FWU Journal of Social Sciences, Winter 2023, Vol.17, No.4, 21-35
DOI: http://doi.org/10.51709/19951272/Winter2023/2

An Empirical Investigation of the Determinants of Protectionism: A Case of Pakistan

Nashwa Malik, Samina Naveed and Irfan Ali
National University of Science and Technology (NUST), Islamabad

Pakistan is among the most protectionist economies of the world and highly protective trade regimes thus calls for an investigation of the determinants of this protectionism. The current study intends to examine the macroeconomic determinants of protectionism in the case of Pakistan employing the Granger Causality test and Impulse Response Function covering a time period from 1988-2018. The results of the Granger Causality test reveal that unemployment & GDP Granger cause the tariff rate and there exists a unidirectional relationship between these two variables with the tariff rate. Contrary to this, the tariff rate is granger caused by the trade balance. Terms of the trade is found to have a bidirectional association with the tariff rate, while there is no evidence of a causal relationship between the tariff rate and inflation. The results of Impulse Response functions reveal that an increase in unemployment and a higher TOT, both are found to be positively associated with an increased level of protectionism. However, a higher level of GDP or economic growth leads to reduce the protectionism thereby reducing the tariff rate. The results of the study are quite pertinent in identifying the core factors inducing a high level of protectionism in Pakistan .

***Keywords**:* protectionism, tariff, Pakistan, granger causality, impulse response function

The history of protectionism dates back to Mercantilism, which is considered the first economic theory of the bourgeoisie. Mercantilism prevailed in Western Europe from the 15th century till the middle of the 17th century. Afterward, foreign trade and economic policies at the global level have undergone tremendous changes. The early period of US history is marked with protectionist measures to safeguard domestic businesses from foreign competition. However, the dismal contribution of the protectionist policies to national welfare and colossal loss on account of protectionist measures during the period of the Great Depression led to the formation of GATT in 1948. GATT was a provisional multilateral agreement that provided guidelines for the negotiations of trade barrier reductions between nations (Aaronson, 2001). GATT formally became WTO in 1995 as a multilateral body to monitor the trade issues of its member countries (Wilkinson, 2017). The successive trade liberalization and dismantling of tariffs after the formation of GATT and WTO has resulted in the reduction of protection across the globe.

The increase in globalization on account of trade liberalization and resulting integration among the countries has contributed significantly to the growth of trade across the globe. Trade liberalization has contributed much to global economic welfare in terms of faster economic growth, improved efficiency of resource use, more employment generation, lower consumer prices, and comparatively fewer conflicts between and within nations (Anderson, 2016). Therefore, literature

Correspondence concerning this article should be addressed to Dr. Samina Naveed, Assistant Professor, Department of Economics, School of Social Sciences and Humanities (S3H), NUST, Islamabad, Pakistan. samina.naveed@s3h.nust.edu.pk

widely discusses the nexus between trade liberalization and economic growth (Gul et al., 2015; Malik et al., 2020; Bibi et al., 2017; Ramzan et al., 2019; Jalil & Rauf 2021; Luqman & Soytas 2023). However, this momentum of liberalization has slowed down (Pugachevska, et al., 2023) during the last couple of years and countries are in fact moving back to protectionism and import substitution. This is not only evident from the recently observed trade war between the world's two trading giants i.e., China and the USA (Fajgelbaum & Khandelwal 2022) but is also well documented in the case of G20 countries (Albertoni 2021; Evenett & Fritz 2018, 2017; WTO 2016, 2017). The 2008-09 post-financial crisis period has observed a steady increase in protectionist measures (Albertoni 2021; Evenett, 2019) and a stalled trade liberalization has been weighing on the world's trade growth. Among these protectionist measures, import tariff contributes significantly accounting for almost one-fifth of all barriers imposed after 2009 and this highlights the importance of tariffs being the most active trade policy instrument still employed to erect the trade barriers (Dimitrova & Lakatos, 2017).

The reversal in trade policy regimes is not only observed globally but individual countries have also been reverting to protectionist policies after following decades of liberalization. Pakistan, a South Asian country in the list of developing countries, is a classic example in that regard, which after observing open-oriented regimes during the last couple of decades has now reverted to protectionism and inward-looking policies. Pakistan has been observing a liberalized trade regime since the late 1980s after realizing that a protectionist regime has negative consequences for the economy in terms of creating inefficiencies and anti-export bias (Karim,2014). The liberalized tariff regime and dismantling of barriers for imports is well evident from observed tariff rates where the maximum tariff rate of 223% in 1991 has been reduced to 16.98% in 2003 (WITS, 2023). Furthermore, there has also been a decline in the applied average tariff rate from 23 percent to 8.9 percent from 2000-2014. This reduction in tariff has been accompanied by an increase in exports from $ 9.2 billion to $ 25.1 billion during the same time-period. However, a gradual increase in tariff has been observed afterward and the applied tariff rate is observed to be 11 % in 2019, which has resulted in a decline in exports to the $23 billion mark (National Tariff Policy 2019). Although the average tariff rate over the years has declined in a regional context as well as in global comparison, nonetheless Pakistan is still considered a highly protectionist economy (Karim, 2014). There are certain industries whose tariff rates are quite high despite a decline in overall tariff rates in the country (Karim 2014; Haque & Siddiqui 2017). The decades of protection to high lobbying power groups and politically influential industries have not only resulted in generating inefficiencies but have also contributed to the erosion of competition, an anti-export bias, and consumer welfare loss (Salman & Arshad, 2019).

Against the backdrop of this policy switching from liberalization to protectionism, it is very pertinent to evaluate the factors that are responsible for protectionism in the case of Pakistan. To examine those factors, we need to appraise both the theoretical and empirical literature available on this particular topic. The theoretical literature on protectionism is based on the political economy argument of trade policy and endogenous tariff models where a change in tariff or protectionism is associated with macroeconomic disturbances in a country. Such models conceive the tariff setting as an outcome of special interest lobbying in response to macroeconomic changes like economic recession, unemployment, increase in trade deficit, change in terms of trade, etc. (Baldwin,1985). The endogenous tariff model is empirically supported for the US by Magee and Young (1987), Bohara and Kaempfer (1990, 1991), and Das and Das (1994). It is also empirically validated for Japan by Krol (1996) and for Italy by Ibile and Thorton (2000). These are the studies that test the endogeneity of tariffs or determine the driving factors for protectionism, however, the literature regarding protectionism in the case of Pakistan is only limited to a few studies (Kemal 1987; Karim 2014; Haque & Siddiqui 2017). The analysis in these studies is limited either to the determination

of ERP, or identification of industries receiving heavy protection and resulting inefficiencies generated from that protection. Nevertheless, not even a single study examines the core driving factors that are the determinants of protectionism in the case of Pakistan. Hence, this study attempts to explore the core fundamental determinants of protectionism in Pakistan. In order to determine the driving factor for protectionism, we follow the theory of tariff endogeneity which suggests that tariffs are created and changed in the political system in response to certain economic factors (Baldwin,1985). However, it is also well documented that a preestablished causality regarding the tariff rate determined by these macroeconomic factors can be misspecified, as the standard theory of tariffs also proposes that there are feedback effects that run from tariffs to these macroeconomic determinants (Bohara & Kaempfer (1991). Hence, following the correct specification by first estimating the causality between the variables under investigation, the study examines whether a unidirectional or bidirectional relationship exists between the level of tariff and important macroeconomic variables. Next, using the impulse response function, the study examines the impact of those macroeconomic variables on the tariff rate which are found to have a unidirectional relationship with the tariff rate. For achieving the objective of this particular study Granger Causality test, and impulse response function have been employed utilizing the dataset from 1988 to 2018.

The rest of the paper is organized as follows. Section two discusses the evolution of protectionism in the case of Pakistan. Section three examines the methodology and analytical framework of the study. This section also provides a discussion on variables, data sources, model specification, and estimation methodology. The results and relevant discussion is covered in section four. Finally, section five presents the conclusion of the study.

Overview of Pakistan's Trade Policies

Pakistan in its primitive years adopted an import substitution policy to strengthen its fragile industrial base. Import restrictions, industrial licensing, and administered prices were used as controls to protect the local industries. Higher Tariff rates were imposed on manufactured goods as compared to intermediate and capital goods favoring domestic consumer goods industries (Din et al., 2003). As a result, Pakistan's industrial growth accelerated in the 1960s at an average rate of 13.4 percent per annum (Khan & Ali, 1998). Though the trade policies in this era were mainly protectionist (over-valued exchange rate, low administered prices of agricultural inputs, etc.), efforts were made to promote industrial exports as well. These include export bonuses, automatic renewal of import licenses, credit, and foreign exchange access to export-oriented industries on preferential grounds, issuance of a free list of imported items consisting of major raw materials required for the industries, tax holidays along numerous other fiscal incentives. Industries like automobiles and textiles were the highest protected industries in that time period (Khan & Ali, 1998).

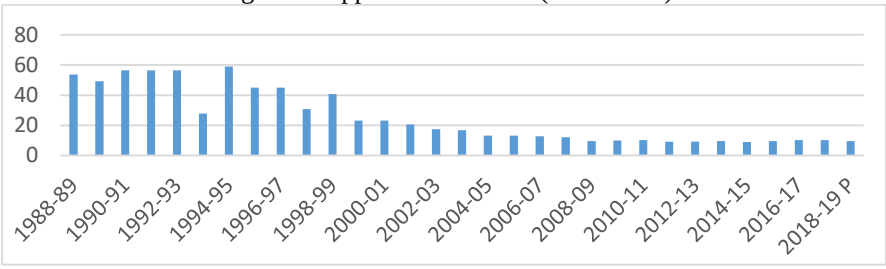
In the 1970s the government introduced several policies towards trade liberalization and reducing anti-export bias; the economy faced a decline in industrial output at the same time owing to the state's nationalization policy. These policies included the devaluation of Pakistan's currency by 57 percent in 1972, revoking the export bonus scheme, termination of restrictive licensing, introduction of two import lists instead of six (free plus tied lists of items), gradual reduction in export duties and Export Refinance Scheme 1978 allowing commercial banks to provide loans to exporters at a lower interest rate (Khan & Ali, 1998; Yasmin et al., 2006).

Pakistan adopted more liberalized trade policies in the 1980s through the reduction of non-tariff trade barriers, switching from positive to negative import lists, and tax cuts on the imports of raw materials and capital goods. The trade policy, however, continued to be protectionist; import competing manufacturers were given compensatory rebates and higher tariff rates were imposed for imported substitute products. Pakistan also shifted from a fixed to a flexible exchange rate system in this time period. The tariff reforms of 1987 were a major breakthrough in the adoption of a more

liberalized trade regime whereby the tariff slabs were reduced from 17 to 10 and applied tariff rates were reduced to a new maximum from 225 percent to 125 percent (Khan & Ali, 1998). The government's focus changed from import substitution policies towards increasing the competitiveness of Pakistan's industrial sector along with enhanced private investment and export promotion.

The trade liberalization policy was further supported by the tariff reforms of 1993; aimed at "*rationalization of tariff structure, reduction of non-tariff barriers and simplification of import mechanisms"* (Din et al., 2003). The maximum tariff rates were reduced to 70 percent in 1994-95 and further to 45 percent in 1997-98 (Khan & Mahmood, 1996; World Bank, 1997). Custom duty slabs declined from 13 to 6 in this time period. The average tariff rate was also reduced to 12 percent with a substantial decline in tariffs on capital goods (from 16 percent to 8 percent) and a trivial decrease in those on consumer goods and raw materials for both capital and consumer goods. Meanwhile, Pakistan also became a member of the World Trade Organization in 1995. In keeping with its commitments under the WTO, Pakistan shifted entirely from reliance on quantitative restrictions (such as import licensing schemes and import quotas) to adoption of tariffs as the leading policy instrument. From this time period, Pakistan embarked on a journey of trade liberalization through the reduction in tariff rates, customs duty slabs, and non-tariff barriers.

Figure 1: Applied Tariff Rate (1988-2018)



Source: Annual applied tariff rate data from the Ministry of Finance

Figure 1 shows that there has been a decline in the weighted mean applied tariff rate from approximately 53 percent in 1988 to 9.45 percent in 2018. From 2001 to 2014, the applied weighted mean tariff decreased from 20.62% to 8.92%. However, since 2014, trade liberalization appears to have overturned with the steady increase in applied tariff rate to 10.09 percent in 2018

Table 1
Effective rate of protection (%) on different sectors in 2009 and 2018

Sectors	Effective Rate of Protection (%)	
	2009	2018
Textile	58	48
Motor Vehicles and Parts	114	114
Beverages and Tobacco Products	160	145
Petroleum and Coal Products	41	36
Sugar	76	67
Metal Products	54	48

Source: *Document of World Bank*

f rate to 10.09 percent in 2018

Table 1 shows the effective rate of protection in the years 2009 and 2018 in some of the highly protected sectors of Pakistan. Beverages, tobacco products, and motor vehicles entail the highest percentage of effective rates of protection. Others like Textile, Petroleum, Sugar, and metal products enjoy high levels of protection as well though the effective protection rates have fallen over time.

Recent World trends reveal that all the fastest export growth economies during the last decade have decreased their import tariffs but in the case of Pakistan, the trend has been the opposite; an increased level of 11 percent import tariffs along with the imposition of regulatory duties from 2010 to 2019 (National Tariff Policy 2019).

In the present scenario, Pakistan is seen to endure the third highest weighted tariff among all those 68 countries whose annual exports are greater than twenty billion USD. In Pakistan, the total tax revenue from import tariffs is 13 percent, which is substantially higher compared to other export-oriented economies such as Malaysia has 1.6 percent tax revenue generated from import tariffs, China (4.6 percent), Turkey (2.0 percent), Indonesia (2.5 percent), South Korea (3.9 percent) and Thailand (4.3 percent). At the import stage, the total revenue collection in Pakistan is around 44 percent of the total tax revenue (Ministry of Commerce). Thus, in the regional as well as global context, Pakistan's average tariff rate is still significantly high.

An evaluation of the historic evolution of protectionism in Pakistan leads to a general conclusion that although over time country has reduced protectionism and has observed liberalization, however, tariff liberalization has reversed in recent years. Besides, in a regional context as well as in global comparison, Pakistan still lags behind in terms of the openness of its economy. Another important fact relating to protectionism is that some industries are still heavily protected as compared to others, although they are inefficient even after being protected for decades. The inefficiencies generated on account of the provision of tariffs to these industries, the erosion of the competition, and the repercussions for the entire country for this protectionism thus call for an insightful study that should investigate the determinants of protectionism. Besides, there should be a rationalization of the tariff structure that would be least distortionary and that would serve the broader interests of the country rather than serving a few influential industries or lobbying groups.

Method

Endogenous Tariff Models and Theoretical Causal Relationship

Both theoretical and empirical explorations, into the political economy of trade policy focused on the endogeneity of level and form of protection (Baldwin, 1985). Endogenous tariff models predict that macroeconomic disturbances in the country lead to tariff changes. These models interpret the tariff changes as a result of special interest lobbying in response to macroeconomic changes such as adverse shifts in terms of trade, economic recession, trade deficits, unemployment, and inflation (Magee *et al.*,1989). The interaction between various interest groups in the political arena gives rise to tariffs and protectionism. On the other hand, the existence of an import-competing sector would be interesting to have protectionism whereas sectors that use imports as an intermediate input would demand free trade. Thus, tariffs are imposed due to economic reasons as well as due to the existence of pressure groups. Nonetheless, tariffs affect these pressure groups in reverse which shows there exists a causal relationship between protectionism and its determinants.

The aforementioned arguments make it abundantly evident that empirical tests of tariffs that undertake a prior causality between macroeconomic events and level of protection may be misspecified. Protection levels may lead to certain economic consequences that have repercussions for aggregate macroeconomic variables. On the contrary, the state of the macroeconomy may lead to the rearrangement of the political forces that cause the endogenous level of protection to be established. Thus, a priori test causality (determining unidirectional and bidirectional) is a prerequisite before conducting any regression analysis that determines the long-run relationship between protectionism and its macroeconomic determinants.

Empirical Model Specification

Following the studies by Baldwin 1985, Magee *et al.*1989, Thornton and Molyneux 1995 and Bohara and Kaempfer 1991, the following empirical model is constructed.

$$\mathbf{TR_t = \alpha_o + \alpha_1 TB_t + \alpha_2 CPI_t + \alpha_3 RGDP_t + \alpha_4 TOT_t + \alpha_5 UNR_t + \mu_t}$$

Where, TR, TB, CPI, RGDP, UNR, TOT, and μ_t represent the applied tariff rate, trade balance as a ratio to GDP, consumer price index, real GDP growth rate, unemployment rate, terms of trade, and error term which is identically and independently distributed as normal i.e., $IIDN \sim (0, \delta^2)$ respectively.

Variable Description

The weighted applied tariff rate has been used as a dependent variable to calculate the rate of protectionism. Weighted mean applied tariff is the average of effectively applied rates weighted by the product import shares corresponding to each partner country. Whereas the independent variables employed in the study are annual real GDP growth rate (as a proxy for economic growth), unemployment rate, terms of trade (the price of exports/price of imports), consumer price index CPI (as a proxy for inflation) and annual trade balance as a percentage of nominal GDP. The time series data for all the above-stated variables has been taken from 1988 to 2018.

Data sources

Data has been collected from various sources as the time-series data for all the variables was not available from a single source. The full list of variables and their sources are presented in

Table 2.

Table 2

Data sources

Variable	Sources of Data
Applied Tariff Rate	Ministry of Commerce
Real GDP Growth Rate	World Bank national accounts data and OECD National Accounts
Unemployment Rate	Pakistan Economic Survey
Terms of Trade	Pakistan Economic Survey
Trade Balance	World Bank national accounts
CPI	World Bank national accounts

Estimation Methodology

To analyze the causal relationship between tariff rate and macroeconomic determinants for the case of Pakistan, the study employs a two-variable Vector Autoregressive (VAR) Model. The VAR model does not require any stringent assumption related to exogeneity or endogeneity. It is also shown by Zellner and Palm (1974), that causality tests run on these VAR models are more powerful (Nelson & Schwert, 1982).

The estimation technique proposed by Hsiao (1981) and extended by Caines et al., (1981) has been used. To estimate a VAR model the first step is to make the data stationary. To ensure the stationarity in time series data, Augmented Dickey-Fuller (ADF) test statistics have been used. Thereafter we estimate VAR for all the variables separately keeping tariff to be the dependent variable. The Final Prediction Error (FPE) criterion suggested by Akaike (1969) has been used to select the lag length as Granger Causality test results are sensitive to the lag length structure. As Hsiao (1981) and Thornton and Batten (1985) experimented with the FPE criterion it appeared to perform well so we are also going to follow the same criterion for selecting lag length. Once we get an appropriate lag length the next step is to perform the Granger causality tests for all the variables.

To gain sight of the signs of the Granger causality tests, we estimate the final version of the VAR model which is Impulse Response Functions.

Results and Discussion

The study initially examines the stationarity of the variables by employing the Augmented Dicky-Fuller (ADF) test. The results of the ADF test presented in

Table **3** reveal the mixed order of integration for the variables under consideration. Variables such as tariff rate, terms of trade, and GDP turn out to be I(0), implying they are stationary at level. Whereas trade balance, CPI, and unemployment are I(1) integrated of order 1 that is they are stationary at first difference.

Table 3

ADF Test Results

Variables	ADF Test Results				Order of integration
	Level		1st difference		
	Without trend	With trend	Without trend	With trend	
Tariff	-6.92***	-0.83	-0.76	-5.02***	I (0)
Gdp	-3.81***	-3.67***	-6.78***	-6.71***	I (0)
Tot	-0.81	-3.36*	-4.86***	-4.78***	I (0)
Unemp	-2.57	-2.28	-5.47***	-5.62***	I (1)
trade balance	-1.46	-2.25	-5.34***	-5.49***	I (1)
cpi	-2.48	-2.46	-6.16***	-6.02***	I (1)

*** and * imply that the coefficients are significant at 1% and 10% significance level respectively.

The two-variable VAR model has been applied to all the dependent variables separately, keeping an independent variable tariff rate for all. The optimal lag length is determined using the Final-Prediction-Error (FPE) criterion. To explore the patterns of causality between variables, the final VAR model employs Granger causality testing.

Granger Causality tests separately on all of the five independent variables have been tested keeping tariff rate to be the dependent variable. The Hypotheses H1-H10 presented in

Table **4** have been tested by applying pairwise Granger causality tests. Hypothesis H1-H5 tests the causal effect of tariffs on the other macroeconomic variables, whereas the remaining hypothesis from H6-H10 is designed to study the feedback from the macroeconomic variables to the applied tariff rate. A detailed list of hypotheses has been provided in

Table **4**.

Table 4

Hypothesis Testing using Pairwise Granger Causality Test

Hypothesis	P-value	F-statistics	Remarks
H1: Tariff rate does not cause changes in the level of real GDP growth rate	0.92	0.08	Not Rejected
H2: Tariff rate does not cause changes in the level of trade balance	0.02**	3.75	Rejected
H3: Tariff rate does not cause changes in the level of unemployment	0.93	0.13	Not Rejected
H4: Tariff rate does not cause changes in the level of terms of trade	0.00004***	12.80	Rejected
H5: Tariff rate does not cause changes in the level of CPI	0.97	0.02	Not Rejected
H6: Real GDP growth does not cause changes in the level of tariff rate	0.0036**	7.18	Rejected
H7: Trade balance does not cause changes in the level of tariff rate	0.26	1.42	Not Rejected

H8: Unemployment rate does not cause changes in the level of the tariff rate	0.01**	4.49	Rejected
H9: Terms of trade does not cause changes in the level of tariff rate	0.0019**	6.57	Rejected
H10: CPI does not cause changes in the level of tariff rate	0.72	0.32	Not Rejected

*** Implies significant at the 0.05 level

Granger causality tests on the hypotheses (H1-H10) have been applied separately in five pairs. The test has been performed on hypotheses H1 and H6 together, where the p-value of H1 is (0.92) which is insignificant, showing that the null hypothesis (H1) is accepted indicating that tariff rate changes do not granger cause real GDP growth rate. On the other hand, the p-value for H6 is (0.0036) which is significant at 5% so the null hypothesis H6 is rejected. This shows that the real GDP growth rate granger causes the tariff rate, but the tariff rate does not granger cause the real GDP growth rate. It indicates that there exists a unidirectional causal relationship (see

Table **4**).

In the second pair, the Granger causality test is performed on hypotheses H2 and H7 where the p-value for H2 is (0.02) and for H7 the p-value is (0.26). As the p-value for null hypothesis H2 is significant at 5% thus we reject the null hypothesis H2. Whereas the p-value for null hypothesis H7 is (0.26) which means that it is not significant so the null hypothesis H7 is accepted. Thus, the result indicates that the trade balance does not granger cause a tariff rate, but a tariff rate causes a change in the trade balance. This indicates that there exists a uni-directional causal relationship where trade balance is affected by the change in tariff rate.

Hypotheses H3 and H8 together were tested to check the causal relationship between tariff rate and unemployment rate. The result shows that the p-value for hypothesis H3 is (0.93) which is insignificant and shows non-rejection of the null hypothesis H3. But the p-value for null hypothesis H8 is (0.01) which shows that the p-value for null hypothesis H8 is significant at 5%, therefore, this reveals that the null hypothesis H8 is rejected. Therefore, the results show that the unemployment rate does Granger cause a tariff rate; whereas the tariff rate does not Granger cause a rate of unemployment. Hence these results indicate that there is a uni-directional relationship between the tariff rate and unemployment rate.

Similarly, the Granger causality test is performed on hypotheses H4 and H9 together to uncover the causal relationship between tariff rate and terms of trade. The outcome of the test reveals the p-value of hypothesis H4 to be (0.00004), this shows that the p-value for null hypothesis H4 is significant at a 1% level so we will reject the null hypothesis H4. Similarly, the p-value of null hypothesis H9 is (0.0019) at lag 4 showing that it is significant at 1%. This postulates that terms of trade granger cause tariff rate but tariff rate granger cause terms of trade. There exists a bi-directional relationship.

The final Granger causality test has been applied to hypotheses H5 and H10 which has been applied to find the causality between the inflation rate and tariff rate. The results reveal that the p-value for the null hypothesis H5 is (0.97) which is insignificant. This means that the null hypothesis H5 is accepted, and it says that the tariff rate does not Granger cause inflation. The p-value for the null hypothesis H10 is (0.72) which is also insignificant, therefore, it also shows the non-rejection of null hypothesis H10. This depicts that the inflation rate also does not show a causal relationship with the tariff rate. The causality result for null hypotheses H5 and H10 reveals that there exists no causal relationship between tariff rate and inflation rate (see

Table **4**).

From the aforementioned results and discussion, it can be deduced that the tariff rate is influenced by unemployment, GDP growth, and the TOT effect, but not through the trade balance and inflation. Hence the variables that Granger cause the tariff rate can now be employed for further investigation of the impact on the tariff rate. To determine the direction and magnitude of the effect of these variables we estimate Impulse Response Functions. The results of Impulse Response Functions measure the cumulative impact of one standard deviation (SD) shock in the unemployment rate, GDP growth rate, and terms of trade (TOT) on the applied tariff rate.

Table **5** shows the results of Impulse Response Functions.

Table 5
Estimates of Impulse Response Function

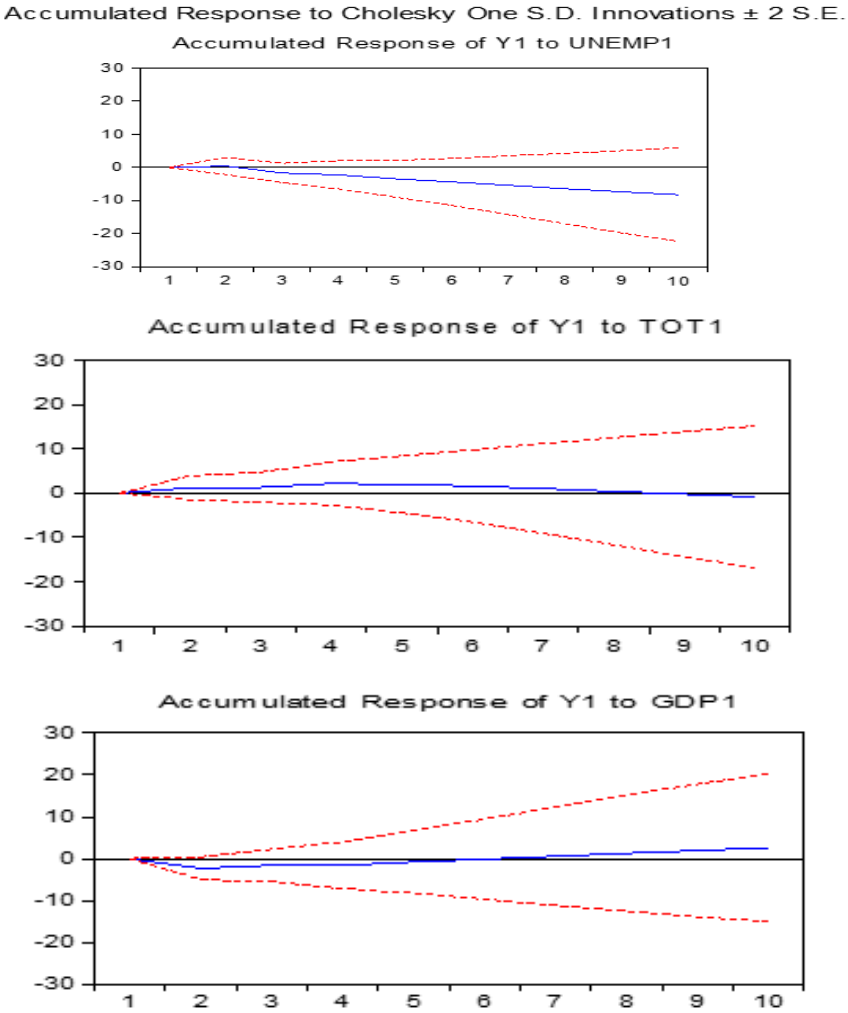
Period	Unemployment	GDP growth rate	Terms of trade
1	0.00	0.00	0.00
2	0.43	-2.33	1.22
3	-1.68	-1.61	1.31
4	-2.27	-1.59	2.17
5	-3.45	-0.80	1.96
6	-4.38	-0.12	1.59
7	-5.39	0.53	1.02
8	-6.43	1.26	0.40
9	-7.37	1.95	-0.20
10	-8.24	2.63	-0.85

The relationship between the tariff rate and the unemployment rate shows that whenever there is a shock in the unemployment rate it is going to induce a change in the tariff rate. For the initial two time periods, there is a positive relationship between the unemployment rate and tariff rate. It implies that whenever there is an increase in unemployment, it will be accompanied by an increase in the protection rate. The reason for this direct association between these two variables is that when the unemployment rate is high in Pakistan, the lobbying and influential groups put pressure to increase tariff rates which will make imported items expensive, and it would lead the consumers to switch towards domestically produced goods. The increase in the demand for these domestically produced goods will increase production, which will increase the demand for labor thus absorbing the surplus labor and reducing unemployment. In the long run, we observe an inverse relationship between these two variables as if the unemployment rate continues to increase, tariff rates will not be raised as indicated in Figure 2. This justification is in line with the studies of Thornton and Molyneux, 1995; Bohara and Kaempfer, 1991; Dutt et al., 2009; Adekunle, 2016.

For the short to medium term, a decline in economic activity which shows recession in the economy of Pakistan, will lead to an increase in protectionism as revealed in Figure 2. When there is an economic recession in the country, the tariff will be raised so that imports are reduced and the demand shifts towards home-produced goods. This would increase production in the import-competing sectors, which will generate employment. This outcome aligns with the discoveries of Dejong and Ripoll, 2006 and Nguyen, 2009. In the long run, we observe a positive relationship between economic recession and protectionism. This may be due to the switching of resources from other productive sectors of the economy or the export sector to import-competing sectors. The exporting sector will be demanding a liberalized tariff regime. In the long run, there will be an inclination towards a more liberalized trade regime because export sectors have been impacted on account of protectionism. These findings are in line with the results of Bohara and Kaempfer, 1991; Thornton and Molyneux, 1995; Muketha et al., 2019; Parikh and Stirbu, 2004.

An improvement in terms of trade has been accompanied by an increase in tariff rates (see Figure 2). Whenever there is an increase in terms in terms trade then the relative price of imports will decline and there will be an inflow of imports in countries. So, import-competing industries will suffer. There will now be pressure to increase the tariff rate. The results of this variable are in line with the study of Ibile and Thornton, 2000; Thornton and Molyneux, 1995; Muketha et al., 2019.

Figure 2: Impulse Response Functions



From the results of the Granger causality test, trade balance was also found to have a unidirectional relation with tariff rate, however, the causality was running from tariff rate to trade balance. So, it is quite pertinent to examine the relations between these 2 variables through the Impulse response function.

Table **6** presents the result of the Impulse reasons function which is graphically depicted in

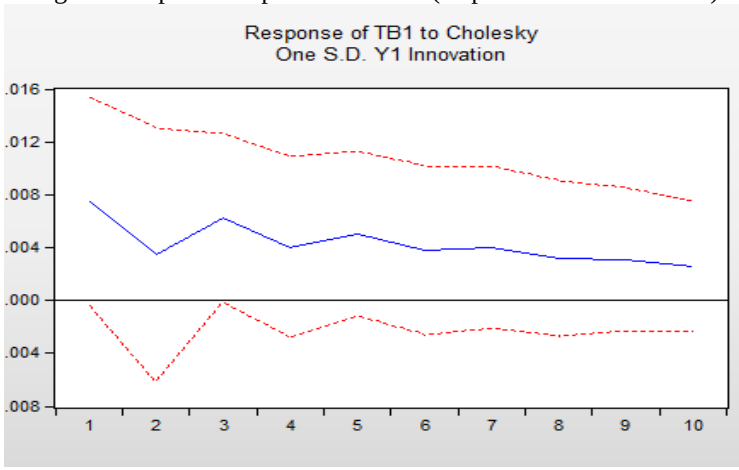
Figure 3. The link from the tariff rate to the trade balance would seem to support the protectionist argument that tariffs lead to an improvement in the trade balance because of the

expenditure-switching effect. When there is an increase in the tariff rate, it will lead to an increase in the prices of importable items. Therefore, imports will reduce and the reduction in the imports will bring improvement in the trade balance. These results are in line with the study by Thornton and Molyneux, 1995; Muketha et al., 2019; Allaro, 2012. Theoretically, trade balance determines the change in tariff rate but in the case of Pakistan, the effect is the other way round. So, we see that the tariff rate causes a change in the trade balance.

Table 6
Estimates of Impulse Response Function

Periods	Response of trade balance
1	0.007
2	0.003
3	0.006
4	0.004
5	0.005
6	0.003
7	0.003
8	0.003
9	0.003
10	0.002

Figure 3:Impulse Response Function (response of trade balance)



Conclusion and Policy Implication

An evaluation of the determinants of the tariff rates is pertinent to identify the macroeconomic variables that determine protectionism in any economy. The current study intends to examine the macroeconomic determinants of protectionism in the case of Pakistan. To find the causal relationship between tariff rates and macroeconomic variables (trade balance, inflation, unemployment, gross domestic product, and terms of trade), Granger causality tests have been employed. The results of the test reveal that there exists a unidirectional relationship between tariff rates Vs unemployment and GDP where both the unemployment and GDP granger cause the tariff rate. A unidirectional relationship is also found to exist between tariff rate and trade balance but the direction of causality in this case runs from tariff rate to trade balance. The result further points to a bidirectional causality between tariffs and terms of trade. Whereas no causal relationship is found to exist between the inflation rate and tariff rate.

After ascertaining the causality among the variables, the study employed the impulse response function to determine the magnitude and direction of the causal relationships. The findings from Impulse Response Functions are quite insightful in explaining the impact of core macroeconomic drivers in inducing a higher level of protectionism in Pakistan. The results of Impulse Response functions reveal that an increase in unemployment is positively associated with an increased level of protectionism. This implies that an increase in unemployment is detrimental in terms of raising the level of protectionism in the country, thereby switching the country towards a more protectionist regime. However, a higher level of GDP or economic growth leads to reduce the protectionism thereby reducing the tariff rate. This finding infers that a lower GDP or slow economic growth would be accompanied by a high level of protectionism, again reiterating the first conclusion that a recessionary trend or an increase in unemployment would be distortionary in terms of moving the country to inward-looking policies. The impact of TOT is also found to be tariff increasing; however, this result needs to be dealt with cautiously because an increase in TOT can also be on account for the higher price of exports, thus leading to more foreign exchange earnings in terms of export proceeds. Finally, in the case of trade balance, the results of the impulse response function reveal that an increase in protectionism through higher tariffs helps improve the trade balance. This result rests on the notion that a higher level of tariff would make imports more expensive thus reducing the demand for importable items and moving the trade balance towards a more favorable side.

The findings of this study point to some important policy implications. In the presence of strong bearing of the macroeconomic effects on protectionist measures, policymakers need to be quite vigilant in directing macroeconomic policies. Any change in the macroeconomic determinant can have a growling effect on the country's tariff regime, which is already regarded as one of the most protectionist ones in comparison to the other countries. The policy objective designed to rationalize the tariff structure can be influenced by the changes in these macroeconomic variables and can influence the effective implementation of designed policy goals. It is thus very pertinent to have a close monitoring of economic fundamentals and external sector variables while designing a rational tariff policy, which should not be subservient to other macroeconomic policies. In this context, it is also very important to correct macroeconomic problems with an appropriate policy tool rather than using trade policy as an instrument to deal with them. Moreover, keeping in view the related cost of protectionism in terms of efficiency losses, erosion of competition, wastage of resources, and other repercussions and retaliatory actions the country can face serious implications of further restrictive tariff regimes.

References

Aaronson, S. (2001). From GATT to WTO: The Evolution of an Obscure Agency to One Perceived as Obstructing Democracy. *EH. Net Encyclopedia, edited by Robert Whaples.*

Adekunle, S. B. (2016). *The Impact of Trade on Unemployment* (Master's thesis, Eastern Mediterranean University (EMU)-Doğu Akdeniz Üniversitesi (DAÜ)).

Akaike, H. (1969). Fitting Autoregressive Models for Prediction. In *Selected Papers of Hirotugu Akaike* (pp. 131-135). New York, NY: Springer New York.

Albertoni, N. D. (2021). A Historical Overview of the 21st-Century Protectionism: How did we arrive at this point?. *Latin American Journal of Trade Policy*, 4(10), 5-23.

Allaro, H. B. (2012). The impact of Trade Liberalization on the Ethiopia's Trade Balance. *American Journal of Economics*, *2*(5), 75-81.

Anderson, K. (2016). Contributions of the GATT/WTO To Global Economic Welfare: Empirical Evidence. *Journal of Economic Surveys*, 30(1), 56-92.

Baldwin, R. E. (1985), "*The Political Economy of U. S. Trade Policy*, Cambridge, MA: MIT Press.

Bibi, F., Mahmood, T., Jamil, M., & Ahmad, E. (2017). The Effect of Price Level on output Per Worker: Evidence from Asian Developing Countries. *FWU Journal of Social Sciences*, *11*(1).

Bohara, A. K. & W. H. Kaempfer (1990), "Retaliation in Trade Policy Between Canada and the United States", *Working Paper, University of Colorado*.

Bohara, A. K. & W. H. Kaempfer (1991), "A Test of Tariff Endogeneity in the United States", *American Economic Review*, Vol. 81, pp. 952 – 960.

Caines, P. E., Keng, C. W., & Sethi, S. P. (1981). Causality Analysis and Multivariate Autoregressive Modelling with An Application to Supermarket Sales Analysis. *Journal of Economic Dynamics and Control*, *3*, 267-298.

Das, S., & Das, S. P. (1994). Quantitative Assessment of Tariff Endogeneity: Interwar Vs. Postwar. *Economics Letters*, *44*(1-2), 139-146.

DeJong, D. N., & Ripoll, M. (2006). Tariffs and Growth: An Empirical Exploration of Contingent Relationships. *The Review of Economics and Statistics*, *88*(4), 625-640.

Dimitrova, Z. K., & Lakatos, C. (2017). The Global Costs of Protectionism. *World Bank Policy Research Working Paper*, (8277).

Din, M. U., Ghani, E., & Siddique, O. (2003). Openness and Economic Growth in Pakistan. *The Pakistan Development Review*, 795-807.

Dollery, B., Whitten, S. M., & Pullen, F. J. (1994). An Empirical Analysis of Tariff Endogeneity in Australia, 1904-1974. *Department of Economics, University of New England*.

Dornbusch, R., & Frankel, J. (1987). Macroeconomics and protection. *US trade policies in a changing world economy*, 77-130.

Dutt, P., Mitra, D., & Ranjan, P. (2009). International Trade and Unemployment: Theory and Cross-national Evidence. *Journal of International Economics*, *78*(1), 32-44.

Evenett, S., & Fritz, J. (2017). Will Awe Trump Rules? *Global Trade Alert 21st Report CEPR*. https://www.globaltradealert.org/reports/download/42.

Evenett, S., & Fritz, J. (2018). *Brazen Unilateralism: The US-China Tariff War in Perspective. Global Trade Alert Report 23.* CEPR Press. https://www.globaltradealert.org/reports/45

Evenett, S. (2019a). Protectionism, State Discrimination, and International Business Since the Onset of the Global Financial Crisis. *Journal of International Business Policy*, 2(1), 1–28.

Fajgelbaum, P. D., & Khandelwal, A. K. (2022). The economic impacts of the US–China trade war. *Annual Review of Economics*, 14, 205-228.

Gul, S., Mohammad, I., & Amin, A. (2015). Need and Economic Impact Specific Empirical Assessment of Foreign Capital Inflows to Less Developed Countries (A Case Of Pakistan: 1981-2012). *FWU Journal of Social Sciences*, *9*(1), 141.

Haque, N., & Siddiqui, R. (2017). Nominal and Effective Rates of Protection by Industry in Pakistan: A Tariff Based Analysis. NUST Journal of Social Sciences and Humanities 3(1) (January-June 2017) 1- 45.

Hsiao, C. (1981). Autoregressive Modelling and Money-Income Causality Detection. *Journal of Monetary Economics*, *7*(1), 85-106.

Ibile, F. T., & Thornton, J. (2000). The Endogeneity of Tariffs in Italy, 1890-1969. *Applied Economics Letters*, *7*(8), 517-20.

Jalil, A., & Rauf, A. (2021). Revisiting the link between trade openness and economic growth using panel methods. *The Journal of International Trade & Economic Development*, 30(8), 1168-1187. doi:10.1080/09638199.2021.1938638.

Karim, S. (2014). Trade Policy Reforms in Pakistan. Government of Pakistan. "Effective Protection of Manufacturing Industries in Pakistan" Islamabad: The Ministry of Commerce.

Kemal, A. R. (1987), "Effective Protection Rates – A Guide to Tariff Making", *The Pakistan Development Review*, Vol. XXVI, No. 4.

Khan, A. H., & Ali, S. (1998). The Experience of Trade Liberalisation in Pakistan [with Comments]. *The Pakistan Development Review*, 661-685.

Khan, A. H., & Mahmood, Z. (1996). Emerging Global Trading Environment and Developing Asia: The Case of Pakistan. *Asian Development Bank*. Mimeographed.

Kim, H. M. (2018). Economic growth and tariff levels in the United States: A Granger causality analysis. *Journal of International Studies*, 11(4), 79-92.

Krol, R. (1996). Testing Tariff Endogeneity in Japan: A Comparison of Pre- and Post-War Periods. *Economics Letters*, *50*(3), 399-406.

Luqman, M., & Soytas, U. (2023). Asymmetric role of human capital and trade liberalization in the economic growth of Pakistan: Fresh evidence from the nonlinear analysis. *The Journal of International Trade & Economic Development*, 32(3), 475-493.

Magee, S. P., & Young, L. (1987). Endogenous Protection in the United States, 1900-1984. *US Trade Policies in a Changing World Economy*, 145-195.

Magee, S. P., Brock, W. A., & Young, L. (1989). Black Hole Tariffs and Endogenous Policy Theory: Political Economy in General Equilibrium. *Cambridge University Press*.

Malik, A. M., Khurshid, N., & Rizwan, M. (2020). How Tariff Reduction Impact Global Economy-A CGE Analysis of Wood Economy of Pakistan. *FWU Journal of Social Sciences*, *14*(1).

Muketha, G. M., Kirongo, A., Huka, G. S., & Bundi, D. G. (2019). Journal of Humanities and Social Science (IOSR-JHSS) Volume 24, Issue 6, Ser. 7.

National Tariff Policy (2019), Commerce Division, Ministry of Commerce & Textile.

Nelson, C. R., & Schwert, G. W. (1982). Tests For Predictive Relationships Between Time Series Variables: A Monte Carlo Investigation. *Journal of the American Statistical Association*, *77*(377), 11-18.

Nguyen, A. T. (2019). The Relationship between Trade Openness, Economic Growth, Exchange Rate and Tariff Rate: Evidence from Northeast Asia. *Journal of Management and Economic Studies*, *1*(5), 10-22.

Parikh, A., & Stirbu, C. (2004). Relationship Between Trade Liberalisation, Economic Growth and Trade Balance: An Econometric Investigation. *Economic Growth and Trade Balance: An Econometric Investigation*.

Pugachevska, K., Medvid, L., Goblyk-Markovych, N., Feier, O., & Lyzanets, A. (2023). Protectionism in conditions of world trade multipolarity. *Financial and Credit Activity: Problems of Theory and Practice*, 49(2), 253-263. DOI: 10.55643/fcaptp.2.49.2023.3987

Ramzan, M., Sheng, B., Shahbaz, M., Song, J., & Jiao, Z. (2019). Impact of trade openness on GDP growth: Does TFP matter?. The Journal of International Trade & Economic Development, 28(8), 960-995. doi:10.1080/09638199.2019.1616805.

Salman, A. & Arshad, A. (2019). Pakistan's National Tariff Policy - a positive step. *The Express Tribune*, December 16, 2019.

Thornton, D. L., & Batten, D. S. (1985). Lag-length selection and tests of Granger causality between money and income. *Journal of Money, Credit and Banking*, *17*(2), 164-178.

Thornton, J., & Molyneux, P. (1995). Macroeconomic Determinants of Tariff Policy in A Developing Economy: Costa Rica, 1963–92. *Journal of Post Keynesian Economics*, *17*(4), 636-644.

Wilkinson, W. (2017) "General Agreement on Tariffs and Trade (GATT)". *The Canadian Encyclopedia, Historica Canada.*

WITS (2023), World integrated trade solution.

World Bank (1997) Pakistan: Recent Developments, Policy Issues, and Agenda for Change. Islamabad: World Bank Resident Mission in Pakistan.

WTO (World Trade Organization). (2016). "Report on G20 Trade Measures" Geneva, Switzerland.

WTO (World Trade Organization). (2017). "Annual Report 2017" Geneva, Switzerland.

Yasmin, B., Jehan, Z., & Chaudhary, M. A. (2006). Trade Liberalization and Economic Development: Evidence from Pakistan. *Lahore Journal of Economics*, *11*(1), 19-34.

Zellner, A., & Palm, F. (1974). Time Series Analysis and Simultaneous Equation Econometric Models. *Journal of Econometrics*, *2*(1), 17-54.