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A COINTEGRATION ANALYSIS OF FINANCIAL LIBERALISATION AND ECONOMIC GROWTH IN PAKISTAN (1972-2016)

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Abstract

The present study aims to investigate the financial liberalisation and growth nexus in Pakistan by using the FM-OLS cointegration technique over the time period 1972 to 2016. The importance of the financial liberalisation process in Pakistan has been captured through the capital account liberalisation variables. The study also incorporates financial development as a control variable due to the increasing role of the banking industry. The study finds that capital account liberalisation and financial development promotes the economic growth of the country. Moreover, Investment, human capital, trade openness and government expenditure are also significant contributors to economic growth.

Keywords: Financial Development, Growth, Capital Account Liberalisation, Trade Openness, Human Capital.
JEL Classification: G20, O40, F43, E31.

I. Introduction

Over the past quarter-century, industrialised countries have undertaken policy reforms to reap the potential benefits of capital account liberalisation. According to Mackinnon and Shaw (1973), both the financial developments and capital flows across countries lead to the improvement in savings and better investment opportunities and hence better allocation of economic resources [Goldsmith (1969), Greenwood and Jovanovic (1990), Bencivenga and Smith (1991) and De Gregorio and Guidotti (1995)].

The economic theory suggests that capital account liberalisation fosters economic growth through the diversification of investment opportunities and financial development. There exists a difference of opinion among researchers regarding the desirability of the liberalisation process. The neoclassical growth model of Solow (1956) provides a basis for the allocative efficiency view; therefore, it suggests that capital account liberalisation results from inefficient allocation of resources domestically and internation-

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ally, along with the generation of salubrious effects. For example, capital flows out of the abundant capital countries where the return on capital is low towards scarce capital countries where return to capital is high. Particularly, in developing countries, the capital inflow reduces the cost of capital, generates investment opportunities and accelerates economic growth [Obstfeld (1998), Fischer (2003), Rogoff (1999), Summers (2000),]. The allocative efficiency view gains worldwide acceptance as developing countries implemented liberalisation policies during the past twenty years. The opponents of the allocative efficiency view argue that the efficient allocation of resources depends on the level of distortions in an economy and free capital mobility. Sceptics argue that the neoclassical growth models cannot predict the reality of the capital account policy practice worldwide. The study of Rodrik (1998) shows that there is no correlation between capital account openness and the rate at which a country grows or the invested amount. The author argues that the cost of openness is much higher in the form of recurrent emerging markets crises as compared to its benefits which are not readily apparent.

A plausible solution in such a controversial situation can be scrutinising the financial liberalisation mechanism through which it affects macroeconomic performance. Liberalising capital account has both direct as well as indirect benefits for the economy. It provides the much-needed capital to finance the investments within the economy; instead, liberalising capital account brings some indirect benefits. The indirect channels through which it may prove beneficial are regarded as the collateral impacts of financial liberalisation. According to Kose, et al. (2006), these indirect benefits, 'potential collateral benefits', prove more beneficial than the direct benefits of global financial integration. Financial liberalisation allows risk diversification by enabling investments throughout the world. It also nurtures financial development in the integrating economy as it provides more external credit for the private sector. Financial integration enhances the efficiency of domestic firms by providing healthy competition from foreign competitors and ensures macroeconomic stability through improved governance and policy measures. The screening and monitoring process leads to the financial sector efficiency because the financial sector becomes capable of effective allocation of resources, resulting in the country's faster economic growth [Levine (2001)].

In recent years more attention has been focused on how to proceed towards capital account liberalisation to ensure economic growth and the necessary conditions that must be fulfilled before initialising the financial liberalisation process. Capital account liberalisation is a complex procedure which requires proper sequence and coordination among macroeconomic and structural conditions prevalent in the country. In most of the literature, it is emphasised that capital account liberalisation proves beneficial; in case a country has achieved a threshold level of financial sector development or else have political and economic stability, good law and order conditions, strong institutional environment, etc. Despite the difference of opinions regarding the effects of capital account liberalisation, it is generally believed that cautious financial liberalisation leads to an improvement in the macroeconomic indicators of the economy.

However, the capital account openness alone may not result in economic growth unless a country pays considerable attention to the financial sector reforms [Rajan and Zingales (2003)]. The introduction of financial reforms, which includes removing interest rate restrictions and increasing capital mobility, magnifies the benefit of openness in an economy. The study of Bekaert, et al. (2006) and Martin and Rey (2004) also highlight the importance of domestic reforms in capital account openness as it reduces crisis risk and financial volatility. Thus, this research highlights the importance of the financial liberalisation process in accelerating economic growth in a country like Pakistan. Financial liberalisation is measured through its two important components, including financial development and capital account liberalisation. The study's main hypothesis is that financial liberalisation plays a significant role in promoting economic growth in Pakistan. The research proves that financial development and capital account liberalisation are major contributors to growth in Pakistan.

The rest of the study is designed as follows: Section II explains the Historical trends of capital account liberalisation and Trade openness, Section III summarises the Literature review; Section IV contains the detailed description of the Analytical framework; Section V narrates the findings of the study along with results, and the final Section VI concludes the study along with policy recommendations.

II. Historical Trends of the Capital Account Liberalisation and Trade Openness

1. The Capital Account Liberalisation Process in Pakistan

The process of capital account liberalisation depends mainly on the De Jure Indicators, which are based on the measures taken for the openness of the capital account and the liberalisation of the exchange rate regimes. As a developing country, Pakistan introduced foreign currency accounts in 1973. The main purpose behind the opening of the foreign currency accounts was to attract Pakistani nationals living abroad and use those reserves to finance the fiscal deficits. Initially, the worker's remittances were the main source of inflows reflecting the immigration of Pakistani labour to the Middle East region during the oil price boom of the 1970s. Later on, with the liberalisation of capital controls and structural reforms in the financial sector, capital inflows also appeared in the forms of foreign currency deposits, portfolios and direct investment. The foreign investment includes both direct investment and portfolio investment. As the main motive behind the liberalisation of capital accounts is to attract capital inflows, Pakistan also took profound steps towards the liberalisation of capital flows after implementing the IMF's structural adjustment program. The main purpose behind such steps was to remove restrictions on the inflows and outflows of capital and encourage foreign investment in the country [Haque (2011)].

During 1991, with the removal of foreign exchange controls, the Pakistani rupee became partially convertible. The Dollar Bearer Certificates (DBCs) based on the interest rate linked with the London Interbank Offered Rate (LIBOR) were introduced. These DBCs carried a one-year maturity period and were denominated in the US dollar and the convertibility facility for the purchasers at the prevailing exchange rates. Similarly, the State Bank of Pakistan (SBP) permitted the private investors to hold the investment shares of non-residents, disinvestments proceeds and remittance of dividends without going into complicated procedures. Additionally, investors were also allowed to purchase the hundred per cent equity shares of the industrial organisation while moving the foreign assets back into the home country. The removal of capital restrictions and the convertibility of the Pak-rupee also resulted in the foreign borrowings and certain outward investments flow during the 2000s. Later on, steps such as establishing an inter-bank foreign exchange market were also considered an important move towards the decentralisation of foreign exchange management [Khan and Kim (1999)]. The refinement of the foreign exchange regime and the capital account openness continued. The SBP allowed all banks to quote the currency conversion rates within the selling and buying bands specified by the SBP. However, the process culminated when the government of Pakistan decided to freeze all FCAs in response to the financial and economic sanctions imposed by the US, European countries and Japan after the nuclear tests in May 1998. After this move, the focus of the liberalisation policies during the Musharraf era directed towards creating an efficient and transparent foreign exchange regime and the improvement of institutional supervision. This was an important step towards eliminating the unauthorised money changers, narrowing the gap between the interbank exchange rate and the open and kerbside rates, directing remittance through the formal banking channel and discouraging the informal channels of money transfers such as Hawala and Hundi. Furthermore, the SBP also took steps to rationalise the forward premium and ensured the availability of liquidity in the foreign exchange markets through the creation of swap desks in the country [SBP (2003)].

Currently, commercial banks are facilitating their customers by providing a variety of instruments such as foreign travellers' cheques, remittances accounts and foreign currency in cash, along with the opening of the FCAs for the residents and non-residents of Pakistan except for the income coming from the exports of goods. To attract capital inflows, the government has allowed foreign firms and non-residents to open domestic currency accounts. These accounts are also convertible to any foreign currency, subject to the condition that all foreign funds should be channelled through the proper banking system. Besides this, the non-residents are also allowed to purchase any listed securities with their remittances from abroad without any restrictions on the repatriation dividends, receipts from the disposal of such securities, and capital gains. The non-residents are also allowed to purchase all registered corporate debt instruments on the stock exchange, investment bonds, short-term and long-term treasury bills and federal investment bonds in Pakistan. Some foreign banks

such as Albaraka Islamic Bank, Citibank, Barclays Bank, Oman International Bank, and The Bank of Tokyo are also successfully operating in Pakistan. However, there are clear guidelines and restrictions for travellers to carry domestic currency abroad. A traveller can carry an amount of PKR 3000 to India and PKR 10,000 to any other country in the world [SBP (2017)].

2. Trade Openness in Pakistan

In 1947, Pakistan inherited mainly an agricultural economy and exported raw cotton, jute and tea. However, following the export boom of the Korean War, which ended in 1952, Pakistan initiated the policy of industrialisation under the ISI strategy using tariff and non-tariff barriers and physical controls on imports and exports. Foreign exchange controls were also imposed to provide cheap raw materials to the newly established industries and protect them from foreign competition. The rise in domestic prices of industrial goods resulted in adverse terms of trade for the agriculture sector, which was forced to sell cheap raw material to the industrial sector due to export restrictions. The ISI strategy promoted rapid industrial investment, which was highly profitable. Thus, the process of rapid industrialisation initiated in the 50s gained momentum in the 60s. Rapid industrial development was followed by introducing a number of measures to liberalise trade, particularly the EBS in 1959. Under the EBS, the exporters were encouraged to export rather than sell in the domestic market by introducing multiple exchange rates depreciated against the official exchange rate. The EBS heavily subsidised the manufactured exports.

The government also liberalised imports, significantly replacing the import controls of 1952 with Open General License (OGL) and automatic renewal of import licenses for industrial raw materials and consumer goods to facilitate new importers. As the industrial sector rapidly grew and exports increased, the government introduced the 'Free List' in 1964. Importers of selected raw materials were entitled to import the needed raw material without seeking formal permission. The EBS also facilitated import liberalisation because the easy availability of foreign exchange to exporters enabled them to import raw materials and machinery easily. Thus, the EBS played the dual role of increasing output under the ISI policy and increasing the export growth rate during the first half of the 60s. However, the liberal import policy had to be restrained after the Indo-Pakistan war in 1965 due to insufficient domestic savings. Imports once again had to be controlled through tariff and non-tariff measures in the latter half of the sixties. Trade liberalisation did not take roots in Pakistan under the ISI because the investors remained focused on the production of consumer and intermediate goods. However, contrary to the spirit of EBS, their reluctance to invest in the development of heavy capital goods industry limited the export potential. The resulting trade gap and the existing domestic saving-investment gap led to the BOP crisis in the latter half of the 60s.

The policy of ISI was revisited while that of EBS was abandoned in December 1971 when the new government in 1971 adopted a "socialist" strategy to deal with the inequalities and concentration of wealth resulting from these two policies. It nationalised the large scale manufacturing sector, the banking sector and part of the small scale agricultural sector, and the announcement of stringent land reforms. The government devalued the currency in the external sector, and Pakistan experienced a trade surplus two consecutive years after devaluation. However, the sudden and sharp increase in oil prices increased the import bill far in excess of the increase in export earnings leading to the worsening of the BOP for the rest of the 1970s.

The new military government in 1977 was initially involved in the process of deregulation of the nationalised sector. In the early 80s, the military government initiated reforms in the trade regime to promote exports and liberalise imports. To overcome the BOP difficulties, the government abandoned the fixed exchange rate regime in January 1982 and adopted the managed floating exchange rate. This was supplemented with the removal of qualitative restrictions, replacing the positive list with the negative list in 1983, which identified the banned and restricted imports. To increase imports, the tariff reforms introduced in 1987 reduced tariff slabs and replaced them with a uniform sales tax across all commodities. At the same time to facilitate the exporters, a Special Credit Wing was established at the State Bank of Pakistan. The exporters were provided easy access to foreign exchange for export promotion fares exhibitions abroad. The income tax rebate on export earnings was linked to the value-added content of the exports to encourage exporters; the higher the value addition of exported items, the lower the tax on export earnings. However, all the reforms introduced to liberalise trade failed to promote exports.

The adoption of the IMF's SAP dealing with the BOP problems, inflation, growth and budget deficits in 1987-88 also focused on the anti-export bias and the resulting inefficiencies in the industrial and trade regimes. Trade liberalisation became a part of the conditionality of all the SAPs thereafter, and finally, Pakistan started moving away from ISI from 1988 onwards. Under the SAP conditionality, trade liberalisation was required to significantly reduce tariffs on raw materials, intermediate and capital goods, reduce banned items on the restricted list, and replace non-tariff barriers with tariffs. The Industrial Incentives Reform Cell was given the status of a Commission - the Tariff Commission, which was required to deal with fiscal issues creating serious anomalies affecting revenue generation and collection and matters pertaining to overuse/misuse of the tool of effective protection. All these reforms aimed to promote greater value addition in production, remove anti-export bias, ensure efficiency gains by removing restrictions, and provide a uniform protection level [Hasan (1998)]. From 2000 to 2009, the trade policy was introduced to encourage exports to facilitate the country's economic growth. The trade policy was biased towards exports by imposing a ban on the exports, and this objective was achieved by using monetary and exchange rate tools. As a result, the current account of Pakistan documents surplus

in 2010. The export sector showed a positive trend in almost all categories, including textile and non-textile sectors. However, textiles and food groups were the main contributors to the yearly exports [Umer (2014)].

III. Literature Review

Schumpeter (1911) was the first one which highlights the importance of the financial sector developments to foster economic growth. Later on, the study of Goldsmith (1969) for 35 developing countries also confirm the significant effect of financial sector development on the level and rate of economic growth. Thornton (1994) examines the nature of the relationship between financial deepening and economic growth in ten developing countries by using different estimation techniques. The author employs the broad money supply to GDP ratio and the bank deposit to GDP ratio as proxies of the financial deepening variable. The findings indicate no long-run relationship between financial deepening and economic growth when the cointegration technique is applied. However, the study supports the positive association between these variables from financial deepening to economic growth in three countries only when the granger causality test is applied. Kunt and Maksimovic (1996) test the impact of financial developments on economic growth using the micro-level firm's data. The findings of the cross country regression indicate that the stock market performance and law enforcement measures are important determinants of the firm's growth.

Similarly, Jayarantne and Strahan (1996) also find a positive association between the banking sector liberalisation and economic growth in the US. In another study, Levine and Zervos (1998) explore the stock market performance and growth nexus. The study reveals that different measures of market liquidity strongly affect capital accumulation, productivity and economic growth. Similarly, a bank's private-sector lending is also positively linked with growth performance. In contrast, the traditional measures of developments such as the stock market size appear statistically insignificantly associated with economic growth. Rajan and Zingales (1998) examine the growth effect of financial development. The study finds that the industrial sector grows relatively faster in developed financial markets because it reduces external finances to firms. Kraay (1998) incorporates various proxies of capital account liberalisation to examine the impact of capital account openness on economic growth, investment and inflation in a large sample of both developing and developed countries. The study suggests that although financial liberalisation increases economic growth and investment and reduces inflation, this impact is statistically insignificant. Rodrick (1998) explores the effect of capital account liberalisation on a number of macroeconomic variables by using the panel data of a hundred developed and developing countries. The study does not show any significant impact of financial openness on economic growth. Lee (2004) investigates the effects of capital account liberalisation on economic growth

for 95 developed and developing economies. The study also analyses several channels and preconditions under which capital controls work better as compared to free capital flows. The findings conclude no spur to economic growth due to capital account liberalisation even in the presence of preconditions considered necessary for beneficial liberalisation of the capital account. The study does not support the argument that financial liberalisation accelerates investment or its efficiency.

Similarly, Levine and Beck (2004) measure the impact of the stock market and bank development on the economic growth for a set of 40 developing countries by using different estimation techniques. The OLS results support the positive association between financial development and economic growth over the sample period of the study. Later on, the dynamic panel GMM estimation technique also confirms the presence of the supply leading hypothesis, which suggests that financial developments lead to foster economic growth. Mohan (2006) analyses the financial development and economic growth nexus for India; the study reveals that financial development leads to higher savings and investment and accelerating manufacturing activities in the country. Moreover, both banking and non-banking credit availability proves quite helpful for removing industrial stagnation in India's case. After comparing financing channels and their quality, the study suggests that internal and external financing resources can be utilised optimally in the presence of strong or developed financial institutions.

Tswamuno, et al. (2007) explore the impact of liberalising capital account and the resulting increase in foreign investment on the economic growth of South Africa for the time period 1975 to 2005. The results of the study revealed that due to an increase in stock market turnover and foreign investors' participation as a result of liberalising bonds and equity markets, there is no stimulus to economic growth. The study further emphasises that liberalisation can be detrimental to economic growth without adapting proper macroeconomic stabilising reforms. Zhang, et al. (2007) argue that the conventional measures of financial developments such as total credit to bank ratio and the financial market liberalisation index overestimate the financial deepening due to non-performing banking loans in the case of china. Therefore, the author employs the total credit to non-state sector to GDP ratio as a measure of financial development. The study tests the standard growth accounting equation to measure each province of China's total factor productivity growth. The study supports the supply leading hypothesis that financial development leads to economic growth. Wong and Zhou (2011) also confirm the positive association between stock market development and economic growth for five leading economies globally, including China, United States, United Kingdom, Japan and Hong Kong. The study suggests that the developed financial sector is quite important for economic growth. Ibrahim and Shuaibu (2013) analyse the finance-growth nexus for Nigeria using the bounds testing approach to co-integration. Empirical evidence reveals that financial development significantly affects economic growth in the short and long-run. The

study suggests that financial regulatory institutions need to be strengthened to maximise the gains from financial development, especially its role in real sector development and job creation for the growing population. Egbuna, et al. (2013) analyse the relationships between capital account liberalisation and economic growth in the West African Monetary Zone (WAMZ) for the period 1980 to 2012. The short and long-run relationships between capital account openness and economic growth were investigated by applying the autoregressive distributive lag (ARDL) bounds testing approach. The empirical results of the ARDL models showed a significant positive relationship between capital account liberalisation and growth in Ghana and Sierra Leone. However, there was no significant long-run relationship between liberalisation and growth in The Gambia, Guinea, Liberia and Nigeria.

Recently, Karimo and Ogbonna (2017) employ the augmented Granger causality test to check the direction of causality between financial development and economic growth for Nigeria over the time period 1970 to 2013. The study supports the validity of the supply leading hypothesis for Nigeria, which means that the direction of causality from financial deepening to economic growth. Thus, the study suggests that steps should be taken to ensure credit availability to the Nigerian private sector to foster economic growth. Moreover, credit availability will also be helpful for restoring the confidence of the investor in the stock market operations, which will further accelerate economic growth in the country.

Similarly, Rehman and Hayat (2017) explore the impact of capital account liberalisation on economic growth in the 17 emerging economies over the period 1991-2015. The generalised method of moments (GMM) system technique is applied using different de facto and de jure measures of capital account openness. The empirical results indicate that only foreign direct investment (FDI) affects economic growth positively and significantly in the EMEs. At the same time, the coefficients on all the other measures of capital account liberalisation remain statistically insignificant. The findings suggest that FDI is the most beneficial and stable capital flow, which imports sophisticated production techniques, promotes a competitive environment, encourages innovations and inventions, and promotes economic growth in emerging economies.

In Pakistan, Shahbaz, et al. (2008) examines the association between capital account openness and economic growth. The findings of the study suggest that capital account liberalisation accelerates economic growth. Improvements in investment activities, financial sector development and human capital formation foster economic growth. Hye and Shahida (2013) empirically analyse the impact of financial openness on economic growth in Pakistan. The study indicates that financial liberalisation positively affects economic growth in the short-run, whereas in the long-run, contrary to neo-liberal views, its effect is negative and insignificant.

Moreover, capital and labour prove important economic growth determinants, whereas real interest rates negatively affect economic growth. The study suggests that financial liberalisation should be adapted in harmony with economic growth,

which ensures economic stability. However, the present study contributes to the existing literature in Pakistan through the inclusion of capital account liberalisation indicator along with the financial measure to analyse the economic growth.

IV. Analytical Framework

1. Theoretical Framework

a) Theory of Financial Liberalisation

According to the neoliberal financial liberalisation theory, financial integration among nations worldwide leads to macroeconomic stability and increased growth worldwide. The increase in growth arises from various channels. Financial liberalisation directly benefits an economy by providing the much-desired capital and has some indirect benefits. These indirect benefits might be increased savings, improved governance and policies, financial sector development and reduction in the cost of capital, etc. This proposition has been explained extensively by Mackinnon (1973) and Shaw (1973). According to his Hypothesis, when such restrictions on capital flow causing financial repression are exterminated and financial integration occurs, financial sector development occurs. Financial sector development is defined as qualitative, quantitative and efficiency improvements in the financial sector. The financial sector starts developing as a result of healthy foreign competition and international exposure. It enables a more optimal allocation of resources among various sectors of the economy. It ensures easy credit availability for various firms, and the financial intermediaries themselves can invest in massive projects. Therefore, progress in the financial sector leads to promote the growth process in an economy. Generally, the lack of data availability prevented directly tests the impacts of financial liberalisation on the macroeconomic variables. However, different authors have used different variables to measure the financial liberalisation [Rajan and Zingales (1998), Braun and Raddatz (2008), Chinn and Ito (2006), Abiad and Mody (2005), Kim and Kenny (2007)]. Following the subsequent literature, the present study has employed the capital account liberalisation as a proxy to measure the effect of trade liberalisation on economic growth.

b) Theory of Financial Development

There are various notions among economists regarding financial development and its corresponding impact on economic growth in an economy. These notions are majorly categorised into four categories. The first view of the Demand-following hypothesis, which states that financial development is the result of economic growth; whenever the real sector of the economy grows, demand for financial services in-

creases. Therefore, this view suggests that economic development precedes financial sector development. The second view relating to financial development is the supply leading hypothesis which suggests that economic development results from financial development.

Financial sector development results in the reduction of the cost of capital, improvement in the allocation of resources, enhancement of corporate governance and reduction of liquidity risk by providing the opportunity to convert liquid financial assets to extensive capital investments. As a result of these, the provision of financial services improves, leading to higher productivity growth. Therefore, as discussed previously, policies resulting in financial repression will negatively affect economic performance, whereas policies favouring financial development will lead to higher growth. Therefore, in the light of the above discussion, it is hypothetically expected in our analysis that financial development will promote economic growth according to the supply leading hypothesis. Another view suggests that there is bi-directional causality between financial development and economic growth and both appear to take place simultaneously. In contrast, the proponents of the fourth view advocate no link between both variables. However, our analysis intends to find evidence relating to the supply leading hypothesis in the case of Pakistan.

c) Endogenous Growth Theory

The endogenous growth model highlights such macroeconomic variables that prove helpful in promoting economic growth within an economy. Moreover, it describes the path through which such growth is achieved. The theory states that long-run productivity growth in an economy is determined endogenously through savings and investment levels. The model uses a simple aggregate production function which takes the following form in Equation (1):

$$Y_t = AK_t \tag{1}$$

where Y represents total productivity growth, K is the total capital accumulation and A is a positive constant reflecting the level of knowledge and technology. According to this model, productivity growth is directly related to capital formation in an economy, and capital's marginal productivity is considered constant instead of diminishing. Because with the development of physical capital, human capital will also be developed and more technological changes will occur. As a result of this, the marginal productivity of capital will not be diminishing. So, we can say that endogenous growth theory suggests that productivity growth depends upon physical and human capital accumulation and improvement in research and development activities.

Now assuming there is a constant population together with one commodity for consumption only, the gross investment will be equal to in Equation (2):

$$I_t = K_{t+1} - (1 - \delta) K_t \quad (2)$$

Where δ represents the rate of depreciation of capital and *K* denotes the capital stock, including human and physical capital. Now, it is well known that the role of financial intermediaries is to transform savings into investments. However, all savings are not converted to investment. Some of them are absorbed by the financial intermediaries themselves. Let us denote the proportion that transforms into investment by φ. It could be seen as the transaction cost arising due to the difference between lending and borrowing rates among banks. Hence, *1-φ* will be the amount retained by financial intermediaries. For the closed economy, the following condition that ensures the proportion of savings after financial intermediaries claim be equal to the investment must hold in Equation (3):

$$\varphi S_t = I_t \quad (3)$$

Now combining the results of the previous equation into growth rate equals to as follows in Equation (4):

$$g = A(I/Y) - \delta = A\varphi s - \delta \quad (4)$$

where *s* is the gross savings rate. The above equation shows the steady-state growth level of the economy along with incorporating the financial intermediation. The above model presents two paths through which financial intermediation will lead to economic growth. The first path is through improvement in the efficiency with which savings are transferred into investment. When intermediation increases, efficiency improves or in other words, transaction cost will decline, so more savings will be converted into investment, leading to economic growth. The second path involves the efficient allocation of capital with the rise in efficiency level of financial intermediation. When more capital is allocated efficiently, it leads to promote economic growth in the economy.

Now we extend this framework to incorporate the international capital inflows. When foreigners invest in the domestic economy through financial intermediation, more savings will be converted to investment and the equilibrium condition will become as follows in Equation (5):

$$\varphi^* (S_t + NCF_t) = I_t^* \quad (5)$$

where NCF_t denotes net capital inflows and the steady-state growth rate will be as follows in Equation (6):

$$g^* = A^*(I^*/Y) - \delta = A^*\varphi^* s^* - \delta \quad (6)$$

When we compare the growth rate of a closed economy with the one presented above, it is observed that net capital inflows growth rate increases in various ways. Firstly, the investment will increase with more capital to invest, i.e. s^* is greater than s. Secondly, capital flows lead to positive spill over in technology diffusion, investment in human capital, and healthy competition. Different sectors of the economy become competitive and improve. Thirdly, capital flows spur economic growth by increasing the financial intermediation in the economy. As per the previous discussion of a closed economy, the improvement of the financial intermediation speeds up the growth pace. Similarly, if capital inflows are intermediated through financial institutions, the efficiency of the banking sector of the domestic economy will increase. Therefore, it will end up increasing the pace of economic growth.

2. Econometric Model

This study adapted the theoretical model of Wang (2012) to estimate the empirical effects of financial development and capital account liberalisation on economic growth as following in Equation (7):

$$GDP_t = \alpha_0 + \alpha_1 FD_t + \alpha_2 LINV_t + \alpha_3 LGE_t + \alpha_4 LTO_t + \alpha_5 HC + \alpha_6 CAL_t + \mu_t \qquad (7)$$

In the model, *g* represents growth rate, *FD* is the corresponding level of financial development and *CAL* is the measure of capital account liberalisation. The control variables comprise gross domestic investment (*INV*), human capital (*HC*), government expenditure (*GE*) and trade openness (*TO*). According to endogenous growth theory, growth in an economy depends upon endogenous factors instead of exogenous ones and capital formation, human capital, knowledge, and policies favouring openness. These factors promote economic growth in an economy. Gross investment and government spending variables catch the impact of capital formation on economic growth. It is expected that government expenditure will negatively affect economic growth as it results in crowding out of a more fruitful private investment.

In contrast, the gross domestic investment will positively affect the growth process. Human capital is also expected to have a positive impact on the growth process. As suggested by endogenous growth models and neoliberal theories, trade openness is likely to promote growth performance. Furthermore, it is expected that financial development and capital account liberalisation will have a positive and significant impact on the growth rate of Pakistan.

In the next step, we shall determine the impact of capital account liberalisation on economic growth given the level of financial development in the country by introducing an interaction term of capital account liberalisation and financial development in the growth model specified earlier, as follows in Equation (8):

$$GDP_t = \alpha_0 + \alpha_1 FD_t + \alpha_2 LINV_t + \alpha_3 LGE_t + \alpha_4 LTO + \alpha_5 HC + \alpha_6 CAL_t + \alpha_7 CAL*FD_t + \mu_t \quad (8)$$

CAL*FD is the interaction term which incorporates the impact of capital account liberalisation for a given level of financial development. It is expected to bear a positive sign as capital account liberalisation and financial development both are expected to have a positive impact on the growth rate of Pakistan.

3. Data and Estimation Techniques

The study covers the time period from 1972 to 2016. The required data for the study have been obtained from World Development Indicators (WDI), International Financial Statistics (IFS), Pakistan Economic Survey (various issues) and Penn world Table (2016). For our study, we define financial development as the ratio of bank credit to the private sector to GDP and the ratio of monetary aggregates (M2) to GDP. To measure the capital account liberalisation, we have used the Chinn and Ito index of capital account liberalisation developed by Chinn and Ito (2009). This index is better than the other measures of capital account openness like the AREAER index developed by the IMF because it captures both the breadth and intensity of controls [Miles (2011)]. The higher value of the index implies less capital controls or capital account openness and vice versa. We used the Human Capital Index and Gross Fixed Capital Formation for gross domestic investment for human capital. The sum of imports and exports divided by GDP is used as a measure of trade openness. In contrast, government expenditures are defined as the sum of government expenditures relating to the consumption, investment and transfer payments. We have used FMOLS techniques for estimation purposes.

V. Results and Discussion

1. Stationarity Test

In our analysis, we have applied the Augmented DickyFuller (ADF)-GLS test to examine the stationarity properties of the variables. Table 1 presents the test result of ADF-GLS; it is clear from the results that all variables are non-stationary at level, but they become stationary at their first difference. In other words, all the time series are integrated of order one, i.e., I (1).

2. Estimation of the Growth Model

After checking the stationarity of the time series under the analysis, we applied the Johansen cointegration test to check the long-run relationship among the independent and dependent variables of the study.[1] Results are reported in Table 2; com-

[1] The optimal lag length is 1 as per SC.

TABLE 1

Augmented DickyFuller Unit Root Test (1972-2016)

Variables	Level	First Difference	1%	5%	10%	Order of Integration
GDP	-3.021	-8.31	-4.212	-3.529	-3.196	I(1)
LM2	-3.016	-4.783	-4.212	-3.529	-3.196	I(1)
LINV	-0.951	-4.725	-4.212	-3.529	-3.196	I(1)
HC	-0.523	-4.637	-4.212	-3.529	-3.196	I(1)
LTO	-3.325	-7.746	-4.212	-3.529	-3.196	I(1)
LGE	-1.94	-6.608	-4.212	-3.529	-3.196	I(1)
LBCP	-2.847	-9.989	-4.212	-3.529	-3.196	I(1)
CAL	-2.414	-3.998	-4.212	-3.529	-3.196	I(1)

Source: Authors' estimation.

paring calculated trace statistics value with the critical value at 5 per cent level of significance indicates that the null hypothesis of zero cointegration vectors is rejected. In contrast, the null hypothesis of one cointegrating vector is accepted. Thus, we can conclude that there exists a long-run relationship among the variables of the study.

Now equations (7) and (8) are estimated using the Fully Modified Ordinary Least Square (FMOLS) estimation technique which is a univariate cointegration technique. Results are listed in Table 3. The study employs two proxies of financial development, including the ratio of bank credit to the private sector to GDP (*BCP*) and the money supply to GDP ratio (*MS*). Results indicate that financial development has a significant and positive impact on the economic growth of Pakistan. However, the money supply to GDP ratio coefficient is quantitatively larger than the coefficients of bank credit to the private sector to GDP ratio in (Table 3) model 1. It indicates that *MS* plays a relatively more important role in fostering economic growth in Pakistan as compared to *BCP*.

This result is consistent with Khan, et al. (2005) and Mahmood (2013). Moreover, investment also significantly and positively affects growth which validates the stan-

TABLE 2

Test for Cointegration

Null Hypothesis	Alternative Hypothesis	Trace Statistic	Critical Value (0.05)
$r = 0$	$r = 1$	17.13	13.2
$r \leq 0$	$r = 2$	0.272	3.84

Source: Authors' estimation.

dard neoclassical growth model that suggests that investment is conducive to growth. In other words, the growth of capital stock enhances growth in Pakistan. Aurangzeb and Haq (2012) also find a positive association between investment and growth in the case of Pakistan. On the other hand, there exists a negative but significant impact

TABLE 3

Fully Modified Ordinary Least Square (FM-OLS)
Dependent Variable: GDP Growth Rate (1972-2016)

Regressors		Model 1	Model II
FD	LBCP	0.102***	0.120**
		-7.629	-2.968
	LMS	0.128***	0.155***
		-3.37	-5.678
LINV		0.199***	0.296***
		-5.867	-5.461
LGE		-0.171***	-0.086***
		(-3.893)	(-5.235)
LTO		-0.071***	-0.092***
		(-3.284)	(-13.105)
HC		0.159***	0.269***
		-12.727	-13.231
CAL		0.059***	0.171**
		-3.35	-2.223
CAL*BCP			0.102***
			-7.629
CAL*MS			0.041***
			-5.276
C		5.716***	3.992***
		-4.979	-6.42
R^2		0.792	0.801
Adjusted R^2		0.761	0.759
D W Statistic		1.608	2.165
Diagnostic Test:		0.736	
S.Cor. test(χ^2) (p values are in parenthesis)		(0.314)	

Source: Authors' estimation.
Note: ***, **, denotes values are significant at 1 %, 5% and 10 % level of significance.
The values in Parenthesis are t-statistic.

of government spending on economic growth. According to Devarajan, et al. (1996) and Fan, et al. (2003), the impact of government expenditure on economic growth depends on its composition. If the government spends more on non-development projects and forward subsidies to unproductive sectors and entities, it will adversely affect growth. Another perspective highlighted by Mauro (1998) that corrupt government accepts bribes by far that led to the spurious allocation of spending. The trade openness coefficient is against our expectation as it has a significant negative impact on the growth rate. This shows that trade liberalisation is detrimental to the economic growth performance of Pakistan. This outcome seems acceptable in a developing country like Pakistan, where trade openness is unlikely to deliver financial sector development unless financial openness is achieved [Rajan and Zingales (2003)]. Whereas human capital contributes significantly and positively affect economic growth, which is consistent with the study of Jaffee and Levonian (2001). Finally, the capital account liberalisation process foster economic growth; this result is consistent with the findings of Memon, et al. (2011), Christopoulos and Efthymios (2004).

The inclusion of the interaction terms in (Table 3) Model II does not change the basic findings of Model I. The coefficients of interaction terms are statistically significant and positively associated with economic growth. It indicates for any given level of financial development in the economy, liberalising capital account will significantly and positively affect the economic growth of Pakistan. This result supports the findings of Wang (2012). However, the capital account liberalisation performs better in the presence of credit to the private sector by banks as compared to the money supply in enhancing economic growth because the coefficient *CAL* * *BCP* is larger than the coefficient of *CAL* * *MS*.

VI. Conclusion and Policy Recommendations

The study investigates the impact of capital account liberalisation and financial development on economic growth in Pakistan. The study covers the time period from 1972 to 2016 and employs the Fully Modified OLS (FM-OLS) to estimate two growth models. Financial development has been proxied through credit towards the private sector, banks to GDP ratio and M2 as GDP percentage. Similarly, the capital account liberalisation index has been used to capture the effect of capital account liberalisation on growth. The findings of both growth models reveal that all variables are statistically significant, bearing correct theoretical signs with the exception of trade openness. It is found that financial development has a positive and significant association with economic growth. Investment, human capital, trade openness and government expenditure are important determinants of economic growth as well. Capital account liberalisation is found to have a positive impact on economic growth. In contrast, in Model II (Table 3), we incorporate two interaction terms in order to capture the collective impact of financial development and capital

account liberalisation on economic growth. The findings indicate that for the given level of financial development in Pakistan, capital account liberalisation promotes the country's economic growth.

The findings of the study lead to some important policy implications. Firstly, the results place us with those studies determining that capital account liberalisation is important in the acceleration of the growth process; therefore, it is suggested that policymakers pursue capital account liberalisation in Pakistan. Secondly, the results suggest that the government should take measures for the development of the financial sector. It plays a significant role in providing a spur to economic growth in Pakistan. For the stated purpose, intermediary financial services and human capital should be improved so that efficient allocation of resources is made possible through capital account liberalisation. Thirdly, the government should review its fiscal strategy as government spending negatively affects economic growth performance. This situation indicates the existence of the crowding-out phenomenon in Pakistan.

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