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*Full Length Research Paper*

# Trade, human capital and agricultural sector growth of Pakistan economy

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**This study aims to investigate the impact of trade openness on the real agricultural sector growth in case of Pakistan, by using the data from 1971 to 2009. We employ Ng- Perron unit root test in order to determine the order of integration, autoregressive distributed lag model for long run association and modified Granger causality test to determine the short run and long run causal direction. The results indicate positive long run relationship between trade openness and real agricultural growth. The Granger causality test results confirm the long run causal direction from trade openness, human capital, and physical capital to real agricultural sector gross domestic product (GDP).**

**Key words:** Trade openness, human capital, agricultural sector growth.

## INTRODUCTION

Agricultural sector plays a vital role in the economy of Pakistan. The agricultural sector contributes 21.5% to the gross domestic product (GDP) and employing 42% of the labor force and more importantly it helps the other sectors of the economy in the growth process (GOP, 2008). The 65% of the total population live in rural areas and their livelihood prolongs to revolve around agriculture and other agricultural associated activities. Consequently the development of agriculture will be a main vehicle for alleviating not only rural poverty but also the urban poverty. Because the agriculture sector provides the food commodities to the urban population, if the agriculture sector attain the higher level of production than urban consumer get food commodities at low prices. Thus the welfare of urban consumers increases.

Generally, we define the significance of agricultural sector in the economy of Pakistan in six ways. First, the agriculture sector provides food to the rural and urban consumers. Second it provides raw material to the local industries. Third Pakistan agricultural based economy so it is the most important source of foreign exchange earnings. Fourth, it provides a market for industrially produce commodities. Fifth, an increase in agricultural output can increase government savings by an increase in indirect tax collections, and finally, increases in agricultural terms of trade may boost household saving and aggregate investment. Figure 1 indicates that agricultural value added contribution in the GDP is on decline and declining more sharply from 1998 to 2008. It shows a little increase in 2009.

Figure 2 shows the growth of agricultural sector value added. The figure indicates that growth rate is fluctuated throughout the sample size, and it remains negative in the 1971, 1975, 1984, 1993 and 2001. The value added per work at 2000 price is US $ 566.337 in 1980. In 1990s the value addition per worker reaches at US$ 738.511. It reaches maximum US$ 927.126 in 2000 and then decline, again reaches at US$ 907.766 in 2007 (Figures 3 and 4).

Figure 5 represents the graph of agricultural raw material exports and imports as percentage of merchandise exports and imports. It shows that import fluctuated in the range of 3 to 6.5%, and high fluctuation demonstrated by the exports as percentage of merchandise exports.

From 1997, the agricultural sector has strong backward and forward linkages with the industrial sector in Pakistan. It buys agricultural inputs like fertilizers, pesticides, farm machinery from industrial sector and providing raw materials to fiber processing industries in the industrial sector. Currently Pakistan's economy is facing four major problems such as, rising inflation,

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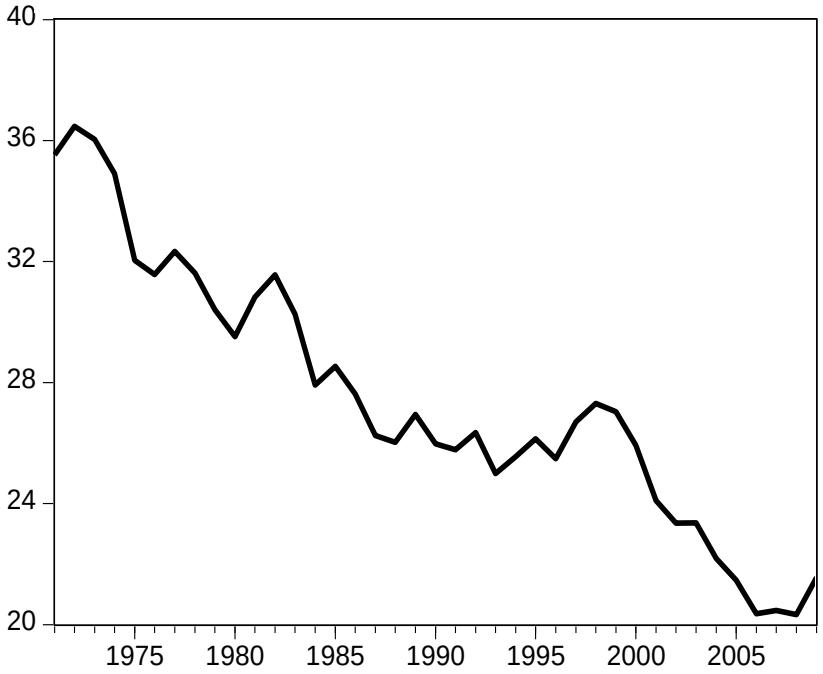


**Figure 1.** Agriculture value added (% of GDP).

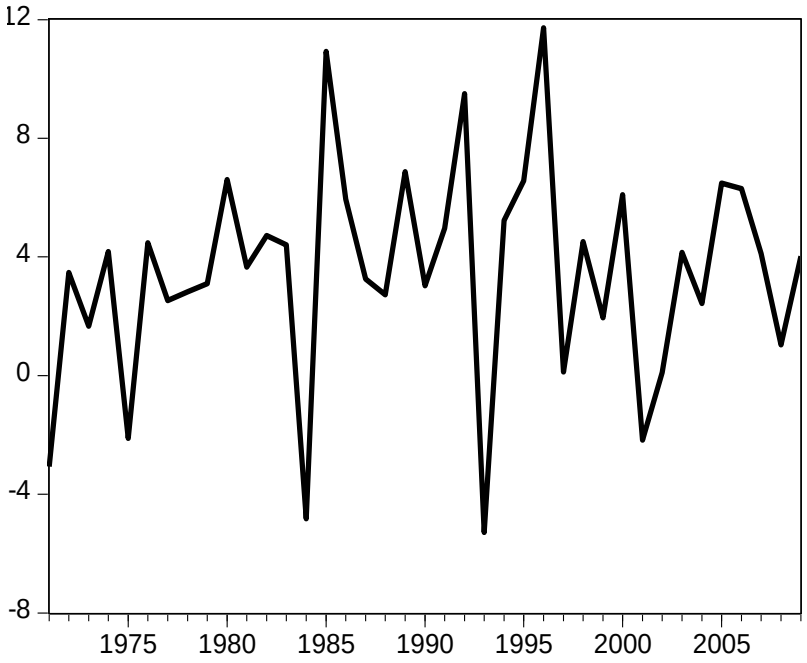


**Figure 2.** Agriculture, value added (annual % growth).

decline in growth, fiscal deficit and widening of trade and current account deficits. In order to overcome these challenges and being an agricultural country, Pakistan's government must work to boost its production of agriculture. It is important to check the link between agricultural trade and agricultural value added.

## Literature review

The empirical literature shows that numerous studies investigated the hypothesis like export-led growth, import-led growth and relationship between the trade and economic growth on the aggregate level. At the earlier

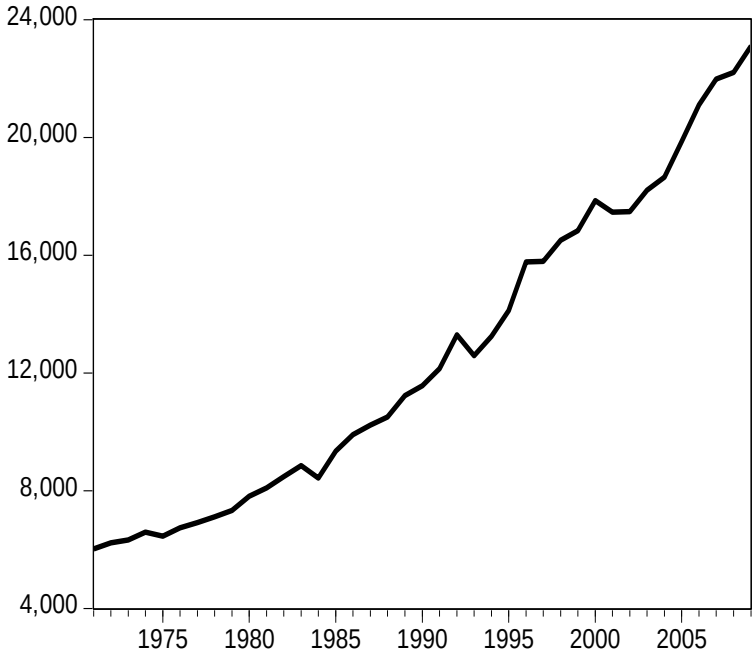


**Figure 3.** Agriculture, value added (constant 2000 US$ in million).

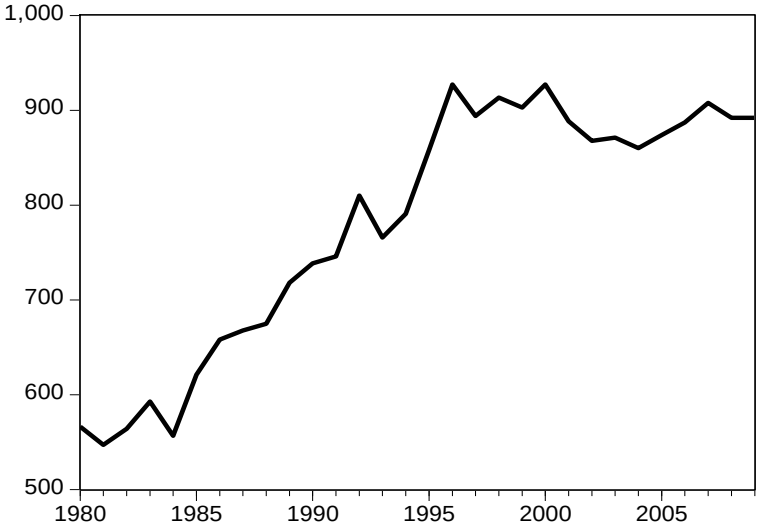


**Figure 4.** Agriculture, value added per worker (constant 2000 US$).

time most of the studies estimate the trade growth and economic growth nexus by using cross country data: Little et al. (1970), Balassa (1971), Bhagwati (1978), World Bank (1987), Roubini and Sala-i-Martin (1991), Dollar (1992), Xu (1996), Shan and Sun (1998), Hwang (1998), Hye (2011), Romer (1990), Leamer (1988), Edwards (1989), Villanueva (1994), Edward (1992), Wacziarg (2001) and Ynikkaya (2003). But recently the researchers used the time series data for analyze the impact of trade openness on economic growth: Sukar and Ramakrishna (2002), Khan and Qayyum (2007) and Chaudhry et al. (2010). All these studies show positive impact of trade openness on economic growth. On the other few studies trade openness impedes economic growth (Batra, 1992; Batra and Slottje, 1993; Leamer, 1995).

But on the sector level empirical literature provided few studies on association between agricultural imports and agricultural sector growth, agricultural exports and agricultural growth. Now this study reviews these sectoral level studies. Kellogg et al. (1986) examine the association between agricultural imports and agricultural

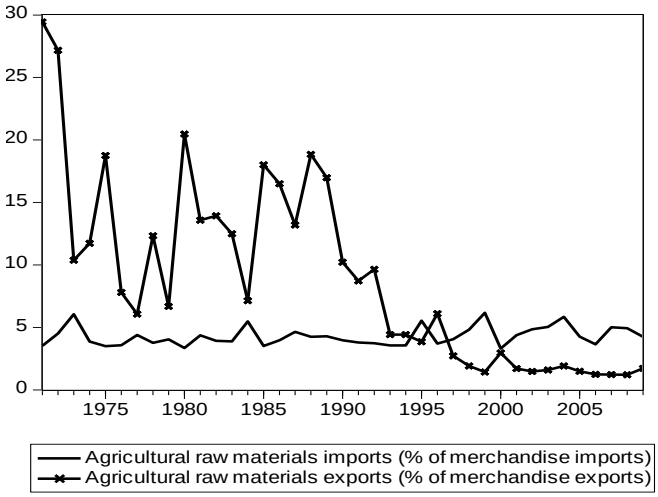


**Figure 5.** Raw material exports and imports.

production in developing countries. They stated per capita agricultural imports are positively correlated to per capita income in developing countries. Mylene and John (1994) empirically investigated the association among agricultural output growth, agricultural imports and development assistance in the sample of 56 developing economies. They found long run relationship between aid and agricultural imports, and aid has a positive impact on agricultural growth, and suggested aid helps market expansion and strengthens trade ties of industrialized countries.

Henneberry and Curry (1995) evaluate agricultural import demand by using the data from 1974-1990 of twelve out off fifteen largest agricultural import markets. They recommended on the basis of estimation results that domestic production positively related to agricultural import volume in the high growth countries. Yamaguchi et al. (2006) investigated the impact of Structural Adjustment Program on food imports and agricultural exports in the case of Sri Lanka. They found agricultural exports positively related to the agriculture sector GDP and food imports negatively impacted on the domestic food sector. On the other hand devaluation of currency reduces real food imports and increases agricultural exports. Memon et al. (2008) found bi-directional Granger-causality between total exports and agricultural GDP in the case of Pakistan by using the data of 1971-2007. Kohansal (2010) concludes trade liberalization increase the agricultural imports because cost of agricultural production is high in the case of Iran. Henneberry and Khan (2010) investigate the causal association among agricultural exports and economic growth. They found agricultural exports lead the overall economic growth of the country. Hye et al. (2010) empirically proves that agricultural raw material imports lead the agricultural exports in the case of Pakistan. Further, Hye (2011) test the causal relationship between agricultural raw import and growth of agriculture sector. He found bidirectional relationship between the import of raw material agricultural sector growth.

## THEORETICAL AND PROCEDURAL FRAMEWORK

The relationship between trade openness and agricultural sector growth is explored by applying the Lucas (1988) endogenous growth model. This growth model has measured the human capital accumulation through schooling as a main factor of economic growth. The Lucas endogenous growth model is written as follows:

$$Y_t = A_t K_t^{\beta} (\mu q_t L_t)^{1-\beta} q_{\alpha}^{\delta} \quad \text{..... (1)}$$

Where $Y_t$ is the total output; $A_t$is the level of technology (assumed to be constant); $K_t \ and \ L_t$ respectively physical capital and total numbers of workers. The $q_t$ is average quality of human capital and $q_{\alpha}^{\delta}$ shows the externalities of average human capital. Lucas supposed that all labor force is same skill level $(q_t = q_{\alpha})$. The Lucas model is rewritten as follows:

$$Y_t = A_t K_t^{\beta} (\mu L_t)^{1-\beta} q_t^{1+\delta-\beta} \quad \text{.....(2)}$$

The Lucas stated stable positive economic growth due to the increasing returns to scale $(2 + \delta - \beta > 2 - \beta > 1)$. The stable growth depends on the value of $\delta$. For simplicity Lucas has supposed that the workers are used as fraction ($\mu$) of their non-leisure time to current production, dedicating the remaining $(1 - \mu)$ to human capital accumulation thus:

$$\Delta q_i / q_i = \gamma_i \mu_i$$

Where $\gamma_i$ denotes the positive coefficient representing workers skill formation in sector i. The internal and external skill of workers

Is enhanced under the trade openness. This empirical work examines the relationship between trade openness and agricultural sector growth by using the Lucas production model. In which the trade openness is used as a separate factor input with the other inputs factor like physical capital and human capital:

$$Y = F(SL, K, TO) \quad \text{..... (3)}$$

We rewrite function-3 in equation as follows:

$$Ln(Y) = \theta_0 + \theta_1 Ln(SL) + \theta_2 Ln(K) + \theta_3 Ln(TO) + \varepsilon_i \quad \text{..... (4)}$$

Where $Y, SL, K \text{ and } TO$ respectively confers the real agricultural GDP, skill labor force/ human capital, physical capital and trade openness. The $Ln$ shows the sign of natural logarithm, and $\theta_s$ represents the slope coefficients of respective variables. The $\varepsilon_i$ is the error correction terms. The real agricultural sector GDP is used as a proxy of agricultural sector growth. The physical capital is represented by the real gross fixed capital formation in agricultural sector and primary school enrollment (% gross) is used as a skill labor force/human capital. The impact of agricultural sector trade openness is catch by using three different proxies of trade openness that is, agricultural raw material export as a percentage of agricultural sector value added, agricultural raw material import as a percentage of agricultural sector value added, and agricultural raw material export plus agricultural raw material import as a percentage of agricultural sector value added. The data of all variables has been taken from World Bank, World Development Indicators and Pakistan Economic Survey.

**Estimation techniques**

This study employs Autoregressive Distributed Lag (ARDL) approach in order to inspect the long run association. This method has developed by Pesaran et al. (2001)[1]. The Pesaran et al. technique of cointegration is concerned by estimating the following error correction model:

$$\Delta Ln(Y)_t = \lambda_0 + \sum_{i=1}^{\rho} \lambda_i \Delta Ln(Y)_{t-i} + \sum_{i=0}^{\rho} \lambda_i \Delta Ln(SL)_{t-i} + \sum_{i=0}^{\rho} \lambda_i \Delta Ln(K)_{t-i} + \sum_{i=0}^{\rho} \lambda_i \Delta Ln(TOI)_{t-i} + \alpha_1 Ln(Y)_{t-1} + \alpha_2 Ln(SL)_{t-1} + \alpha_3 Ln(K)_{t-1} + \alpha_4 Ln(TO)_{t-1} + \psi_t \quad \text{...(5)}$$

Where $Y, SL, K \text{ and } TO$ respectively confers the real agricultural sector GDP, human capital, physical capital and trade openness. $\Delta$ is the difference operator, $\rho$ indicates the optimum lag and $\psi_t$ is the errors term. The existence of long-run relationship among the variables is tested by using overall F-test statistic and t-statistic. The no-cointegration null hypothesis of F-statistic for Equation 5 is $\langle H_0 = \alpha_1 = \alpha_2 = \alpha_3 = \alpha_4 = 0 \rangle$, the alternative hypothesis of cointegration is $\langle H_1 = \alpha_1 = \alpha_2 = \alpha_3 = \alpha_4 \neq 0 \rangle$. The decision of long run relationship is taken in this way: if the computed F- test exceeds the upper critical bound value, then the $H_0$ (null hypothesis) is rejected and if the F- test statistic falls into the bounds, then the test becomes inconclusive. Lastly, if the F- test statistic is below the lower critical bounds value, it implies no co-integration. On the other hand the T-statistic is tested through $\alpha_1 = 0$ in Equation 5. When long-run relationship exists then in next step we estimate the long run and short run coefficients.

Next we perform standard modify Granger causality test augmented with a lagged error-correction term. The Granger representation theorem suggests that there will be Granger causality in at least one direction if there exist a co-integration relationship among the variables in Equations 5, providing that they are integrated order of one. Engle-Granger (1987) causation that the Granger causality test, which is conducted in first difference through a vector auto-regression (VAR), will be misleading in the presence of co-integration. Therefore, an inclusion of an additional variable to the VAR system, such as the error-correction term, would help us to capture the long-run causal direction. To this end, an augmented form of Granger causality test involving the error-correction term is formulated in a multivariate $\rho$ th order vector error-correction model (VECM), as follows:

$$\begin{bmatrix} \Delta Y_t \\ \Delta SL_t \\ \Delta K_t \\ \Delta TO_t \end{bmatrix} = \begin{bmatrix} \varsigma_1 \\ \varsigma_2 \\ \varsigma_3 \\ \varsigma_4 \end{bmatrix} + \sum_{i=1}^{\rho} \begin{bmatrix} n_{11i} & n_{12i} & n_{13i} \\ n_{21i} & n_{22i} & n_{23i} \\ n_{31i} & n_{32i} & n_{33i} \\ n_{41i} & n_{42i} & n_{43i} \end{bmatrix} \begin{bmatrix} \Delta \ln Y_{t-i} \\ \Delta \ln SL_{t-i} \\ \Delta \ln K_{t-i} \\ \Delta \ln TOI_{t-i} \end{bmatrix} + \begin{bmatrix} \lambda_1 \\ \lambda_2 \\ \lambda_3 \\ \lambda_4 \end{bmatrix} [EC_{t-1}] + \begin{bmatrix} \varpi_1 \\ \varpi_2 \\ \varpi_3 \\ \varpi_4 \end{bmatrix} \quad \text{.....(6)}$$

$EC_{t-1}$ is the error correction term, which is derived from the long-run relationship. The Granger causality test may be applied to Equation 6 as follows: (i) by checking statistical significance of the lagged differences of the variables for each vector; this is a measure of short-run causality; and (ii) by examining statistical significance of the error-correction terms for the vector that indicates long run causal direction.

## EMPIRICAL RESULTS

Table 1 indicates Ng-Perron Unit root test results. The results designate that all variables are integrated order one. After the determination of order of integration we apply the autoregressive distributed lag model for the determination of long run relationship. The Table 2 indicates that we have taken the Narayan (2005) for F-statistics and Pesaran et al. (2001) for t-statistic.

Table 3 indicates the result the long relationship exists in all the three models. In model-1 we use the agricultural export as percentage of agricultural GDP as an indicator of trade openness of agricultural sector. The results show that long run relationship exists in case-v with unrestricted intercept and trend. In model-2 we used agricultural import as a percentage of agricultural GDP as an indicator of trade openness of agricultural sector. The results demonstrate that the long run relationship presents in case of $F_{IV}$, $F_V$ and $t_V$. In the same cases the long run relationship also presents in model-3 where we have used the agricultural exports plus agricultural imports as a percentage of agricultural GDP.

In the next step, we estimate the long run elasticities. In Table 4 the results show that trade openness positively

[1] The main advantage of this method is that it is applicable whether regressors are purely I(0), I(1) or mutually cointegrated.

**Table 1.** Results of Ng-Perron unit root test.

| Variable | $MZa$ | $MZt$ | $MSB$ | $MPT$ |
|---|---|---|---|---|
| | | **At level** | | |
| $Ln(Y)$ | -11.751 | -2.422 | 0.206 | 7.762 |
| $Ln(SL)$ | -3.239 | -1.061 | 0.327 | 23.860 |
| $Ln(K)$ | -12.989 | -2.517 | 0.193 | 7.187 |
| $Ln(M)$ | -5.286 | -1.578 | 0.298 | 17.059 |
| $Ln(X)$ | -9.262 | -2.148 | 0.231 | 9.853 |
| | | **At 1st difference** | | |
| $\Delta Ln(Y)$ | $-17.122^{c}$ | -2.925 | 0.171 | 5.322 |
| $\Delta Ln(SL)$ | $-18.324^{b}$ | -3.024 | 0.165 | 4.987 |
| $\Delta Ln(K)$ | $-23.072^{a}$ | -3.384 | 0.146 | 4.022 |
| $\Delta Ln(M)$ | $-71.912^{a}$ | -5.987 | 0.083 | 1.304 |
| $\Delta Ln(X)$ | $-17.393^{b}$ | -2.928 | 0.168 | 5.364 |

a, b and c respectively indicate 1, 5 and 10% levels of significance.

**Table 2.** Critical values for ARDL modeling approach.

| $K = 4$ | 0.10 | | 0.05 | | 0.01 | |
|---|---|---|---|---|---|---|
| | $I(0)$ | $I(1)$ | $I(0)$ | $I(1)$ | $I(0)$ | $I(1)$ |
| $F_{IV}$ | 2.98 | 3.91 | 3.51 | 4.58 | 4.76 | 6.20 |
| $F_{V}$ | 3.33 | 4.43 | 3.95 | 5.22 | 5.37 | 7.09 |
| $F_{III}$ | 2.66 | 3.83 | 3.20 | 4.54 | 4.42 | 6.25 |
| $t_{V}$ | -3.13 | -4.04 | -3.41 | -4.36 | -3.96 | -4.96 |
| $t_{III}$ | -2.57 | -3.66 | -2.86 | -3.99 | -3.43 | -4.60 |

Source: Narayan (2005) for F-statistics and Pesaran et al. (2001) for t-statistic. k is number of regressors, $F_{IV}$ represents the F-statistic of the model with unrestricted intercept and restricted trend, $F_{V}$ represents the F-statistic of the model with unrestricted intercept and trend, $F_{III}$ represents the F-statistic of the model with unrestricted intercept and no trend. $t_{V}$ and $t_{III}$ are the t ratios for testing $\alpha_1$ in equation (5) is respectively with and without deterministic linear trend.

related to agricultural growth in the long run:

(i) 1% increase in $\mathrm{Ln(X/Y)}$ leads to 0.064% increase in real agricultural GDP.
(ii) 1% increase in $\mathrm{Ln(M/Y)}$ is related with an increase in real agricultural growth by 0.288%.
(iii) 1% increase in $\mathrm{Ln}\left(\frac{\mathrm{X+M}}{\mathrm{Y}}\right)$ causes to expedite real agricultural growth by 0.171%.

This empirical finding is equal to the theoretical justification of Romer (1990) for aggregate level and earlier empirical findings on economic growth and trade openness nexus: Khan et al. (2007) and Klasra (2011) country evidence and cross country case Romer (1990), Edwards (1989), Villanueva (1994), Edward (1992), Wacziarg (2001) and Ynikkaya (2003). The variables in the model human skill labor force and physical capital both positively determine the long run agricultural growth. A 1% increase in skill labor force enhances the real agricultural value added by range of 0.627 to 0.677%. Further 1% increase in physical capital in agricultural sector enhances the real value added in agricultural sector by in the range of 0.059 to 0.169%.

The causal relationship is examined by using the modified Granger causality test. The results in Table 5 show that the human capital, trade openness and physical capital Granger cause agricultural sector growth in long run because the error correction is negative and significant. The human capital causes the physical capital in the short run only.

**Table 3.** Bound testing analysis.

| Variable | Without deterministic trends | | | With deterministic trends | | | |
|---|---|---|---|---|---|---|---|
| | Lags | $F_{III}$ | $t_{III}$ | $F_{IV}$ | $F_V$ | $t_V$ | Conclusion |
| | | | | | | | $H_0$ |
| $Y = F[K, SL, (X/Y)]$ | 1 | 2.059[c] | -2.298[c] | 3.544[b] | 4.999[a] | -3.696[b] | Rejected |
| | 2 | 1.006[c] | -1.505[c] | 2.288[c] | 2.778[c] | -3.036[c] | |
| | 3 | 1.226[c] | -1.292[c] | 1.775[c] | 2.059[c] | -2.226[c] | |
| | 4 | 1.908[c] | -2.115[c] | 3.376[b] | 4.021[b] | -3.322[b] | |
| $Y = F[K, SL, (M/Y)]$ | 1 | 0.717[c] | -1.163[c] | 2.088[c] | 2.563[c] | -2.934[b] | Rejected |
| | 2 | 1.165[c] | -1.801[c] | 2.622[c] | 3.274[c] | -3.337[b] | |
| | 3 | 1.372[c] | -1.881[c] | 2.592[c] | 3.211[c] | -3.164[b] | |
| | 4 | 2.407[c] | -2.331[c] | 4.432[a] | 5.518[a] | -3.729[a] | |
| $Y = F[K, SL((X+M)/Y)]$ | 1 | 3.507[b] | -3.115[b] | 4.961[a] | 6.154[a] | -4.321[a] | Rejected |
| | 2 | 1.877[c] | -2.087[c] | 3.739[b] | 4.603[a] | -3.793[b] | |
| | 3 | 1.381[c] | -1.876[c] | 1.925[c] | 2.395[c] | -2.508[c] | |
| | 4 | 1.177[c] | -1.913[c] | 1.892[c] | 2.355[c] | -2.584[c] | |

**Table 4.** Long run coefficients.

| Variable | Model - 1 | Model - 2 | Model - 3 |
|---|---|---|---|
| $\mathrm{Ln(SL)}$ | 0.677*** | 0.627*** | 0.657*** |
| $\mathrm{Ln(K)}$ | 0.169*** | 0.059*** | 0.163*** |
| $\mathrm{Ln(X/Y)}$ | 0.064*** | - | - |
| $\mathrm{Ln(M/Y)}$ | - | 0.288*** | - |
| $\mathrm{Ln((X+M)/Y)}$ | - | - | 0.171*** |
| Constant | 10.215*** | 12.054*** | 10.351*** |

***, **, * respectively 1, 5 and 10% levels of significance.

**Table 5.** Granger causality test.

| Variable | Short run causality results | | | | Long run causality |
|---|---|---|---|---|---|
| | F-statistics | | | | t-statistic |
| | $\Delta(\mathrm{Ln(Y)})$ | $\Delta(\mathrm{Ln(HC)})$ | $\Delta(\mathrm{Ln(K)})$ | $\Delta(\mathrm{Ln}(X+M)/\mathrm{Y})$ | $ECM_{t-1}$ |
| $\Delta(\mathrm{Ln(Y)})$ | - | 0.945 (0.401) | 1.551(0.231) | 0.907(0.415) | -3.381 (0.002) |
| $\Delta(\mathrm{Ln}(SL))$ | 0.234 (0.792) | - | 0.229 (0.796) | 1.809 (0.183) | 1.271 (0.215) |
| $\Delta(\mathrm{Ln(K)})$ | 0.403 (0.672) | 2.441 (0.106) | - | 0.441 (0.647) | -0.541 (0.592) |
| $\Delta(\mathrm{Ln}(X+M)/\mathrm{Y})$ | 0.318 (0.731) | 1.247 (0.303) | 0.305 (0.739) | - | -0.974 (0.338) |

The prob. Values are shown in ( ).

## Conclusion

Keeping in mind the importance of the agricultural sector in Pakistan, this study aims to investigate the impact of trade openness on the real agricultural sector value added in case of Pakistan by using the data from 1971 to 2009. The empirical evidence is provided by using the autoregressive distributed lag model for long run

connection and modified Granger causality test to determine the short run and long run causal direction. The three proxies of trade openness are used in this study. These proxies are extensively used in the literature to examine the impact of trade openness on growth. The results indicate that long run relationship exists, and trade openness positively associated to growth of agricultural sector. A one percent increase in $\mathrm{Ln}(X/Y)$, $\mathrm{Ln}(M/Y)$ and $\mathrm{Ln}\left(\frac{X+M}{Y}\right)$ increase in growth of agricultural sector by 0.064, 0.288 and 0.171 respectively. This empirical evidence is equal to the theoretical explanation of Romer (1990) for aggregate level, and also earlier empirical findings on aggregate economic growth, Khan and Qayyum (2007) and Klasra (2011) country evidence and cross country case Romer (1990), Edwards (1989), Villanueva (1994), Edward (1992), Wacziarg (2001) and Ynikkaya (2003). The other important growth indicators that is, physical capital and human capital both are positively associated to agricultural sector growth. A one percent increase in physical capital and human capital enhances agricultural growth in the range of 0.627 to 0.677 and 0.059 to 0.169%.

The causal link is examined by using the modified Granger causality test. The results show that the human capital, trade openness and physical capital Granger cause agricultural sector growth in long run because the error correction is negative and significant. On the other hand the human capital causes the physical capital in the short run only.

The important policy implication is derived on the basis of empirical findings. The trade openness is positively impacted on agricultural sector growth in Pakistan, but literature also indicate that trade openness impedes economic growth if it cannot be managed properly (Batra, 1992; Batra and Slottje, 1993; Leamer, 1995). Thus, there is need for the Government of Pakistan to follow the well managed trade openness policies that expand the agricultural sector, and these policies cannot hurt the other important industrial and service sectors of the economy. The empirical results shows that agricultural raw material import also positively impact on agricultural growth, but Hye (2011) found that trade liberalization negatively impact on agricultural raw material import in Pakistan. In order to this there is need a policy change that facilitates the imports of new variety of seeds of major crops, pesticide, fertilizers and machinery. The Government also will have to concentrate more on agricultural research, installation of plants that have value added in the agricultural product and produce that required agricultural raw material locally in order to reduce the agricultural trade deficit and also aggregate trade deficit. The human capital also positively impacted agricultural sector growth. This result is guided to expand the expenditure on education sector, and increase the number of technical skill person, that will be helpful to enhance the per worker contribution in the agricultural sector and also per work contribution on aggregate growth. The physical capital also positively has impact on agricultural growth. But its coefficient value is small, so there is a need to have an appropriate financial policy for agricultural sector that enhances the level of productive investment. But more important is to attract foreign direct investment in this sector.

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