreign nationals to open regular bank account.

Figure 1.9: Remittance trend pre and post PRI



Source: State Bank of Pakistan (2020)

Figure 1.8 demonstrate that after the Pakistan remittance initiative, the trend of remittances in post PRI period is steeper than the early pre-PRI period. It mainly through the shift to formal channels and other incentives provided to the remitter.

Additionally, more than 40 percent of Pakistan's total migrant stock is assessed to be living in richer countries like the US; UK, Europe, and Australia however remittances progression from these countries is moderate. PRI needs to build its entrance in these business sectors. As of late, the banks have forcefully extended their systems in Saudi Arabia, UAE, USA and Europe. Likewise, the scalability of the migrant nation banking framework has a backhanded impact on the financial awareness of the migrants (Mambio & Ratha, 2005). Banking infrastructure is the key determinant to reduce the inflow cost of the remittance. Thus, Remittance and financial development have a strong positive relationship in the long-run equation (Rosline, Anne & Hared, 2019).

Extended to the case studies which shown remittance flow as very significant to the cost, remittance inflow is likely to increase significantly as cost goes down. (Gibson, Mckenzie and Rohorna, 2006). Up till now, empirically it is little to know about the determinants of cost which further amplifies the remittances flow.

1.6 Problem Statement

In the remittance market, high transaction costs hamper inflow and outflow. However, with this reason the United Nations has set an objective to diminish service charges that averages 7 percent at present to 3 percent by 2030 (United Nation, 2017). Other significant elements to consider while transferring remittances are the speed of transfer, the quality of availability of the system through which the funds are transferred, the reliability of the remittance service providers, and the flexibility of methods of transfer. The general inability of most money transfer services to content these plays a significant role in reducing remittance inflows in the country.

During the last ten years, government has taken several courageous steps to increase home remittances through formal channel. There are many determinants which are identified in the previous studies. In fact, remittances flows have a strong relation with the transaction cost of remitting. In itself, transaction cost has very strong factors such as Speed of transfer, GDP per capita, rural percentage and transparency which influence it with a large degree. Thus, there a need to explore the influencing factors of transaction cost which a core factor for the behavior of the remittances flow.

With the problem this study aims to investigate the drivers of the remittance's transaction cost and the subsequent effect of the transaction cost on remittances using bilateral data of Pakistan remittances with regards to its main corridors. Hence, this study intended to evaluate the effect of transaction cost on remittance flow especially to Pakistan from the identified corridors by utilizing cost data that include the new initiatives taken and technological advancement introduced in the current period.

As a primary factor of the remittances flow, transaction cost is subsequently altered by its own determinants. To evaluate the gross impact on remittances, flow the study intend to also consider the factors which has an impact on the transaction cost.

1.7 Research Objectives

Given the extensive efforts towards reducing remittance's cost by the concerned authorities, this study put forward this question that how the effect of transaction cost impact on remittance inflow to Pakistan and needed to direct policy efforts or aim at the underlying drivers of transaction cost in the top remittance regions.

- Describe the trends of international remittances flow to Pakistan and identify major countries of origin and similarly the cost of the remitting from those corridors.
- Investigate the drivers of the remittance transaction cost and its association with the policy and regulations.
- Identify the specific effect of transaction cost on remittance flow.

1.8 Research Questions

- What explains the cost of remitting to Pakistan?
- What is the impact of transaction cost on remittance flow from the top corridors?
- What are the impacts of PRI on bilateral remittances and its cost?

1.9 Rationale of the Study

Migrant remittances in Pakistan play a major role in the micro and macro stability of the country. Ahmed and Martinez-Zarzoso (2016) in a study, remittances flow to Pakistan by way of 2twenty three sending countries over the time of 2001 to 2013, finds that remittance associated cost brings adverse consequences for remittance flows, which means that a rise in the cost of formal channels leads to reduce the remittance inflows through formal channel. Thus, this study of the subsequent effect of transaction cost on remittance, there is a need to extend more literature on this subject which will carry on facilitating effective policy sight. The objective of the study is twofold: firstly, to extends the analysis of using more available information on remitting the cost data. Secondly, to know the effect of government regulation in the form of the Pakistan Remittance Initiative (PRI), transparency, and speed of transfer on the cost of remittances.

1.10 Organization of the Study

Chapter one discusses the migration and remittance flow. The rest of the chapters 2 present the literature review of the remittances and its impact for Pakistan. It also represents the analysis of the transaction cost of remittance with respect to Pakistan. However, chapter 3 illustrate the research methodology with the description of data and variables. Chapter 4 shows the important estimation results. Finally, chapter 5 includes conclusion and policy recommendations.

CHAPTER 2

LITERATURE REVIEW

In the presence of wage inequalities, migration can create higher wages and income equality between home and host countries. Mobility of labor Internationally, is subjected to high migration cost and more restrictive policies as compared to internal mobility (Ozden and Schiff, 2006).

Similarly, individuals and their family members are offered with the ability to experience large gains in their incomes by international migration and split varying benefits to the sending countries. However, a potential concern about costs of migration includes human trafficking, more efficient use of remittances and concerns like externalities to be lost from skilled workers. (McKenzie and Yang 2015).

One of the development strategies of Pakistan is the export of labor to other countries. Pakistan is considered as labor surplus country. Similarly, (Aqeel, 2015) conducted a studied which determine the migration dimensions form Pakistan. It explores that the cost of mobility, distance in kilometer and policies of abroad countries determine the cost of migration for the willing migrants. In this manner, a considerable increase in the migrant stock is observed from Pakistan, these brings in core part of remittance to Pakistan which is reflect positive consequences for the country's development (World Bank,2019(b))¹⁵.

2.1 The impact remittances its important factors

In the 2010, formal remittances recorded to developing countries crossed \$334 billion (World Bank, 2010). Comparatively, it is a large source of foreign exchange for developing countries than other financial inflow. In 2009, relative to some developing countries remittances increased as foreign direct investment while other group of countries remittance represent flow that become a variety of other balance of payment flow (Chami, Hakura and Montiel, 2009)¹⁶. Junaid and Marinez-Zarzoso(2013) studied cyclical, stability and stabilizing impact of migrant remittance. The study found that foreign remittance are less volatile source

¹⁵ World Bank (2019). *Pakistan Overview*, World Bank Group

¹⁶ *Remittances an Automatic output stabilizer?* International Monetary Fund working paper, WP/09/91.

of external finance than FDI and ODA that are counter-cyclical and stabilizing, thus serving to steady the recipient economy in times of economic downturn.

However, according to Ratha (2013) remittances can play a vital role in eliminating the poverty because it increases household income in developing countries. Not all poor or financially weak households can arrange the initial capital for migration. Indeed, the associated costs and risks pinned with migration remains as a barrier for the poorest people (World Bank, 2011; Stark et al., 1991). Recently, Ratha (2013) reported that remittances increase domestic savings and nourished financial intermediation which in a result enhance the growth prospects of the home countries.

Qayyum, Javid and Arif (2008) finds that remittances bring significant and positive impact for the Pakistan economy through improving balance of payments position and declining external borrowing dependency. This phenomenon also helped Pakistan to recover from the negative effect of the oil prices shocks, reduced the unbridled unemployment issue and providing better standard of living to beneficiary households.

However, (Sun and Kock, 2011) studied remittances in Pakistan. The evidences show that the growth of remittance are mainly due to increases in migrant workers though skilled workers are helpful for the increase of remittance flow.

Schiopu and Siegfried (2006) reveals that workers remittances have become the second foremost source of the monetary flow to developing countries. They checked macroeconomics variables showing that interest rate, exchange rate, real GDP, development expenditures, stock market performance and political stability appeared important determinant of workers remittances. The remittance flows foster with the development of these determinates.

Abbas et al., (2017) explore the impact of macroeconomics, financial and political factor on remittance to Pakistan. The author found significant impact of these variables on the flow of remittances. Inflation is found as significant and negative with regards to remittances, terrorist attacked is found as positive and financial liberalization shows significant and negative relation with remittances.

Luth and Ruiz-Arranz (2008) emphasize that to advocate remittances and to boost the economic impact policies should be directed at declining the remittances sending cost, innovating financial sector development and help to prosper the business climate. Portes and Rey (2005) provided that whole financial flow rely on market size in both host and home country as well as cost of transferring in the mean of which information and transaction technology plays a critical role.

Previous literature has identified many determinants which foster the remittances inflow. Cost is the very significant determinants of the remittances flow and was shown that cost and the remittances have the direct link with each other. In its place, there are some factors which alert the indirect link among two. Thus, the literature indicates that migrant stock, economic size of both host and home country, as well as, transaction cost are the determinants of remittance inflow.

2.2 Overview of Remittance Transaction Cost

At the same end, Ahmad and Martinez-Zarzoso (2016) studied the cost of bilateral remittances used data on remittance flows to Pakistan for twenty-three major destination countries. they find that transaction cost adversely effect the flow of remittances and unveiled the fact that a high cost either resists migrants from remitting money home or make them ready to transfer through informal channels. They also find that migration stock is a key factor in facilitating the remittances inflow into the home country and also improvements in origin and destination country financial development serve as facilitating factor for the same mean. The further identified the relative importance of the determinants, remittance cost is a key driver of bilateral remittances.

Nasir et al. (2016) measure the cost of remittance transfer to Pakistan both at aggregate and corridor level. The study identified transaction cost as a significant factor to influence the remittances flow. Similarly, Ahmed and Martinez-Zarzoso (2016) examine the effect of transaction cost on bilateral remittances. The study suggested that both have significant but negative relation with each other. A higher cost refrains the remitter from sending remittances through formal channel and send it through informal channel. Another study reveals that to what extent reduction in cost of remittances to developing countries increase the remittances

flow. The study found that 1 percent reduction in the cost of remittances transfer tends to increase its flow by 1.6 percent (Ahmed et al., 2020).

Ambler, Aycinena and Yang (2015) surveyed that number of transactions increases with effect to temporary discounts on remittance transfer. Surprisingly, it stayed for twenty weeks even after the discount period. Kofi, Badasu and Yeboah (2016) observed that the formal and informal channels both are dominate in the process of sending remittances. The portion of charges paid to the remittances transferring organization is higher because of which some remitters relies on the informal channels. Thus, the challenges faced by the financial institutions includes: the lack of identification bank accounts, irregular migrants and money receipts, errors on the sending forms completed by remitters.

Similarly, Singh (2009) view the time efficiency of remittance transfer channels to India, in his study it is found that traditional banking instruments in comparison with the innovated and new information technology-enabled products are inefficient in all aspects. Transfer consensus of the Indian banks with foreign exchange houses has reduced the transaction cycle and the it associated cost. By this, using information technology-enabled formats, it can enable banks and MTOs to make transaction cycle low.

On the contrary side, Qurashi (2016) studied the policy implication for remittances, the study finds that PRI is a significant attribute of remittances transfer which significantly increases the formal flow of remittances to Pakistan as well as it shift the medium of transfer from informal channel to formal channel.

However, transaction cost is driven by rural percentage of the region, financial development remittance volume, speed safety, reliability, and transparency. Thus, there is a need to estimate the impact of these determinants on transaction cost which in turn impact the flow of remittance.

Number of variables are identified in the literature. However, these researches provide evidences that how these determinates effect remittances flow. Transaction cost is an important factor while dealing cross boarder trading which is recognized as a crucial determinant of of remittances. Portes and Rey (2005) provided that whole financial flow

relies on market size in both host and home country as well as cost of trading in the mean of which information and transaction technology play a role. To deal with transaction cost using actual data of remittance cost provided by the World Bank (Remittances Price Worldwide, WDI, 2020). In the meantime, separate model is employed in this research for the determinant of transaction cost aiming to pattern its impact on transaction cost and remittances flow. Similarly, policy and regulation is also employed to estimate its impact on the remittances flow and transaction cost. As Luth & Ruiz-Arranz (2008) emphasize that to advocate remittances and boost the positive impact for economy policies should be design for reducing transaction costs, enhancing financial sector development and nourishing the business climate. Finally, regression with interaction term will serve to observe the marginal effects of two independent variables which may directly or indirectly associated with the remittances flow and its transaction cost. Ozerballi and Sorensen (2010) provide practice evidence regarding for applied economists regarding specification and interpretation with interaction term.

Developing countries has a significant importance for remittances, understanding how to bring down the cost of remitting is of interest for academics and policy makers. Other transactions like international trade, foreign direct investment cost is not an issue for them because a small share of the total amount is charged for transfers. However, remittances costs are often high in this regard. Remittance services providers in the formal sector usually charge fee of 10 to 15 percent of the principle amount to handle the small remittances typically made by poor migrants (Ratha, 2006). This cost puts a financial burden both on the migrants who remit and on the recipient, who consequently benefit less from their overseas family member's efforts. Major international banks tends to focus on a high value remittance services (Ratha and Riedberg, 2005). Poor immigrants may feel uneasy about using a bank for remittance services, and tends to prefer smaller financial institutions, money transfer operators and informal services, such as hawala system, relatives, friends and transport companies (Ratha and Riedberg, 2005).

Bringing down the cost of remitting is beneficial for a number of reasons as it increases the fund available to migrants and member of their households thereby contributing to the development of the migrant's country of origin. Most importantly, it contributes to the flow of formal channels contributing to the receiving country's foreign account balance. In a result it expands the formal financial sector [Freund and Spatafora (2008); Beck and Martinez Peria (2011)]. On the other hand, clamping down the cost doesn't mean restricting the profits of the

remittance services providers, indeed, the cost of providing services often depends on the external factor. Moreover, lower prices would lead to more frequent transactions by remitters hence increase volume to the service providers (Freund and Spatafora, 2008).

In the past two decades, research on financial flows has gathered momentum, covering a wide range of issues such as the formalization of transfer, reduction of transfer cost, the relationship between remittances and financial sector development, economic impact of remittances and the use of remittances for investment. Remittances are now seen as a new devolvement mantra (Kapur, 2004).

In the earlier studies on the topic Ahmed and Martinez-Zarzoso (2016) use the transaction cost of remitting to study its impact on remittances flow. Using bilateral data on remittances flow to Pakistan 23 sending countries, the study finds a significant and negative effect of transaction cost on the remittance inflow, suggesting that higher transaction cost results in either a greater use of informal channels for money transfer or the remitters refraining from sending money to their homes.

From the overview of the literature, we can see the empirical evidence on the significance and direction of association between the value of remittances and their cost is mixed, with result depending on the quantity and quality of data. The literature review provided in the chapter has shed a light on many important aspects of remittance flow. It has identified the impact and consequences of the remittances on the growth of an economy. Remittance flow is a rich source of the foreign exchange which brings positive implication for the economy of the origin country. Remittances not only provide finance to the household at micro level, but it also contributes positively in the macro economic activity of the country. In order to strengthen the flow or increase the development impact of the remittance to the origin country there is a dire need to strengthen the factors which impact the remittances either positively or negatively. Cost is identified among the primary factor which bring remarkable impact on the remittances flow. A lower cost diverts the intent of the remitter to remit through the formal channel rather than opting the nonreliable and insecure informal means like hundi and hawala. Henceforth, Previous literature has identified many determinants which influence the flow of remittances. Among these, transaction cost is an important factor which alter the flow of remittances significantly.

Thus, study aim to explain the cost of remitting to Pakistan using actual cost data. Prior literature has used proxy like distance for the cost or exploited the calculated data on remittance cost. This study implies actual cost data to know the direction of relation among the remittance inflow and its transaction cost. Finally, government of Pakistan has taken several courageous steps to increase the flow of remittances through formal channel. Policy and regulations have significant impact the remittance flow and its associated cost. Thus, this study aims to study the actual effect of Pakistan remittance initiative on the flow of remittance and the cost associated with it.

CHAPTER 3

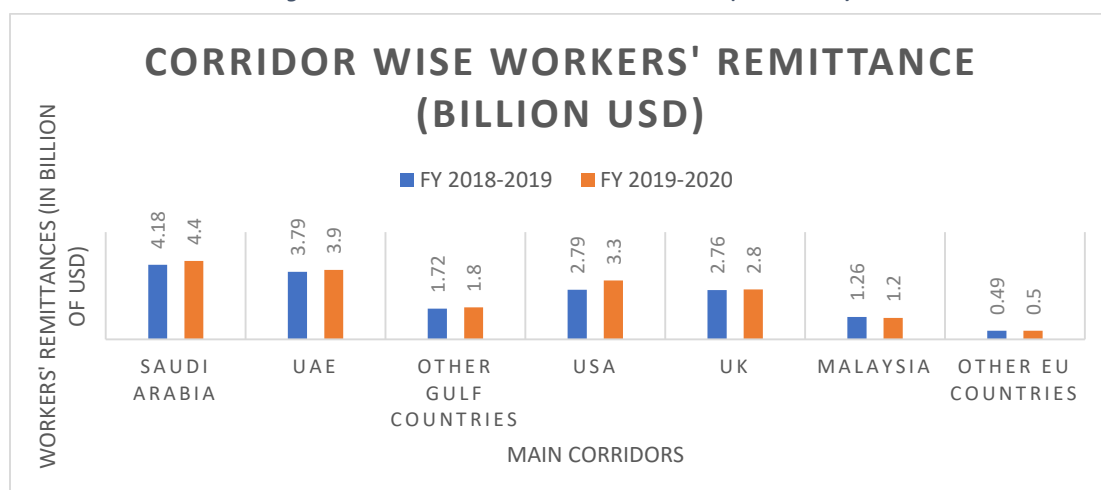
MODEL SPECIFICATION, DATA AND METHODOLOGY

3.1 Identification of Significant Corridors

When looking at Pakistan remittances by country, it is found that the most substantial chunk of remittances comes from the Middle East and Gulf countries. According to the economic survey of Pakistan (2020). Here is a list of Pakistan remittances by country in descending order for the fiscal year 2020. Saudi Arabia \$4.4 billion, UAE \$3.9 billion, UK \$2.8 billion, USA \$3.3 billion, GCC countries \$1.8 billion, Malaysia \$1.2 billion and European countries \$0.5 billion.

Table 3.1 corridor wise workers' remittances (in billion USD)		
Corridor	FY 2018-2019	FY 2019-2020
Saudi Arabia	4.18	4.4
UAE	3.79	3.9
Other Gulf Countries	1.72	1.8
USA	2.79	3.3
UK	2.76	2.8
Malaysia	1.26	1.2
Other EU countries	0.49	0.5
Total	16.99	17.9

Figure 3.1: Corridor wise workers' Remittance (billion USD)



Source: Pakistan Economic Survey, 2020

Table 3.1 and figure 3.1 indicates the remittances received during the fiscal year 2019 and 2020. Saudi Arabia is topping the list by \$ 4.4 billion of transaction in fiscal year 2020 while following by UAE with \$3.79 billion in the same year. A total of \$ 1 billion increase is observed in the later years which was 16.99 in the fiscal year 2019 and 17.9 in the year 2020. Thus, Saudi Arabia, UAE, USA, UK, Malaysia, other GCC countries and European countries are those from which Pakistan receive a significant share of remittances and though regarded as the significant corridors for Pakistan.

3.2 Theoretical framework and Conceptual map

The gravity model of trade has been widely used to analyses the effect of trade liberalization policies and reductions of trade costs on bilateral trade flows. It is found that most of the vibration in the bilateral remittances can be explained by a few gravity variables (Lueth and Ruiz-Arranz, 2008). Thus, this research is employing empirical framework based on a gravity model, well known for its empirical success in explaining international trade flows. In the simplest form, the gravity equation for trade states that trade flows between two countries are proportional to the two countries' economics sizes (GDPs) and inversely proportional to the distances between them.

It is expected that GDP of host and home countries, migration stock, exchange rate stability and remittance cost influence the flow of remittance. Thus, any change or decline or increase of these factors is expected to determine the direction of remittance flow with respect to these factors. This will assume weather it has positively related of negatively related. The study is based on the conceptual framework as illustrated in figure 3.2 and 3.3 blow.

figure 3.2: Conceptual map for Remittance model

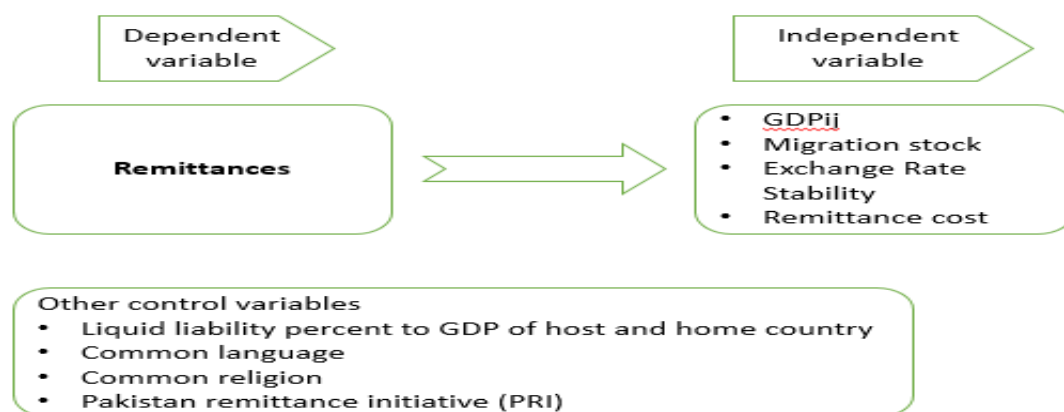
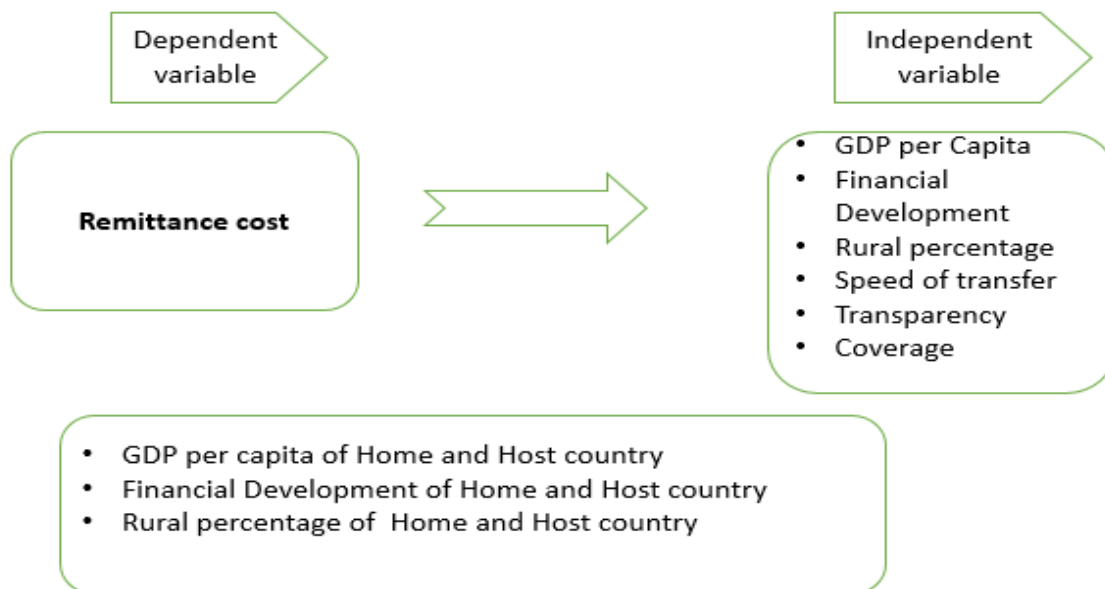


Figure 3.3: Conceptual map for Cost model



3.3 Research Estimation issue

$$Y_{ijt} = \beta_0 + \beta X_{ijt} + \alpha Z_i + Y_{ij} + \varepsilon_{ijt} \quad \dots \dots \dots (3)$$

The above equation 1 indicates the sequence and nature of the variable, β_0 is a constant term indicating the value of the dependent variable in the absence of any explanatory variable? Similarly, βX_{ijt} is the set of explanatory time-variant variables. They can be observed and can be estimated by both fixed effect and random effect models, showing time-variant factors. On the other hand, αZ_i are the time-invariant variables. They can be watched and can't be evaluated by the fixed effect model yet can be assessed by the random effect model, indicating time-invariant variables. Same as, Y_{ij} is an unobserved individual-specific effect a fixed value for each recurrent.

measure. ε_{ijt} is an unobserved error term(residual).

The above equation 3.1 represents the form of the estimation equation. It includes both the time-variant and time-invariant variables. Data is of panel nature, thus implies a panel data estimation. The fixed effect model and random effect model are employed to analyses the results of the model. On ticking issue is that fixed effect estimation does not take time-invariant variables in estimation. to look after this issue, it is feasible to introduce the

Mundlak approach¹⁷ (Mundlak, 1978). The approach proposed that country-specific effect is the act as the function of mean of time invariant variables. As alleged by Wooldridge (2002) that fixed effect and Mundlak approach are reciprocity or can be used as an alternative instrument to the fixed effect estimation, incorporating the averages of the time-invariant explanatory variables. The research is using this technique to the baseline remittance model to check the results for the time-variant and invariant explanatory variables.

3.4 Model specification

$$\ln(\text{Remit}_{ijt}) = \beta_0 + \beta_1 \ln(\text{GDP}_{it}) + \beta_2 \ln(\text{GDP}_{jt}) + \beta_3 \ln(\text{Mig. stock}_{ijt}) + \beta_4 \text{Exch. stab}_{ijt} \\ + \beta_5 \ln(\text{Remit. cost}_{ijt}) + \sum_{k=1}^k Z_{ijt} + \mu_i + \varepsilon_{ijt} \quad \dots \dots \dots (3.1)$$

Country specific effect in remittances discarding receiving country-variable as control. Thus, the equation takes the following form.

$$\ln(\text{Remit}_{it}) = \beta_0 + \beta_1 \ln(\text{GDP}_{jt}) + \beta_2 \ln(\text{fin. devp}_{jt}) + \beta_3 \text{Exch. stab}_{jt} \\ + \varepsilon_{jt} \quad \dots \dots \dots (3.2)$$

Z_{ijt} is referring to all control variables related to hosting and home country and serving as additional regressors. This includes liquid liability percent to GDP, common religion, common language, PRI and continuity.

$$\ln(\text{Remit. Cost}_{ijt}) \\ = \alpha_0 + \alpha_1 \ln(\text{GDP. PC}_{it}) + \alpha_1 \ln(\text{GDP. PC}_{jt}) + \alpha_2 \text{Rural. PC}_{ijt} \\ + \alpha_3 \text{Fin. Dev}_{ijt} + \alpha_4 \ln(\text{Remit}_{ijt}) + \alpha_5 \text{SPD trans. remit}_{ijt} \\ + \alpha_6 \text{transp. fin trans}_{ijt} + \alpha_7 \text{time eff. trans}_{ijt} + \beta_8 \text{PRI}_i + \mu_i \\ + \varepsilon_{ijt} \quad \dots \dots \dots (3.3)$$

Thus, equations 3.2 and 3.3 take the above form of the equation which includes both the time-variant and invariant variables. However, considering the dataset nature, pooled OLS is just steady when secretly fixed impact and illustrative factors are uncorrelated (Wooldridge, 2002).

¹⁷ Mundlak approach are reciprocity or can be used as an alternative instrument to the fixed effect estimation, incorporating the averages of the time-invariant explanatory variables.

Viewing the nature of the dataset, it can rely on the panel data approach. However, a fixed effect estimator is employed in the research to get the estimation results.

Moreover, to identify the indirect relation and marginal effect of the variable here should apply some interaction terms. Ozer-Balli (2010) make available practical advice for applied economists regarding interpretation and specification of by using interaction term in linear regression. But, it should be taken with much care while specifying and interpreting it, and not just put X1 and X2 into the equation without taking the robustness of results to functional form in consideration. For the interaction terms, the equation takes the following form.

$$Y_{ijt} = \beta_1 + \beta_2 X_{ijt} + \beta_3 X_{ijt} Z_{ijt} + \alpha Z_i + Y_{ij} + \varepsilon_{ij} \dots \dots \dots (3.4)$$

$$\ln(\text{Cost}_{ijt}) = \alpha_0 + \alpha_1 \ln(\text{Remit}_{ijt}) + \alpha_2 \ln(\text{Remit}_{ijt}) \times \ln(\text{Fin. Dev}_{ijt}) + \mu_i + \varepsilon_{ijt} \dots \dots \dots (3.5)$$

$$\ln(\text{Remit}_{ijt}) = \beta_0 + \beta_1 \ln(\text{Remit. cost}_{ijt}) + \beta_2 \ln(\text{Remit. cost}_{ijt}) \times \text{PRI}_i + \mu_i + \varepsilon_{ijt} \dots \dots \dots (3.6)$$

$$\ln(\text{Remit}_{ijt}) = \beta_0 + \beta_1 \ln(\text{Remit. cost}_{ijt}) + \beta_2 \ln(\text{Remit. cost}_{ijt}) \times \ln(\text{Mig. stock}_{ijt}) + \mu_i + \varepsilon_{ijt} \dots \dots \dots (3.7)$$

In the cost model, bilateral remittances and financial development are used as an interactive term that can able to identify the indirect relation of financial development with the cost of remittances. On the other hand, the Remittance model PRI (dummy) and migration cost are leveled to interaction terms to envision the results of estimation.

However, there in the regression it is indicating the remittance cost responsiveness to remittance and financial development. Simply, it can be argued that how the financial development of both host and home country impact the cost of remittance.

Similarly, addressing the remittances an interactive term amid to check the response of remittances concerning the cost of remittance and migration stock. The same is the case for an interactive term specified in equation 3.4 respectively.

3.5 Data and variable Definitions

Data is collected according to the availability of bilateral remittances data. Pakistan's State Bank provided the data of remittances from the top corridors. This research identified 23 top

corridors¹⁸ which are the rich source for the remittances flow. variables data are taken from different sources which include World Bank, United Nation Department of Economics and Social Affairs (UNDESA)¹⁹, Organization of Economic Cooperation and Development (OECD), International Financial Statistics (IFS), State Bank of Pakistan, Bureau of Emigration (BEOE)²⁰ and International Monetary Fund (IMF).

This research includes those variables which have a great influence on the remittances and its associated transfer cost. Remittances model variables are GDP of the home and host countries taken in billions of dollars. Beck and Peria (2011) found that GDP is an influencing factor that alters the remittance flow. The main source of GDP is the world bank database of the World Development Indicator (WDI). Further, migration stock in the host country is another crucial factor for the remittance flow (Freud and Spatafora, 2005). The migration stock data is extracted from the Bureau of Emigration and Overseas Employment Pakistan (BEOE) and the Organization of Economic Cooperation Development. Ahmed and Martine-Zarzoso (2016) explain that remittances flow can be strongly altered by the cost of remittances. The data for the transaction cost is taken from the Migration and Remittance data World Bank. Any fluctuation in the exchange rate intends to affect the remittances flow (Singh, 2009). Exchange rate and exchange rate stability data are gathered from the International Monetary fund and International Country Risk Guide (ICRG). Geographical Distance considered from home country capital to host country capital. Moreover, Peprah, Ofri and Asomani. (2019) identified a link between remittances and financial development, they term remittances as a growth booster. Liquid liability as a percent to GDP is taken as a proxy for financial development. The source for this data is Global Financial Development World Bank.

In the cost model instead of GDP, this research has considered GDP per capita. Warthe-Anderson (2015) identified the connection between GDP and GDP per capita with the cost of the remittance. The source for this data is the World development indicator, world bank. Similarly, Transparency of transaction, coverage, and rural percentage are identified as crucial factors that can alter the cost of the remittance. the source for this data is FDI and

¹⁸ The countries considered includes Australia, Bahrain, Belgium, Canada, Denmark, France, Germany, Greece, Ireland, Italy, Japan, Kuwait, Netherland, Oman, Qatar, Saudi Arabia, Spain, Sweden, Switzerland, UAE, UK and US.

¹⁹ UNDESA represent the present stock of Pakistan in the host countries

²⁰ The BE&OE cunts the cumulative series of the migrants to the host country, it does not consider the present stock of migrants.

Remittance Price Worldwide World Bank. Elbadawi and Rocha (2012) identified that economic policies can be crucial drivers for the remittances flow while Qurashi (2016) identified Pakistan Remittance Initiative (PRI) as a vital factor for influencing the cost of remittances. The PRI is used as a dummy variable in the two stated models. Finally, it is argued that common religion, boarder, and common language affect the choice of the destination country. For instant, large migrant stock of Pakistan resides in the middle east countries or the country having the same religion.

To move forward, there are some assumptions for the data. Migration stock is provided with cumulative sequence from the source of the bureau of emigration and overseas employment (BEOE, 2020). Thus there, it is assumed that 5 percent of the total migration stock came back to the home country annually. Secondly, due to the limited nature of the remittances cost data it is assumed that the countries which fall in the same region or may cover the same border have the same remittance cost. Further, PRI is considered absent as any policy doesn't show its full impact in the early years. Thus, it is considered absent for three consecutive years. To avoid correlation issues in the data it considered to regress strongly correlated variables separately with the dependent variable or it is removed from the model. Hence, the following tables (3.1 & 3.2) provides the source and descriptive statistics of the variables.

Table 3.1: Summary Statistics Remittance Model

Variables	Source	Min	Max	Mean	St.Dev
Remit	State bank of Pakistan	3.14	5968.25	696.172	1310.292
(GDP_PPP) _i	WDI, World Bank	3890.291	4854.944	4272.667	294.288
GDP_PPP) _j	WDI, World Bank	25284.46	141000	51060.27	18602.42
Mig, Stock	BEOE, OECD, UNDESA	4.75	508250	71647.59	119000
Trans.cost (200) ²¹	World Bank Remittances Prices worldwide	1.96	12.582	4.792	2.088
Com. Religion		0	1	261	.44
PRI	State Bank of Pakistan	0	1	0.667	.4725

²¹ Transaction cost 200 refers to the cost of sending 200 US dollars.

Trans. Cost (500) ²²	World Bank Remittances Prices worldwide	.993	8.007	2.998	1.503
Geographical distance	CEPII	0	11091.5	5404.963	2641.494
(Financial. dvp) _i	WDI, World Bank	35.194	220.209	96.756	40.496
(financial. dvp) _j	WDI, World Bank	35.745	44.07	39.819	2.669

Table 3.2: Summary Statistics Cost Model

Variables	Source	Min	Max	Mean	St.Dev
Trans.cost(200)	World Bank remittances price worldwide	1.96	12.582	4.792	2.088
(GDP/Capita) _i	World development indicator, World Bank	987.41	1482.403	1275.898	149.497
(GDP/Capita) _j	World development indicator, World Bank	14721.65	103000	46592.81	18879.18
(Financial_dvp) _i	Global financial development, World Bank	15.386	21.413	17.331	1.79
(Financial_dvp) _j	Global financial development, World Bank	34.101	193.04	113.119	45.241
(Rural.pc) _i	development indicator, World Bank	63.334	64.798	64.074	.478
(Rural.pc) _j	development indicator, World Bank	0	38.258	16.46	8.769
Remit	State Bank of Pakistan	3.14	5968.25	696.172	1310.295
Speed of Trans	World Bank remittances price worldwide	1.267	3.737	2.361	.471
Transparency	World Bank remittances price worldwide	.647	1	.99	.041
Coverage	World Bank remittances price worldwide	.955	1.952	1.265	.245
PRI	State Bank of Pakistan	0	1	.667	.472

²² The transaction cost 500 refers to the sending cost of 500 US dollars.

CHAPTER-4

ESTIMATION RESULTS

Starting from table 4, dependent variable bilateral remittances are in log form while other explanatory variables GDP_i and GDP_j of host and home country, migration stock and cost of remittances are also patched in log form. Another explanatory variable exchange rate stability of host and home country, liquid liability as a percent to GDP dummy variables PRI and common religions are not pinned in the log form.

and Martinez-Zarzoso (2016) indicated that geographical distance which has been used as a proxy for the cost of the remittances is a poor proxy. In the estimated model given in table 4²³, geographical distance is found insignificant.

The log of bilateral remittances are regressed on GDP of host and home country, migration stock, the exchange rate stability, cost of remittance (200), common religion and Pakistan remittances initiative PRI.

In table 4, estimation results indicate that the economic activity in the home country has significant and positive effect on remittance, indicating that the workers abroad encouraged to send more remittances when the economic activities improve at home. Following that, it has found that economic activities in the host country are not statistically significant. The economic conditions of a country affect the remittance flow. In table 4.1 the GDP of the home country shows significant results. Looking on the other side the host country GDP has no significance with the remittance flow. Vargas-Silva and Huang's (2006) study investigates the determinants of worker's remittance. impulse response functions, Variance decompositions, and Granger causality tests resulting from a vector error correction model are utilized to test if remittance are influenced by the macro-economic states of the remittance sending or remittances accepting countries. Using a dataset of Brazil, Colombia, the Dominican Republic, El Salvador, Mexico and the US, the outcomes demonstrate that remittance react to the changes in the macroeconomic States of the host country than to the condition of the of remittance sending country. Thus, the estimated result in Table 4.1

²³ In the correlation matrix common language and common boarder were highly corelated with other explanatory variables. Thus, it was drop from the estimation as it might affect the direction and significance of the effect of other variables on the depend variable.

indicating the same results where the home country shows the significance and the host country has no significance with regards to remittances.

Similarly, the migrant stock is found significant and has a positive relationship with the migrant stock. It means that more migrant stock uproar the flow of remittances to home. Mehedintu, Sova and Sterpu (2019) break down the development and patterns of the portion of remittances in GDP and the impact of relocation on settlements in Romania. It has presumed that the remittances represented to and still represent a relatively steady or stable financial source for Romania and migration have a positive response to remittances flow.

In contrast, the cost of remittances has a significant and negative relationship with the remittances. It explains that when the cost of remitting is increasing it discourages the remittances flow. Ahmedand Martinez-Zarzozo (2016) checked the relation between remittances and its costs. the study finds that the transaction cost effect on remittances flows is significant but negative, signifying that a high cost will either resist migrants to send money back home or make them to use an informal channel. Finally, as expected the Mundlack approach yield approximately the same results as the fixed effect model for the time-variant variables while also estimating the time-invariant explanatory variable simultaneously.

4.1 Estimation Results for Gravity Model of remittances

Table 4.1: Baseline gravity model of Remittance Estimates

Dependent Variable: ln (Remit)	(1)	(2)	(3)
	Fixed Effect	Random Effect	Mundlak Approach
ln(GDP_PPP) _i	2.128*** (0.323)	2.131*** (1.61)	2.128*** (0.30)
ln(GDP_PPP) _j	0.106 (0.272)	0.330 (2.11)	0.106 (0.292)
Geographical distance		-0.461 (0.90)	-0.391 (1.09)
ln(Stock of migrants)	0.173*** (0.06)	0.227*** (0.25)	0.173*** (0.07)
ln(Tans. Cost 200)	-0.515* (3.44)	-0.669* (2.87)	-0.515* (3.61)
Observations	197	197	197
R-squared	0.509	0.503	0.509
Hausman test (fixed vs Random)	Prob>chi2= 0.0016		

*** p<0.01, ** p<0.05, * p<0.1 Robust Standard errors in parentheses. All the variables are in log form except dummies and percentages. Column (1) and (2) provides estimates of fixed effect and random effect models respectively.

4.2 Country specific effect model

Table 4.2: country specific effect model

Dependent Variable: ln (Remit)	(1)	(2)
	(Fixed Effect)	(Fixed Effect)
ln(GDP_PPP) _j	0.80	0.87
	(2.01)	(2.60)
(Exc. Rate stab) _j	0.31***	0.28**
	(0.12)	(0.98)
(Financial_devp) _j	0.09***	0.13***
	(2.83)	(2.01)
R-square	0.030	
Observations	128	128
Hausman test (fixed vs Random)	Prob>chi2=	
	0.0047	

*** p<0.01, ** p<0.05, * p<0.1 Robust Standard errors in parentheses. All the variables are in log form except dummies and percentages. Column (1) and (2) provides estimates of fixed effect and random effect models respectively.

Table 4.2 shows the estimate of variable with country specific effect. As expected, the GDP of the host country is insignificant. While the financial development stability of host country has a significant relation with the bilateral remittances. Holding other factors constant, a 1 percent increase in host country financial development tends to increase remittances by 0.09 percentage. On the other hand, exchange rate stability is found significant, it suggests that a more stable exchange rate tends to yield more remittances.

4.3 Estimation of extended baseline model

Table 4.3: Extended gravity model of Remittance Estimates

Dependent Variable: ln (Remit)	(1)	(2)
Models	(Fixed Effect)	(Random Effect)
ln(GDP_PPP) _i	2.092*** (5.39)	2.058*** (5.22)
ln(GDP_PPP) _j	0.583 (0.32)	0.835 (0.46)
ln(Stock of migrants)	0.138*** (3.50)	0.185*** (4.54)
ln(Tans. Cost 200)	-0.141* (0.21)	-0.151** (0.39)
(Exc. Rate stab) _i	0.199* (0.369)	0.225* (0.373)
(Exc. Rate stab) _j	0.119** (0.0696)	0.127** (0.0613)
(Financial_devp) _i	0.603*** (6.15)	0.595** (6.04)
(Financial_devp) _j	0.0407** (1.24)	0.0407** (1.23)
(Com. religion)		3.007*** (0.603)
PRI		0.230*** (3.35)
Constant	21.40*** (8.129)	22.89*** (8.156)
Observations	177	177
R-squared	0.336	0.318
Hausman test (fixed vs Random)	Prob>chi2= 0.0063	

*** p<0.01, ** p<0.05, * p<0.1 Robust Standard errors in parentheses. All the variables are in log form except dummies and percentages. Column (1) and (2) provides estimates of fixed effect and random effect models respectively.

Now the long drawn out model comprises other key variables that are possible to have an impact on remittance flow. After the estimation, the main results are given in table 4.1 above. Table 4.1²⁴, in the first column it illustrates the fixed effect model while in the second column it represents the random effect model along with the third column represent the Hausman test. Dependent variable bilateral remittances are in log form while other explanatory variables GDP_i and GDP_j of host and home country, migration stock and cost of remittances are also patched in log form. Another explanatory variable exchange rate stability of host and home country, liquid liability as a percent to GDP dummy variables PRI and common religions are not pinned in the log form.

The log of bilateral remittance regressed on the GDP of host and home country, migration stock, the exchange rate stability, cost of remittance (200), common religion and Pakistan remittances initiative PRI. In the table, the result shows that the economic activity in home country has a significant and positive effect on remittances indicating that the workers send more remittances when the economic activities improve at home. Following that, it has found that economic activities in the host country are not statistically significant.

Similarly, the migrant stock is found significant and has a positive relationship with the migrant stock. It means that more migrant stock uproar the flow of remittances to home.

In contrast, the cost of remittances has a significant and negative relationship with the remittances. It explains that when the cost of remitting is increasing it discourages the remittances flow. Liquid liability percent to GDP termed as the proxy for financial development, it has found that the financial development of home and host countries have a significant and positive influence on the remittances. Financial development is considering a driving factor for the flow of remittances.

As, by the rigid coefficient of common religion, the test highlighted that common religion has a huge impact on the remittances fond as significant and positive concerning remittances. By the

same mean, PRI also reveals the significant and positive effect on the remittances. This evidence is provided by the state bank of Pakistan by stating that out of \$1.59 billion \$995 million are remitted to Pakistan from GCC countries (State Bank of Pakistan, 2020).

²⁴ in table 4 we it is found that distance is has no significant relation with the Flow of remittances, thus it has been dropped from the extend model.

4.4 Estimation Results for gravity model of remittance cost

Table 4.4: Baseline gravity model of Cost Estimations

Dependent Variable: ln(Trans. Cost 200)	(1) Fixed effect	(2) Random Effect
ln(GDP/Capita) _i	-0.478*** (0.469)	-0.675*** (0.517)
ln(GDP/Capita) _j	-0.962** (0.183)	-0.183** (0.0884)
ln(Remit)	-0.247 (0.497)	-0.0404** (0.177)
Transparency	-0.964*** (0.351)	-1.397*** (0.381)
Speed of Trans	0.273*** (0.0808)	0.368*** (0.0705)
Coverage	0.0698* (0.0874)	0.972** (0.0890)
(Rural.pc) _i	0.292*** (0.110)	0.392*** (0.110)
(Rural_pc) _j	0.179* (0.409)	0.758* (0.432)
(Financial_dvp) _i	0.342*** (0.0124)	0.323** (0.0134)
(Financial_dvp) _j	0.186 (0.114)	0.122 (0.753)
PRI		-0.609*
Observations	149	149
R-squared	0.301	0.295
Hausman test(fixed vs Random)	Prob>chi2= 0.7781	

*** p<0.01, ** p<0.05, * p<0.1 Robust Standard errors in parentheses. All the variables are in log form except dummies and percentages. Column (1) and (2) provides estimates of fixed effect and random effect models respectively.

Table 4.2 illustrates the estimation results of the remittance cost model. Column 1 and column 2 represent the varying types of estimation, including the fixed effect model and random effect.

After the regression, it has found that per capita GDP of the home country has a significant but negative relation with remittance cost showing that increase in the per capita GDP in host country tends to decrease remittance cost, on the other hand, per capita GDP of the host country is also found significant with having a negative relation with remittance cost. Several studies found connection between economic growth and remittances, but there has no considerable research on relation among growth and the cost of remittance. Beck and Peria (2011) found that there is a significant relation between per capita GDP and cost of remittance during studying the cross-section analysis. Contrarily, an uplift in per capita GDP can be related with a higher living standard, and therefore, the associated costs for goods and services will be greater, so costs of remittance may be greater as well (Warthe-Anderson, 2015).

Table 4.2 indicates the negative and significant relation among per capita GDP of both the home and host country and the cost of remittance. Explanation which seems possible is that of Ratha (2005) which shows that when the growth of GDP decreases, demand for remittance increases in these corridors, and thus price associated would increase. In the support, Siegel and Zanker (2002) stated that remittance demand surges when there are negative shocks to GDP in a country.

Similarly, remittances flow is found significantly but negatively related to the remittance cost. Thus, showing that an increase in the remittance flow tends to decrease the remittance cost. Ahmed et al. (2020) In the study using dataset of bilateral remittances for thirty remittance sending and seventy-five receiving countries to examine the role of remittance cost in compelling formal remittance flow. In this pursuit gravity model is estimated to by means of an instrumental variable panel data approach. The result indicating that a decline in cost of remittance has a considerable impact on the number of remittances received by developing countries. Also, there is the same confirmed evidence from the estimation of the previous model (Table 4 & 4.1).

Further, the transparency of financial transactions is also significantly negatively related to the cost of remittance. Having high transparency tends to decrease the cost of remitting and vice versa. Pakistan remittances initiative (PRI) center around the more prominent financial market to remittances in order to upgrade transparency highlights, consumer protection, boost the efficiency of the payment system, drop the cost of remittances, benefit both remitters and recipients and eventually to gain the objective of a noteworthy inflow of remittance. However, transparency is considered as one of the major problems while concluding the cost of remittances. Thus, the estimation reveals that transparency is significantly negatively correlated with the cost of the remittance. This applies that higher transparency tends to decrease the remittances cost and vice versa. One of the reasons behind this is the extra amount charged by the services provides diminish the transparency in which interns rise the cost of remittances and vice versa (Nasir et al., 2016).

Similarly, Speed catches the measure of time certain exchange take. At long last, access point alludes to the method or strategy utilized by the sender to move the sum of the amount. This variable is positioned by the expense related to it. For instance, an operator is positioned most minimal while, the internet is positioned most elevated as per the convenience and cost associated with each of these methods. The outcomes indicate that coverage and speed are also decidedly related to remittances cost.

Nasir et al. (2016) in his study reveals that firm type banks and MTOs substantially affect Fee, coverage, and speed of the transaction. On average, transferring money through banks is significantly costly, higher coverage transferring has a higher cost, and speedy transactions in the same way also cost more.

Surprisingly, on the other side, the rural percentage of both the host and the home country found as significantly positively related to the transaction cost. Higher the rural percentage the higher the cost of remittance. One of the justifications is that rural lacks the development infrastructure which tends to be problematic for transfers of funds. Samuel & Ratha (2005) Improved financial or banking sector technology could generously decrease transaction costs by speeding up check leeway, diminishing exchange misfortunes, and improving exposure, particularly in country rural territories. Consequently, It suggests that One promising methodology is to set up associations between lending banks and the government

administrated post office arrange in the country that doesn't have banks with an extensive rural branch network. remittance exercises may likewise be appealing for banks, as edges can be high. The estimates shown in the table show anonymity, it has found that the financial development results are insignificant in terms of remittances cost. Financial development may have an indirect relation with the cost of the remittance, as Abel, Ofori and James (2019) in their study demonstrated that remittances and financial services development have both been recognized as boosters of growth. Financial services development and remittances have been acknowledging as chief handlers of growth especially with regards to developing countries (Chowdhury, 2016; Nyamongo et al., 2012). By tripling down the costs of gain access to credit, a well-performing financial market can be handfull to direct remittances to projects that produce the top return and therefore improve economic growth (Giuliano and Ruiz-Arranz, 2009).

Abel, Ofori and James (2019) the study finds that financial services development enables economic growth in the short run. One credible motive is that a structured and functioning financial market by minimizing costs of performing transactions may handfull to channel remittances to projects that produce the top profits and thereby enhances the development. Thus, it provides evidence that cost and financial development are indirectly correlated with the remittance cost while it has a direct relation with the remittance flow. PRI is used as a dummy variable which is excluded from the fixed-effect model but showing a significant positive result in the random effect model. Thus, the Hausman test which states insignificant probability which tends towards the random effect model is appropriate thus the PRI has a negative relation with the cost of remitting. It indicates that if the influence of PRI is high than the remittance cost will be less. Remitters enjoy a free remittance facility under the Pakistan Remittance Initiative (PRI) for a minimal amount of USD 210 transferred. Thus, one of the evidences is Qurashi (2016) in his study found that the PRI is likely to decline both the non-monetary and monetary costs of sending formal remittances to Pakistan. As such, it will lead to eradicate the means of informal channel and enhance the use of formal channel.

Table 4.5: Remittance Model with Interaction Term

Dependent variable ln(Remit)	(1)	(2)	(3)	(4)
ln(Trans. Cost 200)	0.067 (0.10)	0.026 (0.11)	-2.998*** (0.85)	-4.359*** (0.95)
Ln(Mig.Stock)			-0.071 (0.11)	-0.128 (0.11)
ln(Trans. Cost 200)× ln(Mig.Stock)			0.276*** (0.08)	0.388*** (0.09)
0. PRI				
1. PRI		0.701*** (0.18)		
0. PRI×ln(Trans.Cost 200)				
1. PRI×ln(Trans.Cost 200)		-0.225* (0.11)		
Constant	6.194*** (0.17)	6.118*** (0.35)	7.272*** (1.26)	8.152*** (1.23)
Hausman Test (fixed vs random)	Prob>chi20 =0.5887		Prob>chi2= 0.707	
Observations	72	72	76	76

*** p<0.01, ** p<0.05, * p<0.1 Robust Standard errors in parentheses. All the variables are in log form except dummies and percentages. (1) and (2) represents fixed effect model and random effect model of first interaction term Remit×PRI. While later (3) and (4) represents random and fixed model second interaction term Remit×Mig.Stck.

Table 4.6: Cost Model with Interaction Term

Dependent variable ln(Tans. Cost 200)	(1)	(2)	(3)	(4)
ln(Remit)	0.159*** (0.17)	0.44*** (0.15)	0.621** (0.21)	-0.482** (0.17)
(Financial-dvp) _i	0.085*** (0.05)	0.090*** (0.06)		
(Financial-dvp) _i × ln(Remit)	-0.008** (0.01)	-0.010** (0.01)		
(Financial-dvp) _j			-0.035 (0.01)	-0.20 (0.01)
(Financial-dvp) _j × ln(Remit)			0.005 (0.00)	0.003 (0.00)
Constant	0.081*** (1.20)	0.726*** (1.03)	5.868 (1.40)	4.677 (1.19)
Observations	71	71	71	71
Hausman test (fixed vs Random)	Prob>chi2= 0.6006		14.07	

*** p<0.01, ** p<0.05, * p<0.1 Robust Standard errors in parentheses. All the variables are in log form except dummies and percentages. (1) and (2) represents the fixed-effect model and random effect model of first interaction term Remit×(financial_dvp)_i. While later (3) and (4) represents random and fixed model second interaction term Remit×(financial_dvp)_j.

4.5 Estimation Results for regression with an interaction term

Interaction occurs when the effect of one variable depends on the value of another variable. In this manner, using models to assess the relationship between each independent variable and the dependent variable. This kind of effect is the main effect however, it can be mistaken turning main effects. In the estimation presented in the table 4.3 complementarity relationship is identified; the interaction terms between remittance transaction cost and migration stock are statistically significant. Thus, revealing that transaction cost and migration stock has a complimentary impact in boosting the flow of remittances. Freund and Spatafora (2005) concluded that remittance flow varies from the number of migrants and transaction costs. It means that transfer cost 200 value depends on the migration stock whopping over the host country or countries that tend to affect the value of the transaction cost and uplift the flow of remittances. World Bank (2017b) pointing that, determinations to hinder cost of recruitment would require strict and improved regulation and monitoring of these recruitment agencies, cooperation with bulky external employers, and bilateral coordination between worker sending and receiving countries. Further, PRI interacted with the remittance cost evolve significant interaction which appeals to the impact on remittances cost value in way altering the remittance flow. The said estimation implies that PRI has a handful of consequences for maximizing the flow of remittances to the country. In the cost model, it is found that financial development (proxy, liquid liability as a percent to GDP) offering insignificant results for the host country and spurred the significant of the financial development of the host country. In the meantime, It has been checked with interacting it with remittance flow, for the home country it is found significant while showing insignificant results when interacted with host country financial development. Thus, Freund and Spatafora (2008) studied the relation between remittances and transaction costs. They concluded that remittances are influenced by the number of migrants, transaction costs, and financial development of the receiving country. Freund and Spatafora (2007) concluded that the more financially developed a country is, the lower the transaction costs are, and the higher the remittances volume transferred via formal channels. Similarly, it can be stated that remittances have consequences for the remittance cost if domestic banking or financial development sounds good.

CHAPTER-5

CONCLUSION AND SUGGESTIONS

5.1 Conclusion

This research deeply examines the Remittances and its associated cost. many factors are identified which can affect the remittances flow and remittances cost too. Exploiting the bilateral data on remittance flow and transaction cost to Pakistan for 23 major corridors, this research explores the determinates of remittances flow and Transaction cost. Two models' remittances model and transaction cost model are employed in this research. the research examines the impact of the significant variables on remittances flow to Pakistan and on transaction cost using the actual cost data which has been used calculated data in previous studies.

According to the findings of this research, It has been found that remittances flow is altered by a many variables among which transaction cost is the strongest determinate and vice versa. Further, regulation or policy has a strong PRI that is strongly related with Remittances flow and its cost.

The migrant stock is also found as a vital factor that is meddling the remittance flow. GDP of the host and home country are regressed to check whether the Economic development of the country affects the remittances flow or it has no link with the remittances flow. It is found that the home country's GDP is correlated with the remittances flow and on the other hand, the host country's GDP didn't reveal any significance according to this research. In the extended form of the remittances model, the research found that exchange rate stability, financial development, common religion, and policy or regulation also sets the behavior of remittances.

Moving ahead, the Cost model verifies that speed of transaction, transparency and economic growth is crucial to ripple the remittance cost. while estimations of transparency and GDP per capita fleshed negative relation with the transaction cost. Hence, higher transparency and boosted GDP per capita tend to lower the cost of remitting.

Finally, interaction terms are used to examine the effect of one variable on the dependent variable on the value of another variable. The interaction terms between remittance transaction cost and migration stock are statistically significant. It means that transfer cost 200 value depends on the migration stock whopping over the host country or countries that tend to affect the value of the transaction cost and uplift the flow of remittances. A similar case occurred in the behavior of PRI. However, in the cost model when remittances are allowed to interact with remittances it has shown significant results. Hence providing and evidence that financial development can alter the behavior of remittance cost while dealing with the cost of the remittance. Thus, here important point to be noted is that the transaction cost and remittance flow are both found negatively significant. Hence, lowering the cost of the remittance tends to uplift the remittances flow and alternatively uplifting the remittances flow can also reduce the cost of remitting.

5.2 Policy Suggestions and Recommendations

Remittances are considered a considerable source of foreign currency revealing its outstanding importance for the home country. To address the recommendations and suggestions it is important to mention its policy dimensions. It can be categorized as lowering the cos to remitting, increases the use of benefits from the banking systems, enhancing local development, increasing the remittance flow and improving the remittance data.

Finding suggests the following policy recommendations:

To encourage the remittances flow and maximize the impact of the remittances on the home country, policies should be directed at reducing the transactions costs for other corridors which are significantly contributing in the remittances flows.

Secondly, promoting financial sector development and improving the existing policies and regulation can help to encourage the remittance flow to the country and maximize their economic impact.

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APPENDIX

List of main remittance corridor to Pakistan

Table E: List of main Remittance Corridors to Pakistan

HOME	HOST
Pakistan	Australia
Pakistan	Bahrain
Pakistan	Belgium
Pakistan	Canada
Pakistan	Denmark
Pakistan	France
Pakistan	Germany
Pakistan	Greece
Pakistan	Ireland
Pakistan	Italy
Pakistan	Japan
Pakistan	Kuwait
Pakistan	Netherlands
Pakistan	Norway
Pakistan	Oman
Pakistan	Qatar
Pakistan	Saudi Arabia
Pakistan	Spain
Pakistan	Sweden
Pakistan	Switzerland
Pakistan	United Arab Emirate
Pakistan	Unaided Kingdom
Pakistan	United states of America

Correlation matrix of Remittance Model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
(1)	1.000																
(2)	0.067	1.000															
(3)	0.701	-0.075	1.000														
(4)	-0.230	0.008	-0.113	1.000													
(5)	0.116	-0.749	-0.037	-0.064	1.000												
(6)	0.096	-0.150	0.242	-0.010	0.129	1.000											
(7)	-0.647	-0.242	-0.503	0.021	0.247	0.128	1.000										
(8)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
(9)	0.506	0.195	-0.042	-0.128	-0.111	-0.480	-0.670	.	1.000								
(10)	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
(11)	0.094	0.854	-0.013	-0.089	-0.760	-0.121	-0.222	.	0.147	.	1.000						
(12)	0.097	0.859	-0.013	0.117	-0.934	-0.134	-0.259	.	0.143	.	0.770	1.000					
(13)	-0.036	-0.002	-0.341	-0.428	-0.027	-0.168	0.255	.	0.141	.	0.023	0.011	1.000				
(14)	-0.611	-0.284	-0.477	-0.058	0.222	0.091	0.952	.	-0.611	.	-0.231	-0.265	0.420	1.000			
(15)	-0.129	0.114	0.358	0.274	-0.093	0.271	-0.130	.	-0.353	.	0.110	0.098	-0.595	-0.238	1.000		
(16)	0.055	0.968	-0.092	0.069	-0.726	-0.139	-0.257	.	0.190	.	0.758	0.879	-0.018	-0.307	0.101	1.000	
(17)	0.022	0.073	-0.244	-0.355	-0.167	-0.097	0.052	.	0.349	.	0.136	0.116	0.520	0.209	-0.335	0.018	1.000

1. bilateral remittances 2. GDP (home) 3. Migration stock 4. Exchange rate 5. Domestic credit to private sector (percent to GDP-Home) 6. Domestic credit to private sector (percent to GDP-Host) 7. Cost of remittance (200) 8. Common language 9. Common religion 10. Continuity 11. PRI 12. Exchange rate stability(home) exchange rate stability(host) 13. cost of remittances (500) 14. Liquid liability (percent to GDP-Home) 15. Liquid liability percent to GDP-Host) 16. Liquid liability (percent to GDP-Host) 17. PRI

Correlation matrix Cost Model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1)	1.000											
(2)	-0.143	1.000										
(3)	-0.528	-0.098	1.000									
(4)	0.168	-0.699	-0.008	1.000								
(5)	0.302	-0.143	0.352	0.106	1.000							
(6)	0.128	-0.967	0.110	0.636	0.145	1.000						
(7)	0.111	-0.162	0.054	0.096	0.058	0.169	1.000					
(8)	-0.235	0.075	-0.298	-0.075	0.068	-0.076	-0.099	1.000				
(9)	0.696	-0.217	0.558	0.102	0.416	0.227	-0.239	-0.184	1.000			
(10)	-0.583	0.235	-0.274	-0.252	-0.148	-0.268	0.075	0.130	-0.407	1.000		
(11)	0.099	0.643	0.156	-0.267	-0.102	-0.675	-0.092	-0.016	-0.240	0.224	1.000	
(12)	-0.134	0.756	-0.060	-0.722	-0.126	-0.844	-0.138	0.079	-0.204	0.322	0.488	1.000

1. Cost of remittance (200) 2. GDP per capita(home) 3. GDP per capita(host) 4. Domestic credit to private sector percent to GDP-home) 5. Domestic credit to private sector percent to GDP-host) 6. Rural percentage(home) 7. Rural percentage(host) 8. Bilateral remittances 9. Speed of transfer 10. Transparency 11. Coverage 12. PRI