

Trade Openness, Remittances and Growth: An ARDL Analysis

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Abstract

This research investigates the impact of trade openness and remittances on economic growth of Pakistan by using annual time series data from 1972-2019. The data has taken from World Development Indicator (WDI). The study used Autoregressive Distributed Lags (ARDL) Model to check the relationship between variables. Unit root test is used to check the stationarity of data. The finding of the study shows, that in the long run time there is positive relationship between GDPPC and LFPR and Remittances and negative relationship with GFCF and Inflation .LFPR has positive relationship with GDPPC and negative relationship with GFCF ,TRADE and INF. The result of the study suggest that for policy implication that Pakistan policy maker should adopted such policies which cause positive growth for economy and policy maker should encourage and motivate the flow of remittances and adopt such policies that insist remitter to send money through proper channels so that these flows can be utilized in a better way for economy.

Key Words: Trade openness, foreign remittances, GDPPC, Pakistan, Autoregressive Distributed Lags (ARDL).

1. Introduction

Background of Study

Trade openness has been a prominent component of policy advice to developing countries for the last few decades. Trade openness is considered as important element of globalization which has been mostly described as the increasing interaction or integration of national economic systems with the help of growth in international trade and other socio-economic variables. It is connected with growing internationalization of production, marketing of goods and services, and the associated growing production and commercial activities. Trade openness involves the dismantling of all forms of tariff structures like import and export duties, quotas and tariffs and other restrictions to the free flow of goods and services across countries.

In the middle 1970s, there has been considerable progress in trade reforms in most developing countries, turning from import substitution strategy to export-oriented approach. Pakistan's trade policy has also been moving towards more openness; fewer control specially after 1988. Steadily the tariffs rates have fall over, almost all type of quantitative restrictions except for customs duty were removed on imports. The accelerated pace of liberalization improved the trade balance significantly and Pakistan's trade deficit reduced from US\$3.12 billion in 1995 to US\$0.83 billion in 2003 and in 2012 over all trade deficit contracted by US\$2.5 billion. In spite of various challenges faced by economy, successive trade policies attempted to diversify the export base by export infrastructure to

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increase exports in Pakistan. Pakistan's trade volume as percentage of GDP showing constant from 1960 to 2011. Average tariff went on falling from 1972 to 2011 and international trade tax and showing up and down trend from 1990 to 2003, after 2003 it keep constant from 1990 to 2011.

Remittances - transfers from international migrant's to family members in their country of origin - represent one of the largest sources of financial flows to developing countries. Remittance is different from other external capital inflow like foreign direct investment, foreign loans and aids due to its stable nature, (Kapur and Singer, 2006; Shahbaz and Naveed, 2007). Similarly, remittances tend to go up when the recipient economy suffers an economic recession as result of financial crisis, natural disasters, or political conflicts as migrants send more during hard time for helping their families and friends (Orozco, 2003; World Bank, 2005; Ratha, 2007). On the other hand, other private capital flows, which frequently move pro-cyclically, raising in booms and decreasing in recessions (Ratha, 2003). International Monetary Fund (2005) also founds lower volatility of aggregate output, consumption and investment in nations with larger remittance inflows. Remittances smooth consumption and contribute to the stability of recipient's economies due to macroeconomic shocks. In 2009, the recorded remittances sent by home migrant (Pakistan) reached to \$316 billion down 6% from \$336 billion in 2008. With improved forecast for the international economy, remittance flows to developing countries are likely to increase by 6.2% in 2010 and 7.1% in 2011 (Ratha, 2010). Remittances are almost as large as FDI, and more than twice as large as the official aid received by developing countries (Gammeltoft, 2002; Ratha, 2007). Remittances are going to households and individuals. While other external sources such as foreign aid go to public agencies in recipient countries. Hence their effectiveness may therefore be hampered by corruption of government officials (Kapur, 2005). Remittances can improve nation's creditworthiness and there by enhance it success to international capital markets for financing infrastructure and other development projects (Ratha, 2005; Yang, 2004; Woodruff and Zenteno, 2004). The remittances of Pakistani migrants has played important role in the development of economy. Foreign exchange reserves has significantly stabilized Pakistan's financial sector (Shahbaz et al., 2008). During the oil shocks in the 1970s, the import bill increased and thus worsened the balance of payments problem (Afzal, 2008). On the other hand, the demand for workers from the Gulf countries increased. Therefore, by the end of the 1970s, UAE and Saudi Arabia were contributing over 20% of the total migrant remittances (Vaqaar, 2010).

It remained one of the most important components of the balance of payments since late 1970's (Nishat and Bilgrami, 1991). This trend was sustained till 1980s. During 1980 s, remittances had positive social and economic effects on household's recipient from Middle East. During this period it was also associated to a rapid decline in poverty levels (Anwar, 2004). During 1982-83, remittances were 10.06% of the GDP, and it financed 84.8 and 96.6% of the current account balance and trade deficit respectively (Burney, 1987). The boom of 1980's reversed in the beginning of 1990's partially due to return of the migrants from Iraq and Kuwait, due to the Gulf crisis. By 1990-1991, the inflow of migrants' remittances declined to US \$1848 million which reduced the proportion of Middle East from 86 to 67% in 1983-1984. Although in 1996-1997 the share of Middle East increased to 73% but to remittances decreases to Rs.1409 million (Government of Pakistan, 1998). The remittances again experienced slowdown during 1998 due to sanctions imposed,

seizing of foreign accounts caused by nuclear explosions (Asghar and Ashfaq, 2004), and declined in confidence of several Pakistanis migrants on banking system (Haq, 2001). During the 1990's, decline in remittance inflows is a major contributor in increasing poverty in Pakistan (Siddiqui and Kemal, 2002). Since, after September 11, 2001, remittances have increased very sharply and reached 4 billion dollars due to the additional external support provided by the United States helped increase the cushion of external reserves (World Bank, 2007). During this period the share of remittances increased from 13 to 30% from Pakistani migrant in United States (Azam, 2005). The inflows of remittance during 2000–2010 are started from around \$1 billion in 2000 and reached \$8.9 billion by 2010. The other external flows such as foreign direct investment and portfolio investment from abroad have decreased due to volatile political situation and shortage of energy (State Bank Pakistan, 2010). Pakistan has been reported as a top nation which has shown the highest growth in migrants, remittances in the world in spite of current global financial crisis (Muhammad and Ahmed, 2009). However, there is still inadequate knowledge about the way in which these international transfers affect economy in the migrant sending nations. High, sustained economic growth is almost universally considered a necessary condition for improving the quality of life and reducing poverty. Pakistan has done considerably well in the past years and should continue to do as data showing that consumption, partially fuelled by transfers from abroad, drove strong growth from 2002–2007. However, exports and investment, which hold better potential to drive high sustainable growth, lagged far behind the growth of consumption. Pakistan's exports increased more than 100% from \$7.5 billion in 1999 to stand at \$18 billion in the financial year 2007–2008 (Economic Survey of Pakistan, 2009). The financial market witnessed excessive liquidity that was diverted towards boosting consumption through consumer financing. There was hardly any concerted effort to divert a major chunk of remittances towards manufacturing, agriculture or agro-based industries either by the government or by commercial banks. It resulted in developing inflationary pressures that was further aggravated because of expansionary fiscal policy of the government, soon after coming out of the IMF bailout package by end of 2004. In 2008, prices of essential commodities and food items hit new peaks. The cumulative effect of all these factors pushed the inflation to a record high of 25.4% in August 2008 (Qazi, 2010). The objective of this study is to examine the impact of remittance, exports and broad money supply on economic growth of Pakistan. More specifically to: Estimate whether there is a long-run relationship between economic growth and remittances in Pakistan. Estimate the dynamic short-run parameters (obtained by error correction model) in Pakistan.

1.1.1 Importance of Trade Openness and Foreign Remittances

Trade openness refers to the inward or outward orientation of a given country's economy, Outward orientation refers to economies that take significant advantages of the opportunities to trade with others Countries. Openness is an essential enabler for growth poverty reduction and job creation. Trade provides the new market opportunities for domestic firm's stronger productivity and innovation through competition. Trade contributes to poverty reduction, geopolitical benefits stronger wages, increased individual choices and freedom. No country will developed successfully in modern era without economic openness to international trade, investment and movement of people.

Remittances are a transmission of money by foreign workers to an individual in his or her home country. Migrants sent the money to home compete with the international aid as one of the largest financial inflow to developing countries. Remittances are plying major role in the economies of many countries. In many countries foreign remittances constitutes a specific portion of nation's gross domestic product or GDP.

Foreign remittances are the major source of poverty reduction, education and better health. Foreign remittances are the main source of increasing investments or consumptions in recipient countries. Increase in investment or consumption is the sign of economic development. Remittances play most important role in poverty alleviation and forming relatively stable sources of income independent of local economy of recipient's families, remittances offer a life line to millions in the most vulnerable groups across the developing countries.

1.1.2 Relationship between Trade Openness and GDP

The relationship between trade openness and GDP remain one of the most prominent issues in both theoretical and policy context. This issue gets more attention in recent years considering widespread differences in economic performance among countries, especially in developing countries in the wake of growing international trade integration. Since the work by Helpman and Grossman (1990), Roodman (1990) and Young (1991), the of trade in economic promoting economic growth has stimulated growing body of economic studies. Here is a question that trade act as an engine for economic growth as it is stated by the trade led growth hypothesis, it was shown that in long run trade openness act as an engine for economic growth by providing access to good and services achieving efficiency in the allocation of resources and improving total factor productivity through knowledge dissemination technological diffusion.

Foreign remittances are new financial phenomena and one of most important source of global income based on its size and economic impact in the world. According to World Bank data it indicates that global remittances to low or high middle income countries reached a high record 2018, the World bank estimate that officially annual remittance flows to low and middle income countries reached \$529 billion in 2018 an increase of 9.6 over the previous record high of \$483billion in 2017. Global remittances which includes flows to high income countries reached 1.\$689billion in 2018 up from \$633billion in 2017.

1.1.3 Relationship between Foreign Remittances and Economic Growth

The empirical evidence on the relationship between remittances and economic growth is mixed. Using a panel dataset on 114 countries for the time period 1991–2003, Catrinescu et.al(2006) found a positive remittance-growth nexus. However, they report that the relationship is not very robust. Pradhan, Upadhyay, and Upadhyaya (2008) examine the same in a sample of 39 developing countries using panel data from 1980–2004. The study estimates a standard growth model and finds that remittances affect growth positively. Using panel data from 1980 to 2005, Fayissa and Nsiah (2010) examine the aggregate impact of remittances on the economic growth of 17 Latin American countries within the conventional neoclassical growth model. They find that remittances have a positive and statistically significant impact on both the current level of gross domestic product and the economic growth rate of Latin American countries. Using panel data on 31 developing countries from Latin America, Caribbean and Sub-Saharan Africa from 1996–2006,

Ahortor and Adenutsi(2009)report that the overall effect of remittances on economic growth is positive. However, these findings have been challenged by another set of studies who report a negative or a nonexistent relationship between remittances and growth. For instance, Chami, Fullenkamp, and Jahjah (2003) estimate the growth effects of workers' remittances using panel data on 83 countries during the time period1970–1998 and conclude that remittances have a negative effect on economic growth. They cite the moral hazard problem as a significant factor behind this negative impact. Using a cross-country growth regression framework, Spatafora (2005) shows statistically insignificant relation between real per capita output growth and remittances. Barajas et al. (2009) examine the empirical relationship between remittances and growth using panel growth regressions on a sample of 84 recipient countries for the 1970–2004 period. They find that remittances have contributed little to economic growth and may have even retarded growth in some. Nwaogu and Ryan (2015)estimated how foreign direct investment (FDI), foreign aid and remittances impact the economic growth of 53 African and 34 Latin American and Caribbean countries using a dynamic special framework. They find that remittances do not affect growth in the African countries and that, in case of the Latin American and Caribbean countries, the relationship between remittances and growth is positive but fragile and sensitive to model specifications.

1.2 Objective of study

The study has following objectives:

- To identify the determinants of economic growth in Pakistan.
- To analyze the relationship between trade openness ,foreign remittances and economic growth in Pakistan
- To investigate the short run and long run impact of trade openness and foreign remittances and volatility on economic growth
- To suggest suitable policy recommendations about economic growth volatility on the basis of empirical findings.

1.3 Significance importance of study

This study will investigate the impact of Labor force participation rate, Gross fixed capital formation, Trade, Foreign remittances, Inflation on GDPPC. This study will investigate the relationship between independent and dependent variable and their impact in long run time period. This study will help to suggest the suitable policy for the development of economic growth.

1.4 Organization of study

The first chapter of the study consists on introduction of the study; it gives the general information about trade openness, foreign remittances, and economic growth. The second chapter is the empirical literature review of the other studies. Chapter three is based on data description and methodology. Chapter four is concern about the estimated results and discussion. In the last chapter of research, all results are concluded and policies are suggested on the basis of empirical findings.

2. Literature Review

Óscar Afonso (2001) the impact of international trade on economic growth. In this paper, we examine the studies, since Adam Smith, on the impact of commercial and technological aspects, resulting from international trade, on the physical accumulation and quality of productive factors. We remark that the theory of economic growth and the theory of international trade, during the 'classic period', constituted two inseparable branches of economics. In this epoch, it was believed that international trade has a positive effect on the economic growth. Later, during the 'neoclassic period', these two theories of the economic thought became autonomous relatively to each other. Consequently, the importance of international trade was neglected in the context of economic growth, especially until the 1960's. Recently, with the introduction of models of endogenous growth, both theories have merged again. The modeling frameworks advanced by the new models, as well as the recent developments inside the international trade theory, has allowed us to obtain a better understanding of the relation between economic growth and international trade

Halit Yanikkaya (2002) established that trade liberalization does not have a simple and straight forward relationship with growth using a large number of openness measures for a cross section of countries over the last three decades. Annual data on all openness measures were taken from the WDI (1999). We use two groups of trade openness measures. The regression results for numerous trade intensity ratios were mostly consistent with the existing literature. However, contrary to the conventional view on the growth effects of trade barriers The findings of estimated results show that trade barriers was positively and, in most specifications, significantly associated with growth, especially for developing countries and they were consistent with the findings of theoretical growth and development literature.

Romain Wacziarg and Karen Horn Welch (2003) revisit the empirical evidence on the relationship between economic integration and economic growth. Due to data availability problems, this study used unweighted tariff data, while SW used own-import weighted data taking from World Bank. First, present an updated dataset of openness indicators and trade liberalization dates for a wide cross-section of countries in the 1990s. Second, extend the Sachs and Warner (1995) study of the relationship between trade openness and economic growth to the 1990s, discussing recent criticisms of their measurement and estimation framework. Their results of the study suggested that the cross-sectional findings of Sachs and Warner are sensitive to the period under consideration. In particular, an updated version of their dichotomous trade policy openness indicator does not enter significantly in growth regressions for the 1990s. Third, and most importantly, the present new evidence on the time paths of economic growth, physical capital investment and openness around episodes of trade policy liberalization. In sharp contrast to our cross-sectional results, the study find that liberalization had, on average, robust positive effects on growth, openness and investment rates within countries. This study illustrates these large sample findings with detailed case studies in a subsample of representative countries.

Richard h et al (2005) examined that Do International Migration and Remittances Reduce Poverty in Developing Countries ? This paper constructing a new data set on international migration, remittances, inequality, and poverty from 71 developing countries The study

used OLS technique to build relationship between variables. The study concludes three findings and two policy implications emerge. The results show that both international migration and remittances significantly reduce the level, depth, and severity of poverty in the developing world. After instrumenting for the possible endogeneity of international migration, and controlling for various factors, results suggest that, on average, a 10% increase in the share of international migrants in a country's population will lead to a 2.1% decline in the share of people living on less than \$1.00 per person per day. After instrumenting for the possible endogeneity of international remittances, a similar 10% increase in per capital official international remittances will lead to a 3.5% decline in the share of people living in poverty. The study suggested two policy recommendations. First of international migration on poverty makes the policy question of "managing migration" assume greater importance in the international development community. Second With respect to remittances, the international community needs to take efforts to reduce the current high transaction costs of remitting money to labor-exporting countries. Lowering the transactions costs of remittances will help to increase the poverty-reducing impact of international remittances and will also encourage a larger share of remittances to flow through formal financial channels.

Scott L. et al(2007) Do free trade agreements actually increase members' international trade? For over 40 years, the gravity equation has been a workhorse for cross-country empirical analyses of International trade flows and — in particular — the effects of free trade agreements (FTAs) on trade flows. However, the gravity equation is subject to the same econometric critique as earlier cross-industry studies of U.S. tariff and nontariff barriers and U.S. multilateral imports: trade policy is not an exogenous variable. We address econometrically the endogeneity of FTAs. Although instrumental-variable and control-function approaches do not adjust for endogeneity well, a panel approach does. Accounting econometrically for the FTA variable's endogeneity yields striking empirical results: the effect of FTAs on trade flows is quintupled. We find that, on average, an FTA approximately doubles two members' bilateral trade after 10 years.

C.R.K. et al(2008) evaluated the impact of remittances on economic growth in small open developing countries for the period 1996_2006. This study used annual panel data from 31 open developing countries from sub Saharan Africa Caribbean and Latin America. This study concludes that remittances contribute significantly to growth in small open developing countries. Remittances contribute more to long run economic growth in Latin America and Caribbean than to sub Saharan Africa. Remittances retard growth but the overall positive long run growth impact across these developing economies. This study suggest that policy should be designed to give the small open developing countries in the two sub continental economic region a big push for rapid economic takeoff since economic growth is mostly propelled by its backlash in this region.

B. Gabriela Mundac et al(2009) analyzes the effects that both workers' remittances and financial intermediation have on economic growth. This study considered the countries of Latin America and certain countries in the Caribbean (LAC) over the 1970–2002 periods. After considering the effect of long-run investment and demographic variables, and

controlling for fixed time and country effects, the empirical analysis indicates that financial intermediation tends to increase the responsiveness of growth to remittances. This study indicates that making financial services more generally available should lead to even better use of remittances, thus boosting growth in these countries.

B Bhaskara Rao, et al (2010) concludes the growth effects of remittances. This study used sample consists of 40 countries with remittances to GDP ratio of 1% or more. The study used annual data from 1960_2007. This study used conventional specification and panel data estimation methods and also a modified specification. This study also used the system GMM method which minimizes the weak instruments problem. This study concludes that the remittances do not seem to have any significant direct growth effect. But the remittances may have small indirect growth effect.

Titus O. Awokuse (2011) analyzes that Trade openness and economic growth: is growth export-led or import-led? This article re-examines the relationship between trade and economic growth in Colombia, Peru, Argentina .with insistence on both the role of exports and imports. This study used Granger causality tests and impulse response functions were used to examine whether growth in trade stimulate economic growth. The data set, obtained from the International Monetary Fund database, is quarterly and covers the periods January 1994, April 2002 (Colombia) and January 1990, April 2002 (Peru) , January 1993, April 2002 (Argentina) . The result of the study suggests that the singular focus of past studies only just on exports as the engine of growth may be misleading. Although there is some empirical evidence supporting export-led growth. The empirical support for import-led growth hypothesis is relatively stronger. In some cases, there is also evidence for reverse causality from gross domestic product growth to exports and imports. Finding of the study recommend that future empirical research focusing on the impact of trade liberalization should explicitly account for the role of imports in stimulating economic growth. It may be useful to extend the analytical frame work used in this study to other developing countries.

Emilio Dava (2012) Investigate the effect of trade liberalization on the growth of real GDP by using a sample of seven SADC countries .This study used yearly time data set that covers time from 1980 to 2008. This study used the first-difference or difference-in-difference approach (DID). In this study the DID approach regresses the growth rate of real Gross Domestic Product (GDP) on trade liberalization dates. The fixed-effects technique used to analyze the effect of liberalization on the growth of real GDP for all countries. Data of real GDP, real export, real import and real gross capital formation were obtained from the World Bank's 2010 Development Indicators. The results of study Fixed-effect revealed that the mean change in the growth rate of real GDP from the period prior to and after trade liberalization was 4.1 percentage points. The study predicts the mean growth rates of exports, imports and FDI inflows have also increased. Country-specific analysis has revealed differences among the sample countries regarding their growth, exports and imports performances. But it has also found a similar pattern in the effect and dynamics of FDI inflows on growth. . This study suggests that, on average and in aggregate, trade liberalization appears to have had a positive and significant impact on the change in the growth rate of the SADC sample countries .The research gaps identified, the study recommends further research not on the attempts to disentangle effects of trade reforms on

growth or trying to assign causation to it, but on the identification of which reforms work better in specific social, economic and political settings and how researchers and policy-makers can learn from them in producing a better sequencing of policy reforms.

Muhammad Shahbaz (2012) examined the impact of trade openness on economic growth in the long run. The study used ARDL bound test approach to test the long run relationship. The augmented production function associated financial development as additional determinant of economic growth using the framework of Mankiw et al (1992) for Pakistan. The result of the study shows that import, export, terms of trade and trade have positive impact on economic growth. The results confirm cointegration among the series. In the long run growth led trade hypothesis tested by VECM Granger causality test. The causality checked by using the innovative accounting approaches (IAA). The finding of study suggested that economic growth boosted from labor financial development and trade openness and capital formation which help sustained growth in the long run.

Najid Ahmad et al (2013) investigate the impact of foreign remittances on economic growth of Pakistan. This study used secondary time series data for the period of 1978 to 2011. The data were taken from official economic survey of Pakistan and world development indicator. The multiple regression analysis is used to identify the relationship among the variables. GDP is taken as dependent variable while foreign remittances, FDI, inflation and exchange rate as independent variables. Augmented Dickey Fuller (ADF) test is used to check the stationary of variables and all variables found stationary at level. Ordinary Least Squares technique is applied to check the relation among these variables. Results indicate that foreign remittances have positive and significant relation with GDP of Pakistan while inflation and exchange rate has negative effect on economic growth. Foreign direct investment has positive but insignificant relation with GDP of Pakistan. One percent increase in foreign remittances will raise GDP by 0.25 percent. Our model is free from heteroskedasticity and autocorrelation with satisfactory functional form that suggests the stability of our model. The CUSUM and CUSUMSQ are showing that our model is structurally stable within the 5% of critical bounds. Pakistan needs stable and visionary government to enhance foreign capital inflow to boost investment and economic growth.

Qazi Muhammad Adnan Hye (2013) investigated the long term effect of trade openness on economic growth in case of Pakistan from 1971_2009. This study use different cointegration method e.g. Autoregressive Distributed Lag approach (ARDL) and dickey fuller GLS unit tests. ADF use to check the stationary of data. GLS determine the level of integration. This study also use JJ cointegration, dynamic OLS approach to described relationship between variables. Variance decomposition method in order to check the long run association among variables. The results of study have suggested the existence of a negative and significant association between trade openness and economic growth. But this study provided new evidence that there is a strong complementary between human capital and trade openness index in terms of enhancing the real GDP. There is bidirectional relationship between economic growth and trade openness. This study provides a direction for an appropriate financial policy that enhances the level of investment in the real sector of the economy. And also attract foreign direct investment in these sectors by providing a suitable investment environment in the country.

Fatma Zeren and Ayse Ari (2013) examined the relationship between trade openness and economic growth. This study investigated the causality relationship between trade

openness and economic growth in the G7 countries (France, Japan, United State, Italy, and United Kingdom, Germany) cover time period from 1970-2011. Data were obtained from World Development Indicator WDI. This study used granger non-causality test in heterogeneous panels to reinvestigate the causality relationship between trade openness and economic growth. This study found that there is a bidirectional causality relationship between trade openness and economic growth. Thus, as is advocated by the theories of endogenous growth, as openness increases, growth increases in the G7 countries and, afterward, the increase in growth increase openness.

Ramesh C Paudel (2014) investigates the relationship between trade liberalization and economic growth in developing countries. This paper surveys the available literature on liberalization and growth, updates the widely used Sachs and Warner (1995) index of trade liberalization for 193 countries up to 2010, This study investigates the impacts of trade liberalization in economic growth using a dynamic growth model for a large set of panel data covering the period of 1985-2010. The results show that the impact of trade liberalization on economic growth differs across countries depending on the stage of economic development. Lower-middle income countries, on average, benefit at least 3% more compared to other developing countries from the trade liberalization. This finding makes a strong case for taking into account the stage of economic development in making policy recommendations for trade policy reforms, departing from the standard “Washington Consensus” approach while making the policy recommendation in different income group countries; policy makers should note well this differential impact of trade liberalization on growth.

Syed Tehseen Jawaid(2014) investigates the comparative effect of three different measures of trade openness on the economic growth in Pakistan. This study used major rigorous econometric techniques. This study used Autoregressive distributed lag (ARDL) method to check the stationarity of data. JJ CO integration and ordinary least square (OLS).results suggest positive long run relationship between economic growth and exports. The addition of variables and the results of Fully Modified Ordinary Least Square (FMOLS) suggest that the results of the study are robust. The Granger causality and variance decomposition analysis indicate the unidirectional causality between trade openness and economic growth. In the export model, causality runs from export to growth. But in the model with total volume of trade, and import, causality runs from growth to total volume of trade, and imports in Pakistan. On the basis of findings of study it is recommended that policy makers should focus on export promotion strategy to enhance the economic growth in Pakistan. Besides, efficient utilization of capital goods should be ensured and reliance on non-capital goods should be less in order to ensure high domestic production in the country.

Wajahat Ali and Azrai Abdullah (2015) investigate the relationship of Trade Openness on the Economic Growth of Pakistan. The study finds out a negative relationship between liberalization of trade and economic growth in the Pakistan by using the time period of 1980-2010. The VECM and Johanson multivariate approach were adopted to find out the short and long-run estimates. The stationarity properties of the data were checked and found to be co-integrated of order one $I(1)$ using the Phillips Perron (PP) and Augmented Dickey Fuller (ADF) unit root tests. The results of the study showed a short-run positive relationship between trade openness and GDP growth of the country. The long-run results

state a negative impact of trade liberalization on the economic growth of Pakistan. This may be due to the weak conflict management institutions and lack of quality institutions in the country. The negative impact may be due to the raw material exports instead of final goods. Export oriented trade policies and quality conflict management institutions are the policy recommendations.

Dietmar Meyer and Adela Shera (2016) examined the impact of remittances on economic growth. This study used panel data set of six high remittances receiving countries. Albania, Bulgaria, Macedonia Moldova Romania, Herzegovina during the period of 1999_2013. All of these countries have experienced a major increase in remittance inflow and at this time accounts for the bulk of total remittances recipients compared with other regions. In order to explore the relationship between worker remittances and economic growth multiple regression analyze like multi co linearity autocorrelation hetroskedasticity. After applying all these tests multiple regression analysis conduct which shows that worker remittances are significant and most important part of economic growth. It can help the economy of these countries to maintain and improve the economy by investing this money into investment and consumption. The result of study suggests that remittances have positive impact on economic growth and this impact increase at higher levels of remittances relative to GDP.

Noreen Mujahid Khalid et al (2016) explore the relationship between export growth and economic growth in the case of Pakistan by using time series data for the period 1971-2013. The data is taken from United Nations Conference on Trade and Development (UNCTAD). This study has incorporated variables like GDP (Gross Domestic Product) exports, imports and Foreign Direct Investment (FDI). This study applied ARDL to co-integration and Error Correction Model (ECM). The study provides the evidence of stationary time series variables, the existence of the long - run relationship between them, and the result of ECM revealed short run equilibrium adjustment. Pakistan has many options for enhancing the export of the country. There is a dire need to minimize trade barriers and restrictions such as import and export quotas. Government of Pakistan had introduced Structural Reforms for liberalization; privatization and de-regulation which will actually shifted the trend of trade at a significant level in the end of 1980s. Low levels of interest rate can help exportable industries in which investments are needed to promote and enhance the exports. Stable exchange rate is the first and the best policy option for increasing the export and managing the imports. There is a cause and effect relationship between exchange rate and FDI. Pakistan has to immediately find the policies and processes that support logistics and facilitates trade.

Ashfaq Ahmad et al (2016) estimated the Impact of Worker Remittances on Economic Growth of Pakistan. This study used annual data from 1991-2010. The data for all variables is collected from the publications of World Bank data set "World Development Indicators" and State Bank of Pakistan. The purpose of the study of getting logical answer about a very famous matter regarding contribution of worker's remittance in the growth of the economy of Pakistan. This study include different variables to evaluate the exact effect of foreign exchange earnings in economic growth of Pakistan by using time series data for the duration of 1991 to 2010. Here estimator applied OLS multiple regressions model and also check the assumptions of OLS by different diagnostic tests. The empirical and quantitative

results describe that foreign remittance were the famous mean of economic growth and had significant positive relationship with each other. The productive use of this paper can help the economy of Pakistan to maintain and improve the economic growth by investing this money into different long term and short term projects. Pakistan's Government should provide different incentives and lower down the cost of transactions to attract the overseas Pakistani emigrants that sent money through unofficial ways.

Hlalefang Khobai et al (2017) this study purposed to determine the long run relationship between trade openness and economic growth in Ghana and Nigeria covering the period between 1980 and 2016. It incorporated investment, exchange rates and inflation as the additional variables. To test for stationarity of the data, the augments Dickey-Fuller (ADF) (Dickey and Fuller, 1981), the Phillips and Perron (1988) and the DF-GLS test proposed by Elliot, Rothenberg and Stock (1996) were used. The Autoregressive distributed lag (ARDL) model was employed in this study to examine the long run relationship between the variables. The findings of the study suggested existence of a long run relationship among the variables for both countries. The results further showed that trade openness has a positive impact on economic growth and significant at the 1% level in Ghana while in Nigeria trade openness has a negative but insignificant effect on economic growth. These results imply that different policy measures should be put into place for each of these two countries.

Sayantana Gosh Dastidar (2017) investigated the impact of remittances on economic growth in developing countries. The study use sample of 62 developing countries over the time period 1990_2014. The study uses a variety of indicators of openness and tests the proposition that openness of a country increases the growth effects of remittances. The extent of the benefit depends upon the domestic institutions and macroeconomic environment in the receiving countries .As compare the less open countries more open countries have better institutions and macroeconomic environment .This study indicates that conventional sources of growth, like investment sand international trade, have much larger growth effects as compared to the remittances. In the developing countries policy makers should not treat remittances as substitute to these factors and search out well_ suited policies to increase investment and trade in their to promote faster growth.

Nasim Shah Shirazi et al (2018) investigates the impact of remittance inflows on economic growth and poverty reduction for seven African countries using annual data from 1992-2010. This study used the depth of hunger as a proxy for poverty in a Simultaneous Equation Model (SEM). The study find that remittances had statistically significant growth enhancing and poverty reducing impact. Drawing on our estimates, conclude that financial development level significantly increases the remittances inflows and strengthens poverty alleviating impact of remittances. Results of our study show a significant interactive impact of remittances and financial development on economic growth. Finding of study suggested that the substitutability between remittance inflows and financial development. The study further find that 3 percentage point increase in credit provision to the private sector (financial development) can help eliminate the severe depth of hunger in the region. Remittances, serving an alternative source of private credit, can be effective in this regard. These findings highlight some key policy implications. First, the countries need to design policies to promote export of labor in order to generate remittances. Second, financial

market development is the key to growth enhancing and poverty reducing impact of remittances

Khandaker et al (2019) analyze the casual relationship between trade openness and economic growth for 15 Asian countries over the period 1990_2017. The study applied panel cointegration and causality approach to examine the long run and causality relationship variables. This study applied panel unit root test to analyze the integrating properties of the variables. Pedroni cointegration approaches used to test the cointegration between the variables. The VECM base Granger causality applied to examine the direction of causality between variable in the Asian countries. The results of the study confirm the presences of cointegration between the variables. Moreover, the impact of trade openness on economic growth is found to be positive. The panel vector error correction model and Granger causality analysis reveal the bidirectional causality between trade openness and economic growth. The study also used DOLS and FMOLS to find the long run responsiveness of the relationship. The DOLS and FMOLS estimation analysis depict a positive and significant relationship between trade openness and economic growth for all 14 Asian countries except India whose coefficient is not significantly significant.

Chrysost Bangake et al (2019) examined that do remittances spur economic growth? Evidence from developing countries. This study used a sample of 49 developing countries during the period 2001-2013. Using Panel Smooth Transition Regression (PSTR), difference and system generalized methods of moment models, we find two main results. First, remittances have a positive and significant impact on economic growth in developing countries, while aid and foreign direct investments have insignificant impact. Secondly, as far as the nonlinear relationship is concerned, we find two extreme regimes with a sharp shift characterizing the remittance–growth relationship, with respect to conditional variables, where the remittances effects are positive and significant under the first regime and negative or insignificant under the second. Our findings suggest that the nonlinear relationship between remittances and growth mainly depends on financial development and investment, and less on remittance level and consumption.

Jude Eggoh, et al (2019) examined that do remittances spur economic growth. This paper provides original econometric evidence on whether international remittance transfers spur economic growth. The study used a sample of 49 developing countries cover the time period from 2001-2013. By using system generalized methods of moment models Panel Smooth Transition Regression (PSTR). The GMM estimates the direct and indirect relationship between remittances and growth. The PSTR estimator highlights the different forms of transition in remittances and growth. This study finds to main results (1) in the developing countries remittances have a positive and significant impact on economic growth, aid and foreign direct investments have insignificant impact. (2) as far as the nonlinear relationship is concerned. This study find two extreme regimes with a sharp shift characterizing the remittance–growth relationship, with respect to conditional variables, where the remittances effects are positive and significant under the first regime and negative or insignificant under the second. Finding of study suggest that the nonlinear relationship between remittances and growth mainly depends on financial development and investment, and less on remittance level and consumption. The main policy recommendation is that public authorities in recipient economies might implement policies that take into account the reality of each recipient economy given our findings.

Alina Cazachevici, et al (2020) examined the impact of remittances on economic growth. This study used a data set of 95 articles displaying 538 regression equations and observe that around 40% of them report statistically significant and a positive effect of remittances and around about 20% report a negative and statistically significant effect, and also find that around 40% do not find any statistically significant impact of remittances on economic growth. This study does not yield typical policy prescriptions but rather provides recommendations on how to conduct future policy-relevant empirical research, specifically how to estimate the effect of remittances of growth accurately. The results of the study uncover noticeable regional differences: remittances are growth-enhancing in Asia but not in Africa. Studies that do not control for alternative sources of external finance, such as foreign aid and foreign direct investment, mismeasure the effect of remittances. Finally, time-series studies and studies ignoring endogeneity issues report systematically larger effects of remittances on growth.

Chandershaker Ragutla (2020) examined the impact of trade openness on economic growth of in a panel of five emerging economies. This study used the data period from 1993_2016. This study used the panel estimation methods .the result of the study found that the long-run relationship among trade openness, financial development, economic growth, labor force, technology and inflation. The estimated values of long-run elasticity show that trade openness has a positive considerable impact on economic growth. The heterogeneous panel non-causality tests indicate that the presence of a bidirectional causality between inflation and economic growth. In the short run a unidirectional causality that runs from economic growth to trade openness and economic growth to financial development. Finally, the findings of this study suggested that trade openness plays a significant role in promoting economic growth while also promoting economic development in these five emerging market economies.

3. Data and Methodology

3.1 Introduction

In this section, we're going to give an explanation for about the sources of data and methodology which we used for the estimation with the help of outcomes graph and table. This examine became based totally on secondary source of data.

3.2 Data Source

This observes is based on the secondary source data of statistics for all the related determinants the data. The records are accrued during 1972 to 2019. Data have been gathering from the subsequent source as, World development indicators (WDI).

3.3 Description of variables

3.3.1 Dependent variable

GDP Per Capita is dependent variable.

GDPPC or GDP per capita, is a measure of a country's economic output that accounts for its number of people. It divides the country's gross domestic product by its total population.

3.3.2 Independent variables

Labor force participation rate, Gross fixed capital formation, Trade, Foreign remittances, Inflation are independent variables.

1. **Labor force participation rate** is a measure of an economy's active workforce. The formula for the number is the sum of all workers who are employed or actively seeking employment divided by the total non institutionalized, civilian working-age population.
2. **Gross fixed capital formation** is a macroeconomic concept used in official national accounts such as the United Nations System of National Accounts, National Income and Product Accounts and the European System of Accounts.
3. **Trade openness** is the sum of imports and exports normalized by GDP.
4. **Foreign remittance** is a transfer of money from a foreign worker to their family or other individuals in their home countries.
5. **Inflation** is a quantitative measure of the rate at which the average price level of a basket of selected goods and services in an economy increases over some period of time.

3.4 Methodology

In methodology we are going to examine the determinants of consistent with capita GDP Pakistan. We envisioned the determinants with unique variables and tests. We used distinct variables to test the impact of independent variable on dependent variable we're able to use unit roots test to test the table bound of variables. After check the desk certain of the variables. We have been given used ARDL bond test approach to estimation short run and long run parameters.

Estimated equation

We are estimating the impact of trade openness and foreign remittances on economic growth of Pakistan. The model employed in the study relies on the determinants of GDP proposed by international trade theory.

$$GDPPC = F(LFPR, GFCF, TRADE, REM, INF)$$

Econometric model

$$GDPPC_t = \beta_0 + \beta_1 LFPR_t + \beta_2 GFCF_t + \beta_3 TRADE_t + \beta_4 REM_t + \beta_5 INF_t + ut$$

3.4.1 ARDL Approach to Co-integration

There are a few traits of ARDL approach which might be discusses as below: The autoregressive disbursed lag method can be used most effective one single equation to approximation the LR (long run) and SR (short run) effect of the version concurrently. The estimates acquired from the autoregressive dispensed lag technique are green and impartial. Whilst we are applying autoregressive dispensed lag manner then the trouble of serial relationship and indigeneity is solved. (Peasant et al, 2001). Autoregressive allotted lag technique to co-integration is beneficial for small samples as compare to Johansen Juselius co-integration technique and Engel-Granger (Narayan, 2007). The autoregressive distributed lag (ARDL) method to co-integration does not need that each one variables to

be the equal order. This technique can be used any order of integration whether or not I (zero) or I (1) or mixer of both. whilst we are going to practice ARDL technique unit root take a look at has no considerable critical in figuring out the combination order of the mention variables inside the given model. (ARDL) autoregressive disbursed approach to co-integration was first time use by using the pesaran et al. (2001) to overcome the dangers of Johansen co-integration procedures and Engle Granger. ARDL method is the aggregate of autoregressive and allotted lag models.

3.5 ARDL Model Specification

The Unrestricted Errors Correction fashions (UECMs) to provide an explanation for the connection of human capital and financial increase for Pakistan equations are given beneath. The Unrestricted Errors Correction fashions (UECMs) to provide an explanation for the connection of human capital and financial increase for Pakistan equations are given beneath. The parameters are the corresponding long term multipliers whereas the short run dynamic coefficients of the ARDL models. Is white noise mistakes and Δ is the primary distinction operator.

3.6 ARDL Bounds Testing Procedure

Its miles essential to check the existence of long term relationship before estimating long time factors and errors correction models. For the purpose, ordinary Least Squares (OLS) technique is hired to find out the price of F or Wald Statistic for the joint importance of the parameters of lagged variables i.e.

The null hypothesis indicates that the parameters of the lagged variables in equations are simultaneously equal to 0 indicating no long term dating or no co integration. The opportunity speculation explains that as a minimum one of the parameters of the lagged variables is not equal to zero suggesting long time dating or co integration. The null speculation is tested in the direction of the opportunity speculation the usage of F-statistic. The F-statistic has a non preferred distribution which is predicated upon whether or not or no longer or now not the variables covered within the ARDL model are incorporated of order I(0) or I(1) or an aggregate of I(0) and I (1). The computed F is in comparison with vital values proposed thru Pesaran et al. (1996). Of the computed F statistic is greater than the upper certain vital fee, the null hypothesis of no long term courting is rejected. Of F-statistic is a fantastic deal less than the decrease wonderful critical values, the null hypothesis is normal implying that there may be no a long term dating or co integration. Ultimately, of the F-statistic lays the various lower and pinnacle positive essential values, the check is inconclusive for the given diploma of importance of long run dating exists, the long term parameters may be expected through the usage of the following equations for every country. In the above equations parameters associated with the summation signs constitute the short run parameters and the coefficient of ECM in each equations constitute () indicates the rate of adjustment closer to the long-run equilibrium. Coefficient of adjustment should be horrofic and statistically extensive for convergence.

4. Results and Discussion

4.1 Introduction

In this chapter we investigated the relationship between Trade openness, foreign remittances and economic growth. We find out that if the trade openness increased our economic growth increased as foreign remittances increase positive impact on economic growth. In this chapter we interpret the results of Descriptive statistics and Correlation analysis. Unit root analysis ARDL Bounds analysis, short run and long run analysis.

4.2 Descriptive Statistics and Correlation Analysis

It is a set of descriptive coefficient which reviews a given data set which can be demonstration of whole population or sample and the measure used to define this data set are measure of central tendency and measure of dispersion. The measure of dispersion includes the standard deviation, minimum and maximum variables, kurtosis, Jarque-Bera and Skewness while the measure of central tendency include mean, median and mode.

Table 4.1: Descriptive Statistics of Key Variables (1972-2019)

	GDPPC	LFPR	GFCF	TRADE	REM	INF
Mean	2.74	30.33	15.75	33.52	5.37	9.12
Median	2.18	30.19	16.50	33.25	5.02	7.92
Maximum	8.71	32.98	19.24	38.91	10.25	26.66
Minimum	-1.64	27.46	10.49	27.72	1.45	1.34
Std. Dev.	2.33	1.77	2.28	2.78	2.33	5.37
Skewness	0.54	0.14	-0.85	-0.17	0.09	1.39
Kurtosis	2.83	1.71	2.65	2.63	1.92	5.05
Jarque-Bera	2.21	3.29	5.70	0.47	2.26	22.51
Probability	0.33	0.19	0.06	0.79	0.32	0.00
Observations	45	45	45	45	45	45

Summary statistics shows total number of observations available for each variable, mean, median, standard deviation, minimum and maximum values. Jarque-Bera test uses the sample Skewness and the sample Kurtosis measurements. We have estimated the probability on the basis of hypothesis both null and alternative. The level of significant is 0.1. According to the JarqueBera test the probability of GDPPC is 0.33 the null hypothesis of H_0 is accept its mean the data is normally distributed. So, the p-value is greater than level of significance 0.1. The probability of LFPR is 0.19 the null hypothesis of H_0 is accepted. So, the data is normally distributed. The probability of GFCF is 0.06, the probability of TRADE is 0.79, the probability of REM is 0.32 and the probability of INF is 0.00. Total observations of all variables are considered 45. Mean issue of the observation values divided by the number of observation. It is the average value of whole data. All variables have its mean value. Therefore, GDPPC mean value is 2.74, median is 2.18. Minimum value is -1.64 whereas the maximum value is 8.71. LFPR has mean value of 30.33, median value is 30.19, minimum value is 27.86 and maximum value is 32.98. GFCF has mean value is 15.75, median value is 16.50, minimum value is 10.49 and maximum value is 19.24. TRADE has mean value is 33.52, median value is 33.25,

minimum value is 27.72 and maximum value is 38.91. in this way, REM has mean value is 5.37, median value is 5.02, minimum value is 1.45 and maximum value is 10.25. So, the INF has mean value is 9.12 and its measure by CPI (consumer price index). Median value is 7.92, minimum value is 1.34 and maximum value is 26.66.

4.2.2 Correlation matrix

Correlation means that to explain the strength of relationship between two variables. The meaning of word correlation is relationship between two variables. Correlation can be positive and negative respectively. Correlation can be positive when both values rise together. It will be negative when on value increases in the opposite direction of other. The value of that correlation lies between +1 to -1. There are three classifications of correlation and these are stronger correlation, medium correlation and weak correlation.

Table 4.2: Correlation Matrix of Key Variables (1972-2019)

Correlation	GDPPC	LFPR	GFCF	TRADE	REM	INF
GDPPC	1					
LFPR	0.30	1				
GFCF	-0.39	-0.61	1			
TRADE	-0.41	-0.37	0.16	1		
REM	0.52	0.46	-0.33	-0.36	1	
INF	-0.33	0.08	0.13	0.22	-0.06	1

In this table interpret the results of correlation of key variables such as Gross Domestic Per Capita ,Labor force participation rate, Gross fixed capital formation, Trade, Foreign remittances, Inflation are independent variables. The value 1 shows that DGPPC correlate with key variable has strongly positive. GDPPC has positively correlated with labor force and remittances but negatively with GFCF, Trade and INF .Second LFPR have strong positive with key variable and also positively correlated with remittances and Inflation .The LFPR has negative correlated GFCG and TRADE .Third GFCF have positive correlate with key variable and also negative relative with remittances. Fourth REM has strong positive correlation with key variable but found negative correlation between REM has INF has a strong positive with INF.

4.3 Unit Root Analysis

A unit root test is to check whether time-series variables are stationary or not. The time series data is said to be stationary if these conditions are existing, like as mean, variance, and covariance all are found to be invariant Time series data is to be non-stationary if the probability distribution of mean variance and covariance of data is depending on time. Dickey and Fuller (1979) introduced the concept of Augmented Dickey- Fuller to check the stationary of the variables with the help of unit root test. First of all, check the stationary of the data at order I (0) means that data is stationary at level do nothing to make it stationary. If this condition is not satisfying, then we have to make it stationary at order I (1) means that data is stationary at first differential. If this is not fulfilling, then take the stationary at order I (2).

Table 4.3: ADF Test

Times series data are used for the model. The tables below show the results of augmented Dickey-fuller test for checking the unit root of variables used in the study.

Augmented dickey- fuller test:

Ho = series is non-stationary

H 1 = series is stationary

Table 4.3: ADF Unit Root Test(1972-2019)

ADF Unit Root Test							
Variables	None	Lags	Intercept	Lags	Trend	Lags	Conclusion
TRADE	-2.19	0	-1.42	0	1.01	0	I(1)
	-0.63		-0.04		-0.13		
LFPR	-1.07	1	-1.05	1	8.27	0	I(0)
	-0.14		-0.01		0.00		
GDPPC	-4.29	0	-6.1	0	3.9	0	I(0)
	0.00		-0.08		0.00		
GFCF	-6.09	1	0.72	0	1.46	1	I(1)
	-0.57		-0.96		-0.34		
REM	-4.19	0	-2.19	0	-4.39	0	I(1)
	-0.57		-1.57		-0.50		
INF	-6.09	1	-6.39	0	-3.30	1	I(1)
	-0.47		-0.47		-0.17		
	-0.19		-0.22		-0.39		

We have applied the augmented dickey-fuller test at the level and 1st difference form in all variables. Results show some variables are stationary at level form and other variables are stationary at 1 st difference. Hence, order of integration of all the variables is not same. TRADE p-value at intercept -1.42 and trend level is 1.01 and -2.19 at none. This variable is stationary at 1st difference and order of integration is I (1). LFPR -1.07 at none, -1.05 at intercept and 1.01 values at trend. So, this variable is stationary at level and order of integration is I (0).GDPPC at none -4.29 value, at intercept value -6.1 and at trend value is 3.9.This variable is stationary at level form GFCF at none -6.09, at intercept 0.72 and at trend 1.46. This variable is stationary at 1st difference. REM variable is stationary at 1st difference and order of integration is I (1). In this way, INF is stationary at first difference and same order of integration is I (1).

4.4 ARDL Bounds Analysis

To check the relationship among the variables, we applied bound test technique. We construct null hypothesis and alternative hypothesis.

Null hypothesis Ho: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$

Alternative hypothesis H 1: $\beta_1 \beta_2 \beta_3 \beta_4 \beta_5 \neq 0$

The F- test for co- integration

Table 4.4: Results of F-Test

Model	F-Statistic	5% Critical Value		10% Critical Value	
		I(0)	I(1)	I(0)	I(1)
GDPPC/LFPR,GFCF,TRADE,REM,INF	5.15	2.72	3.70	3.11	3.40

We have applied ARDL bound test to check whether there is long run relationship among the variables or not. Results of the bound test are given in the table. if the F- statistics is greater than I (1), hence Ho is rejected, if the F- statistics is less than I (1), hence Ho is accepted. We have concluded that there is long run relationship among the variables.

4.5 Long Run Analysis

When we find the relationship between gross domestic product per capita(GDPPC) and other variables like REM,TRADE,INF, GFCF, LFPR etc., then we used auto regressive Distributed lag(ARDL)model. This model is used to test the existence of long run relationship between variables in multivariate time series model. The ARDL approach was used because of its advantage such as the involvement of just single equation set up making it easy and simple interpret compare to other conventional techniques.

Table 4.5: ARDL Estimates of Trade Openness, Remittances and Growth Model (1972-2019)

Dependent Variable: GDPPC				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LFPR	0.4246	0.3692	1.1502	0.2574
GFCF	0.5312	0.2783	1.9087	0.0641
TRADE	0.3784	0.1988	1.9031	0.0648
REM	0.3724	0.2006	1.8563	0.0714
INF	0.0432	0.0873	0.4948	0.6237

Estimation shows that coefficients of all variables are positively and negatively affected in our model. Long run coefficient of LFPR is 0.4246 having probability p- value of 0.26. As p-value is greater than 0.1. So, this variable has insignificant impact on GDPPC. 1-unit increase in LFPR leads to 0.4246% increase in GDPPC. Furthermore, long run coefficient of GFCF is 0.5312 having probability p-value of 0.06 and p-value is less than 0.1. So, this variable has significant impact on GDPPC.1-unit increase GFCF leads to 0.5312 increases in GDPPC. In long run coefficient of TRADE is 0.3784 having probability p-value of 0.06. As p- value is less than 0.1. So, this variable has significant impact on GDPPC. If, 1-unit increase in TRADE leads to -0.3784% increase in GDPPC. Coefficient of REM is 0.3724 having probability p-value of 0.07. As p-value is less than 0.1. So, this variable has significant impact on GDPPC. 1-unit increase in REM leads to 0.3724 increase in GDPPC.INF long run coefficient is 0.0432 having probability p-value 0.62. As p-value is greater than 0.1. So, this variable has insignificant impact on GDPPC. 1-unit increase in INF leads to 0.0432% increase in GDPPC. As the economic theory suggests inflation is always a monetary phenomenon. The results support that theory.

4.6 Error Correction Analysis

In the error Correction analysis when analyse that When disturbance accurse in the model then how many time required for recover this error. This is the short run analysis error correction shows the speed of adjustment. When we find the result of the independent variables to dependent variables then these shows that some have positive effect and other are negative effect

Table 4.6: Error Correction Estimates of Trade Openness, Remittances and Growth Model (1972-2019)

Dependent Variable: GDPPC				
Selected Model: ARDL(1, 0, 0, 0, 0, 0)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LFPR)	-0.2823	0.2231	-1.2654	0.2137
D(GFCF)	-0.3532	0.1549	-2.2805	0.0284
D(TRADE)	-0.2516	0.1163	-2.1632	0.0371
D(REM)	0.2475	0.1412	1.7531	0.0879
D(INF)	-0.0287	0.0612	-0.4692	0.6417
CointEq(-1)	-0.6648	0.1579	-4.2105	0.0002

The short run results reveal that the coefficient of Coint Eq (-1) is -0.6648, this shows that the coefficient was negative, and this has the significant. This value shows the disturbance in the model and approximately less than one year required for recover this shock. The result suggests the speed convergence.

5. Conclusion and Policy Recommendation

5.1 Conclusion

It has been argued by some empirical researchers that Trade openness and Foreign Remittances has a positive effect on the economic growth. However, while some empirical researchers have been able to argue for the negative effects of Trade openness and Foreign Remittances on the economic growth while others have been able to argue for positive or no effects at all. However, in this study we examine the impact of trade openness and Foreign Remittances on economic growth of Pakistan by using annual time series data from 1972 to 2019. In this study we used some econometric techniques to find out the relationship between the variables, the study use Auto regressive distributed lag (ARDL) to check the relationship among the variables which are under consideration. The estimated value shows following results the value 1 shows that DGPPC correlate with key variable has strongly positive. GDPPC has positively correlated with labor force and remittances but negatively with GFCF, Trade and INF .Second LFPR have strong positive with key variable and also positively correlated with remittances and Inflation .The LFPR has negative correlated GFCG and TRADE .Third GFCF have positive correlate with key variable and also negative correlative with remittances. Fourth REM has strong positive correlation with key variable but found negative correlation between REM has INF has a strong positive with INF.As the results of the study shows that there is positive relationship

between GDPPC and LFFPR, REM and negative relationship between GFCF ,TRADE ,INF. In the long run, trade openness promotes economic growth.

5.2 Policy recommendation

It has been recommended for policy implication that Pakistani policy maker should adopted such policies which cause positive growth for economy and policy maker should encourage and motivate the flow of remittances and adopt such policies that insist remitter to send money through proper channels so that these flows can be utilized in a better way for economy.

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