

# TRADE ANALYSIS BETWEEN PRE AND POST WTO REGIME: A CASE STUDY OF PAKISTAN

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**ABSTRACT:** Trade stimulates economic growth as well as creates employment. The basic principles of the WTO make the system economically more efficient and cut the production and marketing costs. The basic objective of this study is to investigate the casual relationship between the dependent variable that is the Trade Balance as Percentage of GDP and Independent Variables that are Value Added by Agricultural Sector in GDP, Value Added by Industrial Sector in GDP, Value Added by Inflation Rate in GDP and GDP growth rate during the time period from 1985 to 2014. Year 1995 is the segregation point. The study is based on secondary. This study attempts to analyze the impact of WTO on the most important sectors in Pakistan i.e. Industry, Textile, Agriculture and Services, analyze the theoretical underpinnings and the possible impact of WTO with special reference to key economic sectors of Pakistan. The study is based on the econometric analysis through regression, t-test to see the effect of explanatory variables. For the data analysis software like Microsoft excel and SPSS is used. It concluded that the trade of the Pakistan has not been increased up to the expectations that results in to low gaining of benefits from world trade.

**Key words:** WTO accession, GDP Growth, Inflation Rate, International Trade, Agriculture, Industry

## INTRODUCTION:

“The World Trade Organization (WTO) has one of the most impressive records in global economic governance by promoting trade liberalization and economic development”[1]. The World Trade Organization (WTO) is the only worldwide international organization dealing with the rules of trade between nations. Its main function is to ensure that trade flows as smoothly, predictably and freely as possible [2]. At its heart are the WTO agreements, negotiated and signed by the bulk of the world’s trading nations and approved in their parliaments. [3] The World Trade Organization WTO is the international organization whose primary purpose is to open trade for the benefit of all [4]. The ultimate goal is to help producers of goods and services, exporters, and importers conduct their business.

## Literature Review

[5] The objective of the study was to establish the impact of the Doha Round on Russian economy. To achieve this objective, they used a Computable General Equilibrium model and a set of detailed data in order to obtain some results as accurate and data from the GTAP to quantify their potential effects [7]. They used the date from the time period 2005 to 2013. The macroeconomic indicators as the GDP, volume of imports and exports, net investment and their impacts on inflation rate, imports and exports as well. [6] Applying the before-after approach they have tried to estimate that how much trade is increased in South Asian countries. It concluded that the trade of the South Asian nations has not been increased up to the expectations that results in low gaining of benefits from world trade. They have taken four countries of South Asia, i.e. Bangladesh, India, Pakistan and Sri Lanka. The analysis covers the data for the period 1985-2006, i.e. eleven years before and eleven years after the WTO that has been taken from World Bank.

## Objective

1. To find out the Performance / Income level / production level of agriculture sector in Pakistan with the pre and post accession of WTO

2. To investigate the Volume of trade of agriculture and industrial sector in Pakistan with the pre and post accession of WTO
3. To analysis the effect of Macro-economic variables like GDP Growth Rate, and Inflation Rate on the trade volume of Pakistan
4. To analyse the position of WTO reforms in Islamic Republic of Pakistan

## METHODOLOGY:

**Null Hypothesis:** There exists a positive and significant relationship between Inflation Rate and trade volume in Pakistan

**Alternative Hypothesis:** There exists negative and no significant relationship between Inflation Rate and trade volume in Pakistan

**Null Hypothesis:** There exist positive and significant relationship between the value added by Agriculture in GDP and Trade Volume in Pakistan

**Alternative Hypothesis:** There exist negative and no significant relationship between the value added by Agriculture in GDP and Trade Volume in Pakistan

**Null Hypothesis:** There exists a positive and significant relationship between value added by Industry in GDP and Trade Volume in Pakistan

**Alternative Hypothesis:** There exist negative and no significant relationship between the value added by Agriculture in GDP and Trade Volume in Pakistan

In order to test the hypothesis related to individual practices, organizational practices, interpersonal trust, system trust, satisfaction and commitment this study is using regression analysis. The model specification is given as:

$$TRG = \beta_0 + \beta_1IND + \beta_2AGR + \beta_3GDP + \beta_4IN + \epsilon..$$

The descriptive statistical tools where mean, standard deviation. The inferential tools will use regression. For our data analysis, we will use software like Microsoft excel and SPSS. Both these software are very useful, authentic and reliable for data analysis. The various studies predicted that due to the WTO world trade has been increased in developing economies. The study will be based on the econometric.

**Data Analysis:  
Correlations Analysis**

**Table No. I (Pre WTO Analysis)**

		TRG	IND	AGR	GDP	INF
TRG	Pearson Correlation	1	.675*	-.717*	-.394	.894**
	Sig. (2-tailed)		.023	.013	.230	.000
	N	11	11	11	11	11
IND	Pearson Correlation	.675*	1	-.797**	-.481	.479
	Sig. (2-tailed)	.023		.003	.134	.136
	N	11	11	11	11	11
AGR	Pearson Correlation	-.717*	-.797**	1	.775**	-.604*
	Sig. (2-tailed)	.013	.003		.005	.049
	N	11	11	11	11	11
GDP	Pearson Correlation	-.394	-.481	.775**	1	-.343
	Sig. (2-tailed)	.230	.134	.005		.301
	N	11	11	11	11	11
INF	Pearson Correlation	.894**	.479	-.604*	-.343	1
	Sig. (2-tailed)	.000	.136	.049	.301	
	N	11	11	11	11	11

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

analysis through regression, t-test to see the effect of explanatory variables

The above table shows the impact and accepted, rejected level of hypothesis of model TRG. It is also concluded that there is a significant relationship between dependent variable TRG and the other independent variable IND, AGR, INF except GDP.

**Regression Results of TRG and Explanatory Variables**

The first regression model TRG analysis was applied to explore its relationship with independent variables. This regression model was applied:

$$TRG = \beta_0 + \beta_1IND + \beta_2AGR + \beta_3GDP + \beta_4INF + \epsilon..$$

In the following table coefficients, standard error, T values and sig(p) values for the independent variables and R Square, F change, P values and the number of observations included in this model are presented.

**Table No. II Model Summary**

odel	R	R Square	Adjusted R Square	Standard Error of the Estimate	Durbin-Watson
	.9	.88	.803	1.56726	2.207
	39	2			

a. Predictors: (Constant), INF, GDP, IND, AGR

b. Dependent Variable: TRG

There is 88.2% fluctuation independent variable TRG is explained by the four independent variables IND, AGR, INF and GDP. In other words the four independent variables IND, AGR, INF and GDP can jointly influence the dependent

variable TRG. In following table regression results, the Durbin Watson is 2.207, indicated that there is no problem of serial correlation (Gujarati and Porter, 2009; Pearson, 2010; Garson, 2012)

**Table No. III ANOVA**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	109.876	4	27.469	11.183	.006
	Residual	14.738	6	2.456		
	Total	124.614	10			

a. Predictors: (Constant), INF, GDP, IND, AGR

b. Dependent Variable: TRG

**Table No. IV Coefficients**

Model	Un-standardized Coefficients		Standardized Coefficients	T	Sig.
	B	Standard Error	Beta		
Constant	-22.630	55.971		-.404	.700
IND	1.025	1.021	.251	1.004	.354
AGR	-.593	1.391	-.167	-.427	.685
GDP	.198	.498	.099	.398	.704
INF	.678	.176	.706	3.862	.008

**Post WTO Analysis of Pakistan 1996-2006  
Correlations Table No. I**

		TRG	IND	AGR	INF	GDP
TRG	Pearson Correlation	1	.445	-.044	-.453	-.164
	Sig. (2-tailed)		.170	.897	.161	.630
	N	11	11	11	11	11
IND	Pearson Correlation	.445	1	-.425	-.463	.543
	Sig. (2-tailed)	.170		.192	.152	.084
	N	11	11	11	11	11
AGR	Pearson Correlation	-.044	-.425	1	.193	-.616*
	Sig. (2-tailed)	.897	.192		.570	.044
	N	11	11	11	11	11
INF	Pearson Correlation	-.453	-.463	.193	1	-.073
	Sig. (2-tailed)	.161	.152	.570		.832
	N	11	11	11	11	11
GDP	Pearson Correlation	-.164	.543	-.616*	-.073	1
	Sig. (2-tailed)	.630	.084	.044	.832	
	N	11	11	11	11	11

\*. Correlation is significant at the 0.05 level (2-tailed).

According to the Table No.III it is stated that the F statistics is significant, which reveal that all the Independent Variables IND, AGR, INF and GDP are jointly influenced the dependent variable TRG. All the independent variables IND, AGR, INF and GDP are significant to explain TRG

**a. Dependent Variable: TRG**

According to the above table it is stated that only one independent variable INF has the p value is .008 which is less than the 5%. Such value reveals that only one independent variable INF is individually affects the dependent variable TRG. INF is a significant variable to explain the independent variable TRG. All the remaining independent variable like IND, AGR and GDP are not individually impact on dependent variable TRG because the p value of t statistics of all the remaining variables is greater 5%.

**DISCUSSIONS:**

According to the above empirical results it is stated that before joining the WTO the macro-economic factor IND,

AGR, INF and GDP are jointly affects the TRG, but INF is a significant variable which individually explain the dependent variable TRG.

It is concluded that there is an insignificant relationship between dependent variable TRG and the other independent variable IND, AGR, INF and GDP. Results show that before joining the WTO the impacts of the independent variables IND, AGR, INF on dependent variable TRG are significant except the independent variable GDP. GDP is one of the independent variables which have insignificant relationship with TRG, but on the other hand the other independent variables such as IND, AGR and INF have a significant relationship with TRG. After joining the WTO the impacts of the independent variables IND, AGR, INF and GDP on dependent variable TRG are insignificant. This means there is no impact on TRG with the independent variable.

**Table No. II Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.682 <sup>a</sup>	.466	.109	2.46285	1.702

a. Predictors: (Constant), GDP, INF, AGR, IND

b. Dependent Variable: TRG

The results indicate a value on.446 which shows that the independent variables such as IND, AGR, INF and GDP explain 46.6% of the variability of TRG. There is 46.6% fluctuation in dependent variable TRG is explained by the four independent variables IND, AGR, INF and GDP. In

### DISCUSSIONS:

According to the above empirical results it is stated that after joining the WTO the macro-economic factor IND, AGR, INF and GDP are not jointly affect the TRG. As we seen earlier before joining the WTO the performance and trade level of the Pakistan is affected by the macro-economic factor IND, AGR, INF and GDP. According to the above empirical results it is stated that before joining the WTO the macro-economic factor IND, AGR, INF and GDP are jointly affect the TRG but INF is a significant variable which individually explain the dependent variable TRG. But after joining the WTO the results are apposite to the pre study.

### CONCLUSION AND RECOMMENDATIONS

On the basis of econometric and non-econometric analysis of the study shows the impact of the WTO on international trade of Pakistan. The Pakistan has mixed results. The WTO has affected the trade slightly positive, but not as expected. The conclusion of the study is summarized below: Before joining the WTO, there was a significant relationship between dependent variable TRG and the other independent variable IND, AGR, INF except GDP, while after joining the WTO there was an insignificant relationship between dependent variable TRG and the other independent variable IND, AGR, INF and GDP. And the current data analysis evaluated that there was an insignificant relationship between dependent variable TRG and the other independent variable IND, AGR, INF and GDP.

Before joining the WTO the R square value showed the value of .882 which was more than the 0.60 revealed that model is fit for study. The Durbin-Watson value was 2.207 which was quite well and well described the model. There was 88.2% fluctuation in dependent variable TRG was explained by the four independent variables IND, AGR, INF and GDP. In other words the four independent variables IND, AGR, INF and GDP could jointly influence the dependent variable TRG. While after joining the WTO R square value showed the value of .466. The Durbin-Watson value was 1.702 which was quite well and well described the model. There was 46.6% fluctuation in dependent variable TRG is explained by the four independent variables IND, AGR, INF and GDP. In other words the four independent variables IND, AGR, INF and GDP could jointly influence the dependent variable TRG. And the current data analysis evaluated that R square value showed the value of 0.858, the Durbin-Watson value was 1.478 which was quite well and well described the model. There was 85.8% fluctuation in dependent variable TRG was

other words the four independent variables IND, AGR, INF and GDP can jointly influence the dependent variable TRG In following table regression results, the Durbin Watson is 1.702, indicated that there is no problem of serial correlation

explained by the four independent variables IND, AGR, INF and GDP.

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