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Abstract: *We explore the relationship between low price intermediate inputs and export performance indicators using a panel data of 166 countries from the year 2000-2015. Using tariff rates as an instrument, we show that export performance indicators improve with a decrease in input prices. We propose a new methodology based upon a conservative approach to propose a sequence of tariff reduction on intermediate inputs based upon its importance ranging from a scale of being extremely important to less important to promote high-value added exports where the technology is constrained and the economy relies on great chunk of imported goods. We reason that reducing the tariffs on selective range of inputs; low priced, high quality intermediate inputs if provided to the local manufacturer will lead to better quality exports of the final product, by comparing the average quality of each respective intermediate input available to the local manufacturer with the quality of the same imported intermediate input to propose the final list that should be considered for tariff reduction (at HS-6 Digit Code). Last, a cross country comparison of tariff rates between Pakistan, India and Sri Lanka is done to show where the potential of tariff reductions exists for Pakistan.*

Keywords: Pakistan Environment Protection Act of 2019; Government, Manufacturers, and Retailers; Dynamic Evolutionary Game Model; Business Process Innovation.

JEL Classification: F13, F61, L67.

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1. Introduction

Despite having numerous ways proposed in literature to boost exports like devaluation of currency (Nicita, A. 2013; Krugman and Obstfeld, 2003; Feenstra and Taylor, 2008) giving direct loans to the entrepreneurs to open new businesses or to re-invest in existing businesses (Bach (2013) and Banerjee and Duflo (2004)) there still is need to explore other ways by which export performance can be improved. Therefore, in this paper we propose a more direct remedy i.e., through a strategic reduction in tariff rates on a selective range of intermediate inputs in order to climb up the export value chain.

Much of the new emerging literature stresses on the importance of intermediate input tariff reductions. Bigsten, et al. (2016) study the effect of both input and output tariff reductions on the firms in Ethopia. They conclude that for the exporting firms there are large productivity gains from input tariff reductions. Infact, this gain outweights the benefits from the output tariff reductions. Likewise, according to Topalova & Khandelwal (2011) reduction in import tariffs are important for developing countries, espically those which came out of the import subsitution phase under which they faced technological constraints, simply because of the lack of availabity of imported inputs.

Tariff reductions on intermediate goods may have opposing effects on the economy. On the one hand, it can provide low priced better quality intermediate inputs to the manufacturers of final goods. Whereas, on the other hand, it can pose challenge to the existing local manufacturer of these intermediate inputs by creating a more competitive market for them. Therefore, we recommend a *conservative approach* and suggest a methodology to create a list of intermediate inputs from a scale of being extremely important to insignificantly important for tariff reductions on an urgent bases. We also extend this analysis to identify the input categories where the tariff rates can be maintained that may have two constructive

effects on the economy; first, it may protect the local manufacturer of high quality intermediate inputs (protectionism)[1] and second, it may oppose any declines in fiscal revenues due to tariff reductions proposed earlier.

Initially, under this methodology we create a list of intermediate inputs that have high correlations between intermediate tariff rates and export value of the final product at the sector level identified at the HS-2 Digit Code. This input list is further extended for suggesting a tariff reduction at HS-6 Digit Code, for only those specific inputs, which have a high import unit value as compared to the average unit value available to the local exporter. This means we recommend to reduce tariffs strategically in a sequence of being extremely important to insignificantly important as indicated by the quality of the intermediate inputs available locally.

This analysis is further extended to identify the input categories where the tariff rates can be maintained based upon a sequence from being extremely important to insignificantly important. To do that, we list the locally produced high quality intermediate inputs that may require protection. They are listed based upon their average unit value available to the local manufacturer being significantly higher than the import unit value. The government can push the tariff rates high or at least maintain the old tariff rate for these input categories to counter the impact on revenues generated by government due to the tariff reductions proposed on other input categories.

Pakistan's economy fits well with the two requirements listed by Topalova & Khandelwal (2011) for tariff reductions. During the 50s and 60s the country experianced import substitution phase mainly to encourage the local firms and enhance industrial base. Later in 70s the policy shifted towards the export promotion schemes that became more profound specifically after Pakistan joined World Trade Organization (WTO). We propose that in order for Pakistan to climb up the export ladder, and follow India, it should focus on negotiating with other countries on a similar kind of an input list. Therefore, in this paper we argue that given the technological constraints and policy shifts in order to boost exports and improve export unit value, a more strategic approach needs to be devised by developing countries. Hence, Pakistan makes a good case for

[1] Inputs listed in Appendix 5 till 8 are based upon their relevance for tariff protection from a scale of being extremely important to insignificantly important, that has been identified on the basis of high quality available in Pakistan as compared to that imported from abroad.

applying this methodology proposed in the paper. As a case study, we lastly apply this methodology to Pakistan's textile sector in order to list down the sequence of intermediate inputs based upon their relevance for tariff reduction.

Over the past decade, Pakistan has substantially reduced the tariff rates, especially after entering into Free Trade Agreement (FTA) with various countries including Sri Lanka, Iran, Mauritius, countries in the European Union, and most importantly with China. While the FTA is mainly bilateral, and hence tariffs have been lowered on both sides, Pakistan still needs to be very thoughtful about the inputs it's lowering its tariffs upon, which should be based upon long-term growth prospects. An important channel, through which these FTAs can benefit Pakistan, is, if it lowers the tariffs on the intermediate inputs so that high quality low priced intermediate inputs are made available to the local manufacturer. This will help Pakistan boost its exports in the world market.

The main problem for Pakistan in terms of exports has been its dependence on low value added agricultural and manufacturing goods. We look at some lessons that Pakistan can learn from India in an attempt to climb up the export ladder. We select textile sector based upon its relevance for Pakistan, for this analysis. Textile sector is the biggest exporting sector of Pakistan, with a value approximately equivalent to US $ 3.8 billion in 2016.

The remainder of the paper is organized as follows. Section 2 establishes the relationship between import of intermediate inputs and the export performance indicators. Section 3 provides sector wise correlations amongst the average intermediate input tariff rates and the total export value. Section 4 comprehensively explains the proposed methodology for strategic tariff reductions. In section 5, we apply this methodology to the case of Pakistan by identifying a sequence in terms of a list of intermediate inputs, based upon the preference for tariff reductions to achieve high value addition in exports, specifically for the textile sector in Pakistan. In section 6 we use the same methodology to identify a sequence in terms of a list of intermediate inputs where the tariff rates can be maintained on a scale from being most important to insignificantly important within the textile sector for Pakistan. Concluding remarks are presented in section 7.

2. Determining the Impact of the Imported Average Intermediate Inputs on the Export Performance Indicators via the channel of Tariff Reductions

In this section we establish the relation between increase in the import of intermediate inputs ($ US) on the export performance indicators across the globe over time. We argue that export performance indicators improve with an in increase in imports of the intermediate inputs through tariff reductions on these intermediate inputs.

2.1 Data

We use the World Integrated Trade Solution (WITS) data base that has been developed by the World Bank, in collaboration with the United Nations Conference on Trade and Development (UNCTAD) and with the help of organizations such as International Trade Center, United Nations Statistical Division (UNSD) and the World Trade Organization (WTO). This data base includes information on more than 170 countries since 1962 as reported to the United Nations.

The statistics and data continue to be recorded for detailed information on tariffs and non-tariff measures, for the National Tariff Line level, at the comprehensive Commodity Description and Coding System (HS). Using this database, a panel is created for 166 countries from the year 2000-2015.

2.2 Methodology

Instrumental variable approach has been used to estimate the impact of the imports of the intermediate inputs on the export performance indicators. Along with this approach, we take advantage of this panel data set and use country fixed effects to account for any time invariant unobservable variation at the country level. Average intermediate input tariff has been used as an instrument for the imported intermediate inputs value (measured in $ US), for each respective country over time. Combing the fixed effects with the IV approach increases the precision of the results.

First stage is estimated as follows:

$$log\big(Intermediateinput(\$US)\big) = \propto_0 + \propto_1 AverageIntermediateInputtariff + \in \quad (1)$$

The left hand side variable is the log of the intermediate input (measured in $US), the right hand side variable is the average intermediate input tariff across countries over time. The fitted values from the first stage (variation in intermediate input explained by the intermediate input tariff alone i.e., exogenously determined intermediate input), are used in the second stage where the export performance indicators are taken as the dependent variable.

$$ExportPerformanceIndicator = \beta_0 + \beta_1 \widehat{IntermediateInputUS\$} + C_i + u \quad (2)$$

We take various measures of export performance for each respective country over time as mentioned below:

1. Export Value: The net value of the exports for a country over time measured in US thousands of dollar.
2. Export Value Index: Export values are the current value of exports converted to U.S. dollars and expressed as a percentage of the average for the base period. Year 2000 is taken as the base year.[2]
3. Export Volume Index: Export volume indexes are derived from UNCTAD's volume index series and are the ratio of the export value indexes to the corresponding unit value indexes (year 2000 is taken as base year).
4. Herfindahl-Hirschman Market Concentration Index: This indicator is a measure of the dispersion of trade value across an exporter's partners. A county with a preponderance of trade value concentrated in a very few markets will have an index value close to 1. Thus, it is an indicator of the exporter's dependency on its trading partners and the danger it could face should its partners increase trade barriers. Measured over time, a fall in the index may be an indication of diversification in the exporter's trading partnerships.
5. Export Unit Value: This is the ratio of the Export Value Index to Export Volume Index3.

[2] In the year 2000, the index equals to 100.
[3] Note since both the numerator and denominator were normalized by the base year 2000, the export unit value index is not normalized by the base year.

6. Index of Export Market Penetration: This indicator measures the extent to which a country's exports reach already proven markets. It is calculated as the number of countries to which the reporter exports a particular product divided by the number of countries that report importing the product that year4.

Table 1A First Stage: Determining the Impact of Average Intermediate Input Tariff on the Average Import Value of the Intermediate Inputs

Dependent Variable: Log (Intermediate Input)	Log Export Value	Export Value Index (Base year 2000)	Export Volume Index (Base Year 2000)	Herfindahl-Hirschman Market Concentration Index	Export Unit Value	Index of Export Market Penetration
Average Tariff Rate of Intermediate Goods	-0.0896***	- 0.0892***	- 0.0892***	-0.0891***	- 0.0893***	-0.0894***
	(-0.0044)	(-0.0044)	(-0.0044)	(-0.0044)	(-0.0044)	(-0.0044)
F-Value of the excluded instruments	416.88	408.20	408.2	410.24	408.20	415.45
Number of Observations	1,732	1,687	1,687	1,714	1,687	1,727
Number of Countries	166	157	157	165	157	165

*** $p<0.01$, ** $p<0.05$, * $p<0.1$. Standard Errors in parenthesis.
Data Source: World Integrated Trade Solution (WITS). Results are based on author's own calculation.
Log Intermediate Inputs instrumented by Average Tariff Rate on Intermediate goods varying by country and time. Country Fixed effects have been applied as well. Number of Countries: 166, Time Period: 2000-2015

[4] A low export penetration may signal the presence of barriers to trade that are preventing firms from expanding the number of markets to which they export.

Table 1B Second Stage: Determining the impact of Import of Average Intermediate Input Value on the Export Performance Indicators

Dependent Variables	Log Export Value	Export Value Index (Base year 2000)	Export Volume Index (Base Year 2000)	Herfindahl-Hirschman Market Concentration Index	Export Unit Value	Index of Export Market Penetration
Log of intermediate input import	0.985***	243.6***	85.25***	688.4	0.814***	1.711***
	(-0.0287)	(-11.86)	(-7.133)	(-2,206)	(-0.0369)	(-0.113)
Constant	1.317***	-3.262***	-1.070***	-8,847	-10.22***	-18.97***
	(-0.419)	(-172.1)	(-103.4)	(-32,022)	(-0.535)	(-1.645)
Instrumental Variable	Yes	Yes	Yes	Yes	Yes	Yes
Country Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of years	16	16	16	16	16	16
Observations	1,732	1,687	1,687	1,714	1,687	1,727
Number of countries	166	157	157	165	157	165

*** p<0.01, ** p<0.05, * p<0.1. Standard Errors in parenthesis.

Data Source: World Integrated Trade Solution (WITS). Results are based on author's own calculation.

Log Intermediate Inputs instrumented by Average Tariff Rate on Intermediate goods varying by country and time. Country Fixed effects have been applied as well. Number of Countries: 166, Time Period: 2000-2015

2.3 Results

The first stage results (Table 1A) are significant and negative that stay consistent throughout all the specifications estimated in the second stage, indicating that a rise in the tariff on the imported intermediate input lead to fall in their total imports (measured in $US). F statistics reveal that the instrument passes the exogeniety test and hence it is a strong instrument that explains the variation in the import of the intermediate inputs significantly.

The second stage results (Table 1B) indicate that the import of intermediate inputs has a significant impact on majority of the export performance measures. Import of intermediate inputs has a positive and a significant impact on the total export value. The estimates show that a one percent increase in the value of the imported intermediate input increases

the total export value by 0.985% ceteris paribus. Likewise, in column 2 the estimates show that n average if the import of intermediate inputs goes up by 1 percent, the total value of export index goes up by 243.6. Also, import of intermediate inputs has a positive and a significant impact on the export volume index. If the import of intermediate inputs goes up by 1 percent, the total value of export volume index goes up by 85.25.

Import of intermediate inputs has a positive and a significant impact on the export unit value index. On average if the import of intermediate inputs goes up by 1 percent, the total value index goes up by 0.33 units. On the contrary, Herfindhal Index has been affected insignificantly by the increase in the Import of intermediate inputs.

Whereas, import of Intermediate inputs still has a positive and significant impact on the export unit value, a 1% increase in the import of intermediate inputs export unit value increases by US$ 0.814. Lastly, the results show a positive and significant effect of the import of intermediate inputs on market penetration.

3. Proposed Methodology for a Strategic Decrease in Tariff rates on the Intermediate Inputs

As the first step, we identify the intermediate inputs based upon their relevance for each respective sector. For any country, such information can be gathered from a detailed firm level data set at micro level that gives a comprehensive information on the inputs used by firms with in a sector[5] for that country at HS 2-Digit Code[6]. We argue that to climb up the export ladder for the local manufacturer would mean making available the intermediate inputs that are used by the other progressive countries in the world for each respective sector. Therefore, we select a country based upon our sector of interest that has two characteristics; firstly, it should be similar to the country for which the analysis is conducted and secondly, it should be outperforming in the world market for that respective sector.

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[5] We used the Census of Manufacturing Industries for Punjab (CMI), 2005 to identify the intermediate inputs as an example for Pakistan in textile sector. Then out of those Intermediate inputs we identified India's top eight imported intermediate Inputs, based upon the high correlations between these intermediate inputs and the export value of the textile sector in India.

[6] The information on the firm level data set (CMI) for Pakistan was disintegrated at HS 6 digit code but the chances of having a missing input used by other countries and not Pakistan were high, therefore we identified the inputs at HS -2 digit code.

Following this rationale, after identifying the sector level intermediate inputs and the progressive country, we identify the list of the most important intermediate inputs (at HS 2- digit code) using the correlations between tariff rates[7] of these intermediate inputs and the sector level export value. From this entire list, we select only the top eight intermediate inputs that have the highest correlations. This HS-2 Digit Code list is extended to a detailed list of intermediate input categories at HS-6 Digit Code.

Since the quality of the intermediate inputs available in the local market determines the value addition of the exports, therefore, quality of the intermediate inputs available to the local manufacturer plays a vital role in our methodology. The average unit value can be considered as a close proxy for the quality of the intermediate inputs available in the local market. Consequently, we calculate the export unit value and the import unit value for all the HS-6 Digit categories based upon their HS codes[8]. Then using this data, we calculate the average unit value for each respective HS-6 Digit category[9]. This average unit value for each respective category is compared to the import unit value to identify a sequence of lists where the Tariffs can be reduced strategically (TRZ).

In order to create the TRZs we take a *conservative approach*. We do not propose to reduce tariffs on the entire HS-6 Digit code categories identified above. Rather, in this methodology we divide the intermediate inputs into four different TRZs:

1. *Extremely Important for Tariff Reductions:* These are the intermediate inputs for which the import unit value is 3 standard deviations or greater than what is available to the local manufacturer. The inputs that fall in this category have a high import unit value compared to the goods available in the local market on average and hence, should be imported. For these products, there is an urgent need to reduce tariffs.
2. *Important for Tariff Reductions*: These are the products for which the import unit value is between 2 and 3 standard deviation greater than average unit value available to the local manufacturer.

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[7] Data was gathered from Tariff Analysis Online by the World Trade Organization (WTO).
[8] This information was taken from UN Comtrade Data Base.
[9] The average unit value is the average of the export unit value and the import unit value available to the Pakistani manufacturer.

3. *Moderately Important for Tariff Reductions*: These are the intermediate inputs for which the import unit value is between 1 and 2 standard deviation better than what is available to the local manufacturer.
4. *Insignificantly Important for Tariff Reductions*: These are the intermediate products for which the import unit value is better than the average unit value, but it only exceeds by less than 1 standard deviation.

Figure 1: Categorization of the Intermediate Inputs According to the TRZs

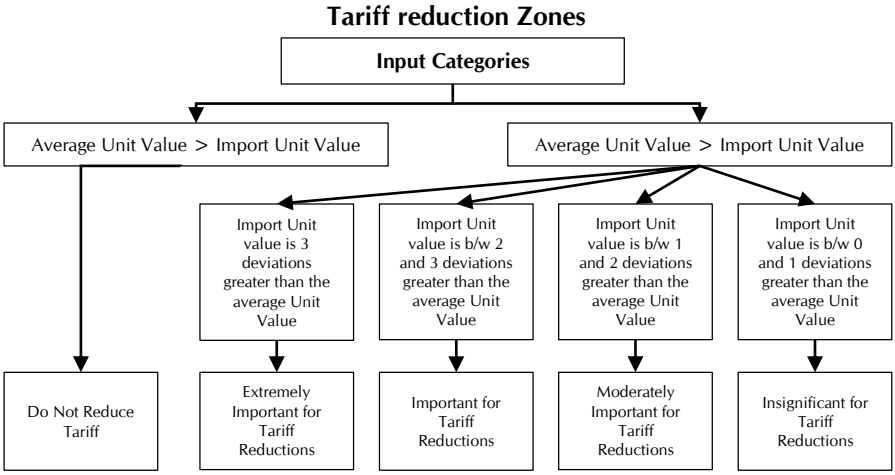


Figure 1 summarizes the Intermediate Inputs being classified according to the TRZs.

Finally, we use this information to generate a list of HS-8 Digit product code to identify the list of the names of the specific intermediate inputs that falls within each respective TRZs.

4. Identifying Intermediate Inputs for boosting the Exports in the Textile Sector

In this section, we narrow down our focus only to the textile sector and identify intermediate inputs for India, which have a strong correlation with its textile export value. We argue that climbing up the export ladder for Pakistan would mean that it has to follow the footsteps of India. Therefore, making these inputs available to the Pakistani textile exporter may result in manufacturing of better and improved quality final products. Finally, we narrow down the list of the intermediate inputs identified earlier by suggesting a strategic tariff reduction, on only those

intermediate inputs that have a higher unit value as compared to what is available to the Pakistani manufacturer. The argument is that for such inputs, which have a higher unit value, their quality is better than what is currently available to the Pakistani manufacturer, hence we should focus on reducing the tariff on these intermediate inputs, so that we can increase their import. For the imported inputs, which have a lower unit value, we do not suggest a tariff reduction on these inputs, since better quality is being produced locally. Therefore, reducing tariffs for the latter type of intermediate inputs would mean hurting the domestic input suppliers.

4.1 Learning from India

We select India based upon two reasons (i) similarity between the two countries in terms of the correlation between input tariff and export value as mentioned in section 2 (ii) India has outperformed many countries in world market in terms of its exports in textile sector. India is a growing economy, with a projected growth rate of 6.75% for the FY 2017-18. Relevance of textile sector for India is similar to that of Pakistan, since textile sector is a major contributor towards its GDP and is the second largest sector in terms of employment after the agriculture. It is interesting to note that in FY 2003 the Export value of Textile and Clothing (in $US) for India was fairly near to that of Pakistan (Figure 2) but over time, the gap between both the countries has widened. This implies a need for Pakistan to revisit its policies to regain momentum in the export market.

Figure2: Export of textile and Clothing (US$) over time (2003-2013)

Source: World Integrated Trade Solutions (WITS)

Table 3 shows the top eight textile products exported by all the countries in 2012-2016, as a proportion of the total world exports (at HS- 4 Digit Code). This list of products is compared across Pakistan, India, Sri Lanka and Turkey to see the position of Pakistan in the world market.

Table3: Top Eight Exporting Textile Products of the World (2012-2016)

HS Code	Product
6204	Women's or girls' suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts (other than swimwear), not knitted or crocheted.
6110	Jerseys, pullovers, cardigans, waistcoats and similar articles, knitted or crocheted.
6203	Men's or boys' suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts (other than swimwear), not knitted or crocheted.
6109	T-shirts, singlet's and other vests, knitted or crocheted.
6104	Women's or girls' suits, ensembles, jackets, blazers, dresses, skirts, divided skirts, trousers, bib and brace overalls, breeches and shorts (other than swimwear), knitted or crocheted.
6302	Bed linen, table linen, toilet linen and kitchen linen.
6202	Women's or girls' overcoats, car-coats, capes, cloaks, anoraks, ski-jackets, wind-cheaters, wind-jackets and similar articles, other than those of heading 6204.
6103	Men's or boy's suits, ensembles, jackets, blazers, trousers, bib and brace overalls, breeches and shorts (other than swimwear), knitted or crocheted.

Amongst these eight categories Pakistan is the top exporter of Bed linen, table linen, toilet linen and kitchen linen (HS-4 Digit Code: 6302) amongst the other comparable countries like India, Sri Lanka, Turkey and Bangladesh. As shown in the figure 3A, for this category Pakistan caters to the 15% of the total exports to the world.

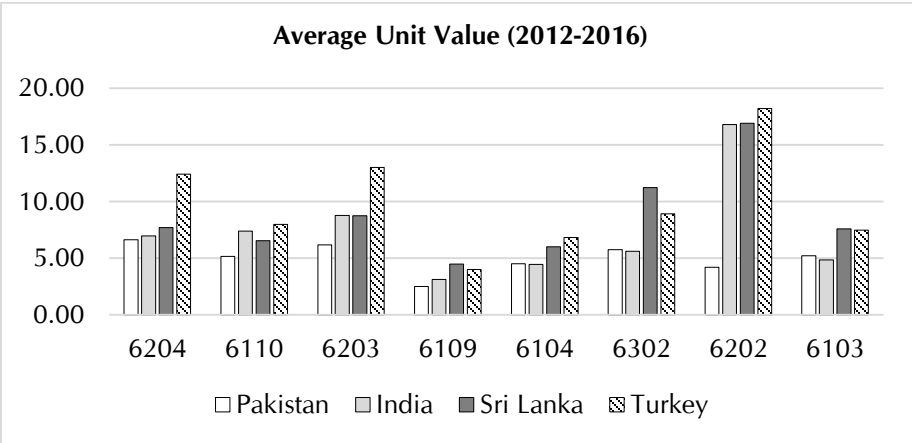
Figure 3A: Percentage of Top Eight Textile Products Exported by Countries as a Proportion of Total World Exports

Source: UN Comtrade database

We analyze the average unit value (proxy for the quality of the product) of all these categories across these countries, the situation becomes alarming. The average unit value of bed linens for Sri Lanka is way higher than Pakistan and quite similar to the unit value of India. Figure 3B shows that on average the quality of the product where Pakistan takes lead in the world market (i.e., HS Code 6302) is low, which can easily be replaced by India, Turkey and Sri Lanka in near future.

We also see that India has upgraded its unit value in other product categories especially in stitched women's and girl's clothing (HS code; 6202), due to which it is making its position stronger in the world market over time. Pakistan on the other hand is quite low in terms of the unit value for all the top eight categories when compared to its competitors.

Figure 3B: Average Unit Value of the Top Eight Textile Products Exported by Countries



Source: UN Comtrade database

4.2 Data and methodology

In order to identify the intermediate inputs used by the textile sector in Pakistan, we use the Census of Manufacturing Industries for Punjab (CMI), 2005. Then out of those intermediate inputs we list India's top eight imported intermediate inputs, based upon their high correlations between intermediate inputs and the export value in the textile sector of India. The inputs in the CMI were coded based on ISIC 3.1, which were converted into comparable HS-2 Digit Codes. We extend this list to HS-6 Digit Code to identify detailed input categories within each HS-2 Digit Category. We then identify the tariff rates for all these HS-6 Digit categories for Pakistan, India and Sri Lanka for the year 2014 from Tariff Analysis Online by the World Trade Organization (WTO). Next, we create a unique ID, identifying each country, sector, input and year, using it to merge the inputs with their respective tariff rates and import values for all the three countries for that respective year. Next, we calculate the export unit value and the import unit value for all the HS-6 Digit categories based upon their HS codes using UN Comtrade data base. Then using this data, we calculated the average unit value at HS-6 Digit Code. The average unit value is used as a close proxy for the quality of the intermediate inputs

available in the local market[10]. Next, the average unit value is compared to the import unit value to identify the Tariff Reduction Zones (TRZs). Finally, we use this information to generate a list of HS-8 Digit Code to identify the name of the specific intermediate inputs that fall within each respective TRZ.

List of inputs at HS-2 Digit Code important for India are summarized in the Table 4 below.

Table 4: Top Intermediate Inputs for India's Textile Sector

HS Code (2 digit)	Intermediate Inputs
50	Silk
51	Wool, fine or coarse animal hair: horsehair yarn and woven fabric
52	Cotton
54	Man- Made Filaments
56	Wadding, felt and nonwovens; special yarns; twine, cordage, ropes and cables and articles of thereof
58	Special Woven Fabrics; tufted textile fabrics; lace ; tapestries; trimmings; embroidery
59	Impregnated, coated, covered or laminated textile fabrics; textile articles of a kind suitable for industrial use
60	Knitted or Crocheted Fabrics

Source: Author's own calculation.

We further classify the above intermediate inputs into the HS-6 Digit[11] for all of these categories to suggest tariff reductions. However, we take a *conservative approach* in this. We do not propose to reduce tariffs on the entire HS-6 Digit code categories, which fall within each HS-2 Digit category listed above in Table 4. Rather, we narrow down our list by comparing the unit value of the imported input with the average unit value of the intermediate inputs available to the Pakistani textile manufacturer of all the HS 6- Digit categories.

[10] The average unit value is the average of the export unit value and the import unit value available to the Pakistani manufacturer.
[11] This can further can be classified into 8 digit HS code to identify the specific input.

4.3 Identifying the Intermediate Inputs Based Upon their relevance in Tariff Reduction Zones (TRZs); Textile Sector

We generate a list of intermediate inputs based upon the conservative approach discussed in the previous subsection. Figures 4A till 4H show graphical representation of our main results. The x-axis marks all different inputs at the HS-6 Digit code for each respective HS-2 Digit Code category mentioned in Table 4. The y-axis measures the difference between the average unit value available to a Pakistani manufacturer and the import unit value for each respective HS-6 Digit input.

For example, figure 4A shows a diagrammatic representation of each HS-6 Digit Code for Silk. Zero is kept as a benchmark where the average unit value of the intermediate input available to the local manufacturer is equal to the import unit value of the same input. This implies that for this category the quality of the locally available input on average and the quality of the imported input are equal. A negative value means that the imported inputs are of high quality and hence should be imported[12]. The maroon horizontal lines show the standard deviation (which takes a value for -3 to +3) of the import unit value from the average unit value.

We can see that two categories fall within the bound of -1 and +1 (500500 and 500600), therefore, they qualify in the insignificant zone where tariff reductions nor protections should be proposed. Two categories 500300 and 500400 fall more than three deviations below the average unit value which emphasize that the quality available to the local manufacturer on average in Pakistan is way lower than the quality of these imported inputs, therefore, we propose that they qualify in the extremely important zone where tariff reductions should be made. 500700, 500710 and 500790 are the HS-6 Digit Code categories for which the import unit value is significantly lower than the average unit value implying that the average quality available to the local manufacturer is significantly higher than the imported intermediate input quality. Therefore, we recommend to either observe the existing tariff rates or even push up the tariff rates to counter the impact of reductions in tariff on the revenues generated by the government. We extend this analysis at HS- 6 Digit Code categories for other intermediate inputs within the textile sector as listed in table 4.

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[12] A positive value means that the average unit value available to a Pakistani manufacturer is more than the import unit value, hence there is no need to import more.

Similarly, in figure 4B for Wool, Fine or Coarse Hair (HS Code 51), inputs with the HS-6 Digit Code of 510820 and 511119 lie in the extremely important tariff reduction zone. Only one input i.e. 510529 lies in the important tariff reduction zone as the deviation is between -2 and -3 standard deviations. Four input categories fall under the moderately important zone for tariff reduction i.e. 510220, 510510. 510990 and 511219. Using these graphs, we identify the list of all the intermediate inputs at HS-6 Digit Code that falls under each respective tariff reduction zone (TRZ), for each for each of the categories listed in table 4.

As a next step in table 5A we provide a tabular representation of the intermediate inputs at the HS-6 Digit Code that qualifies under the category of being extremely important for tariff reduction zone amongst all the categories mentioned in table 4. For cross country comparisons the table also shows the tariff rates applied by India, Pakistan and Sri Lanka on these inputs to identify where the scope of tariff reduction in Pakistan exists. For instance, in the first three input categories, India's Tariffs are higher than that of Pakistan. This is mainly because in these categories India itself has a high export unit value (i.e. good quality of inputs are being produced within India). Whereas, for the remaining categories, Pakistan has a higher tariff rate than India implying that the margin of tariff reduction exists for these inputs. On the contrary, Sri Lanka, as a special case has a consistent zero tariff rate for all these inputs. Finally, we extend the list of the intermediate inputs to HS-8 Digit Code (and in some case to the HS-10 Digit Code) in table 5B to give specific intermediate inputs.

Table 5 is a tabular representation of all the inputs under the HS-6 Digit Code category that fall under the extremely important tariff reduction zone. The list of tariff rates applied by Pakistan, India and Sri Lanka on these input categories are also stated in the table for comparisons. Again, we extend their description to the HS-8 Digit code in Appendix1. Table A1.

Appendix 2 lists the intermediate inputs at the HS-2 Digit code and HS-6 Digit code that fall under the zone of being moderately important for tariff reduction in Pakistan. We also provide the tariff rates imposed by Pakistan, India and Sri Lanka[13].

[13] Using similar methodology we generated a list of intermediate inputs at the HS-2 Digit and HS-6 Digit Code that are insignificantly important and irrelevant for tariff reductions that can be made available.

Figure 4: Graphical representation of the Intermediate Textile Inputs based upon their relevance in Different tariff Zones (HS 6 Digit Code)

Figure 4A: Classification of Silk at the 6 digit HS Code level; Deviation of Import Unit Value from the Average Unit Value

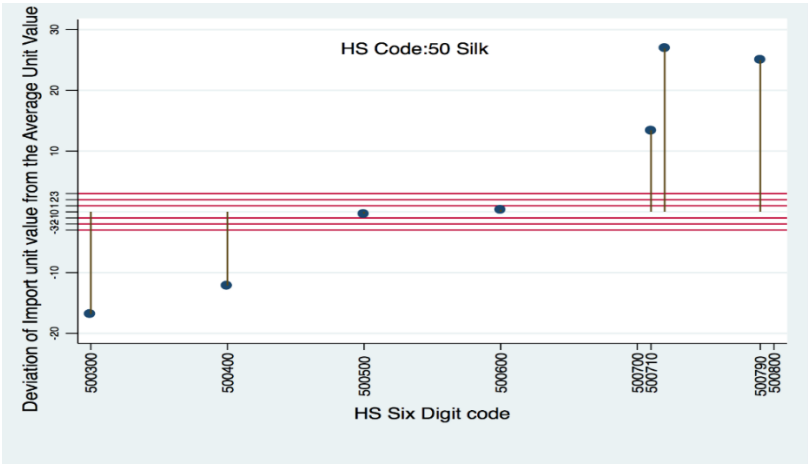


Figure 4B: Classification of Wool, fine or Coarse Animal hair at the 6 digit HS Code level; Deviation of Import Unit Value from the Average Unit Value

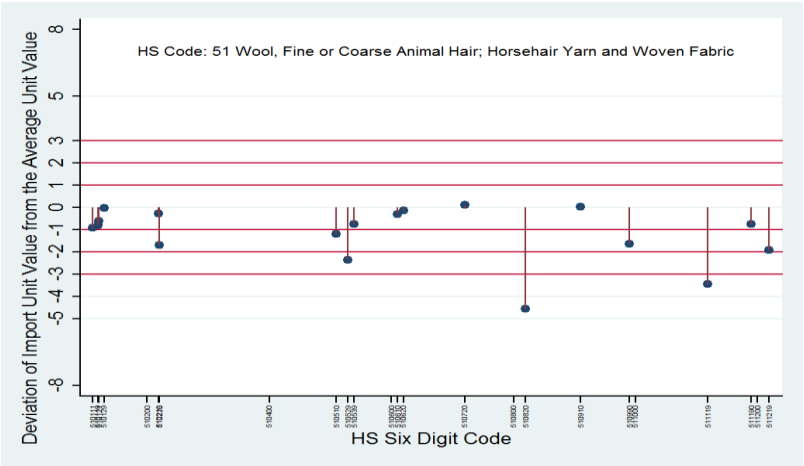


Figure 4C: Classification of Cotton at the 6 digit HS Code level; Deviation of Import Unit Value from the Average Unit Value

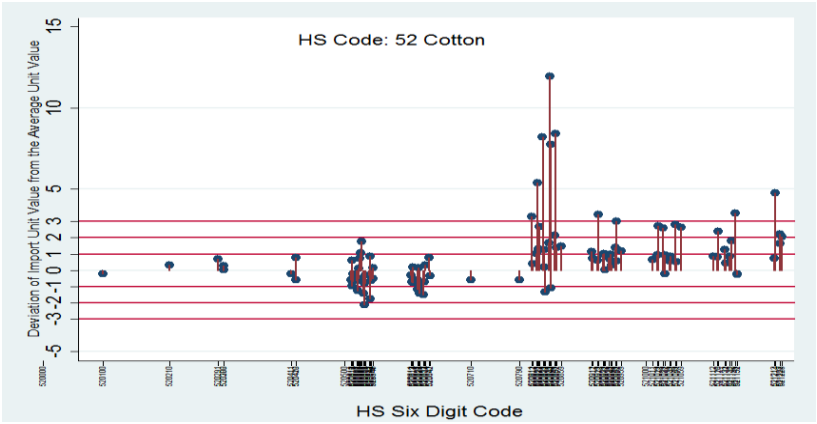


Figure 4D: Classification of Man-made filaments; strips and the like of man-made textile at the 6 digit HS Code level; Deviation of Import Unit Value from the Average Unit Value

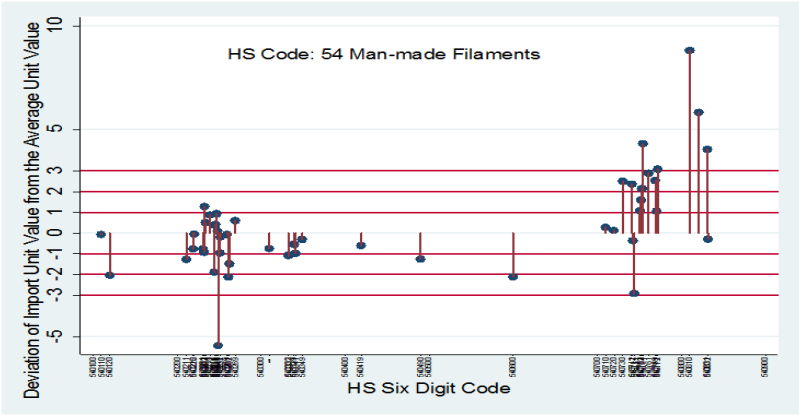


Figure4E: Classification of Wadding, Felt and Nonwovens at the 6 digit HS Code level; Deviation of Import Unit Value from the Average Unit Value

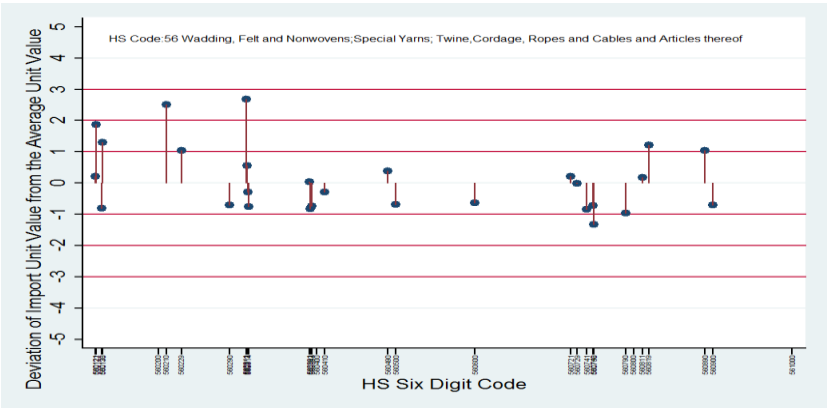


Figure 4F: Classification of Special Woven Fabrics at the 6 digit HS Code level; Deviation of Import Unit Value from the Average Unit Value

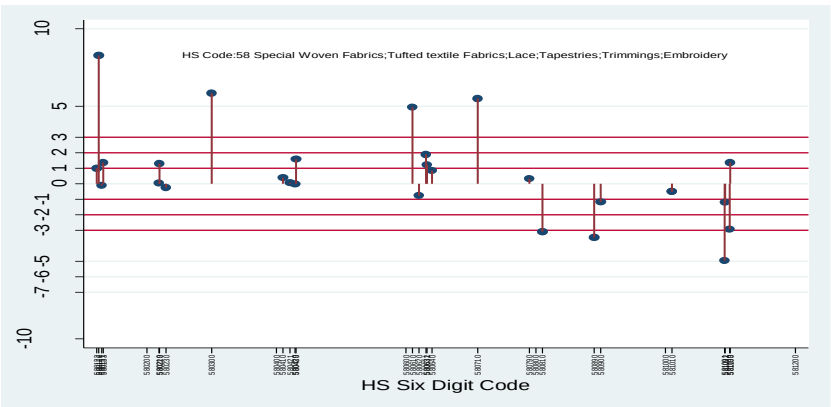


Figure 4G: Classification of Impregnated or Laminated Textile fabrics at the 6 digit HS Code level; Deviation of Import Unit Value from the Average Unit Value

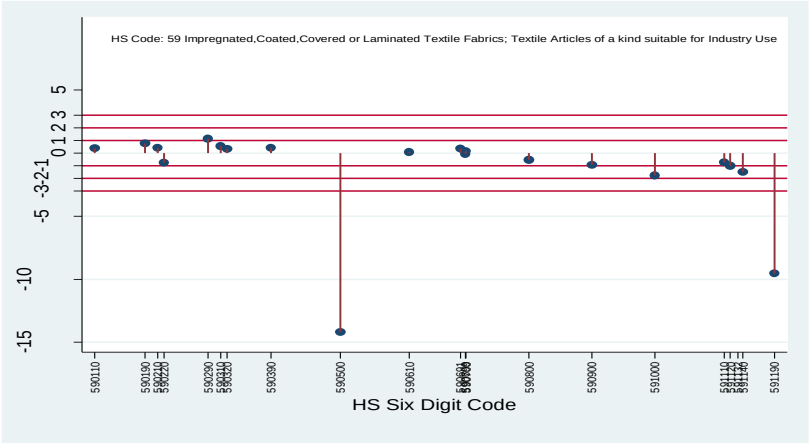
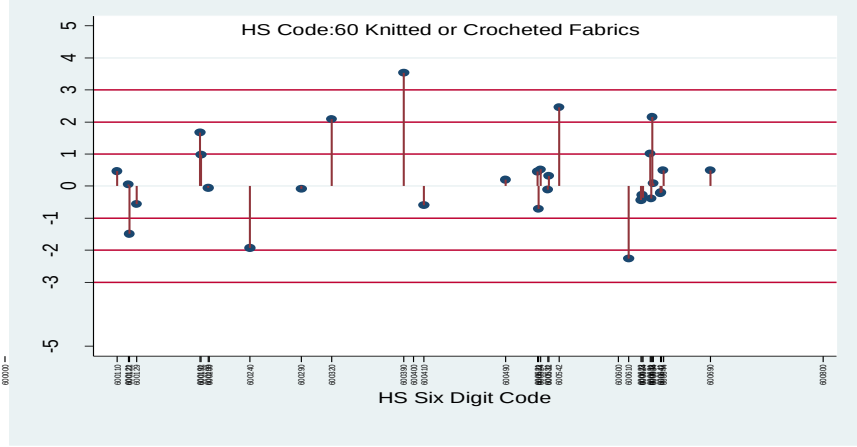


Figure 4H: Classification of Knitted or Crocheted Fabrics at the 6 digit HS Code level; Deviation of Import Unit Value from the Average Unit Value



Source: Author's Own Calculations

Table 5: Inputs, classified as being extremely important for tariff reduction

Tariffs Applied by Pakistan, India and Sri Lanka on tariff category classified as EXTREMELY IMPORTANT for Pakistan					
HS 2 Digit Code	**HS 6 Digit Code**	**Product Description**	**Pakistan's Tariff**	**India's Tariff**	**Sri Lanka's Tariff**
50	500300	Silk waste (including cocoons unsuitable for reeling, yarn waste and garneted stock)	3	15	0
50	500400	Silk; yarn (other than yarn spun from silk waste), not put up for retail sale	3	10	0
51	510820	Yarn; of fine animal hair, combed, not put up for retail sale	3	10	0
51	511119***	Fabrics, woven; of carded wool or of carded fine animal hair, containing 85% or more by weight of wool or of fine animal hair, of a weight exceeding 300g/m2	16	0	0
54	540249*	Yarn, synthetic; filament, monofilament (less than 67 decitex), other than high tenacity or textured yarn, single, untwisted or twisted 50 turns or less per meter, n.e.c. in heading no. 5402, not for retail sale, not sewing thread	11	10	0
58	580810**	Braids; in the piece	20	10	0
58	580890**	Ornamental trimmings; tassels, pompons and similar articles; ornamental trimmings in the piece, without embroidery, other than knitted or crocheted	20	10	0
58	581091**	Embroidery; with visible ground, of cotton, in the piece, in strips or in motifs	20	10	0
59	590500**	Textile wall coverings of fabrics impregnated, coated, covered or laminated	20	10	0
59	591190	Textile products and articles for technical uses; n.e.c. in heading no. 5911	7	10	0

Source Author's Own Calculation

*Indicates that Pakistan's Tariffs are higher than India by less than or equal to 5%

** Indicates that Pakistan's Tariffs are higher than India by more than 5% but less than or equal to 10%

*** Indicate that Pakistan's Tariffs are higher than India by more than 10% but less than or equal to 15%

**** Indicate that Pakistan's Tariffs are higher than India's by more than 15%

Table 6 is a tabular representation of all the inputs under the HS-6 Digit Code category that fall under the important tariff reduction zone. The list of tariff rates applied by Pakistan, India and Sri Lanka on these input categories are also stated in the table for comparisons. Again, we extend their description to the HS-8 Digit code in Appendix1. Table A2.

Table 6: Inputs, classified as being extremely important for tariff reduction

Tariffs Applied by Pakistan, India and Sri Lanka on tariff category classified as IMPORTANT for Pakistan					
HS 2 Digit Code	**HS 6 Digit Code**	**Product Description**	**Pakistan's Tariff**	**India's Tariff**	**Sri Lanka's Tariff**
51	510529	Wool; wool tops and other combed wool, other than in fragments	3	7.5	0
52	520533*	Cotton yarn; (not sewing thread), multiple or cabled, of uncombed fibers, 85% or more by weight of cotton, 232.55 to 192.31 decitex (44 to 52 metric number) per single yarn, not for retail sale	11	10	0
54	540120	Sewing thread; of artificial filaments, whether or not put up for retail sale	3	10	0
54	540261*	Yarn, synthetic; filament, monofilament (less than 67 decitex), of nylon or other polyamides (not high tenacity or textured), multiple (folded) or cabled, not for retail sale, not sewing thread	11	10	0
54	540600*	Man-made filament yarn (other than sewing thread), put up for retail sale	11	10	0
54	540744**	Fabrics, woven; containing 85% or more by weight of filaments of nylon or other polyamides, printed	16	0	0
58	581099**	Embroidery; with visible ground, of textile materials (other than cotton and man-made fibres), in the piece, in strips or in motifs	20	10	0
60	600610**	Fabrics; knitted or crocheted fabrics, other than those of headings 60.01 to 60.04, of wool or fine animal hair	20	10	0

Source: Author's Own Calculations

*Indicates that Pakistan's Tariffs are higher than India by less or equal to 5%

** Indicates that Pakistan's Tariffs are higher than India by more than 5% but less than or equal to 10%

*** Indicate that Pakistan's Tariffs are higher than India by more than 10% but less than or equal to 15%

**** Indicate that Pakistan's Tariffs are higher than India's by more than 15%

5. Is it Possible to Protect Locally Available High Quality Intermediate Inputs?

In this section, we extend this analysis to identify the categories of intermediate inputs that are of high quality available to the Pakistani manufacturer. On such categories, the tariff rates may be maintained. We follow the same methodology to create multiple tariff protection zones (TPZs) that categories the inputs mentioned in table 4[14], where the tariff rates can be maintained on a scale from being extremely important to insignificantly important for tariff protection. This will serve as a solution to two potential problems that may arise due to the decreasing tariffs on the categories mentioned in the previous section. First, it will protect the local producers who are already producing high quality inputs. Second, on these categories if the tariff rate is slightly pushed up, it may offset any losses borne by the government due to the reduction in tariff rates for the categories mentioned in the previous section.

We again compare the average unit value available to the local manufacturer with the import unit value. If the deviation comes out to be positive, it signifies that the average quality of the input available in the local market is better than the imported quality of the same input. As this difference becomes more profound, it signifies the relevance of protection.

We divide the inputs into four tariff protection zones (TRZs):

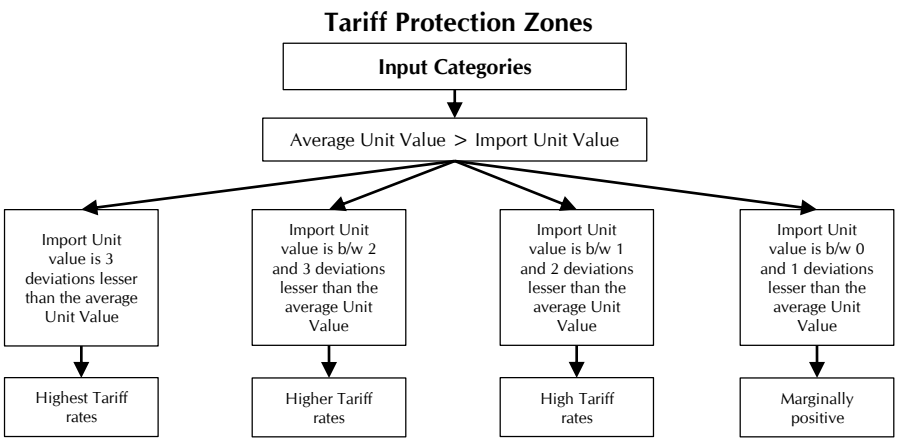
1. *Extremely Important for protection*: These are the intermediate inputs for which the import unit value is 3 standard deviation or more than what is available to the Pakistani manufacturer. The inputs that fall in this category have a high export unit value compared to the inputs available in Pakistan on average and hence, should be protected. We propose an increase in tariff rate on these categories (Appendix 3) or at least these should have the highest tariff rates amongst other categories. We identified 22 input categories (at HS 6 Digit Code) where the government can increase the tariff rates significantly.

[14] The intermediate inputs that have positive values (where the average quality of the intermediate input available to the local manufacturer is better than the quality of the same imported intermediate input) in figure 4A till 4H will be analyzed to identify the inputs that lie in protection zones varying from extremely important to insignificantly important.

2. *Important for Protection:* These are the inputs for which the import unit value is between 2 and 3 standard deviations, therefore we recommend this list to be taken as an important category where if needed the tariffs should be set at least at a level where these categories can be protected but not as important as the previous category (Appendix 5). 18 input categories are identified, that falls under the 'important category', where the tariff rates can be pushed up but lower than the extremely important category.
3. *Moderately Important for Protection:* These are the inputs for which the import unit value is between 1 and 2 standard deviations (Appendix 6). Around 32 input categories (HS Six Digit Code) fall under moderately important products for protection.
4. *Insignificantly Important for Protection:* These are the inputs for which the import value is between 0 and 1 standard deviation (Appendix 7).

Figure 5 summarizes the categorization of inputs at HS 6-Digit Code for the purpose of protection, based upon different TPZs.

Figure 5: Categorization of the Inputs According to their Relevance for the Increase in Tariff Rates



These HS-6 Digit categories can finally be used to list down the specific inputs at HS-8 Digit Code, to figure out the specific inputs that can be protected by if not pushing up the tariff rates for these categories then at least maintaining the existing tariff rates.

6. Conclusion and Recommendations

Better quality intermediate inputs can be made available to the local manufacturer to climb up the export ladder via tariff reductions. Where on one hand, tariff reductions on intermediate inputs imported can help boost Pakistan's Exports, it can also affect the federal revenues adversely on the other and this may also potentially mean more competition for the local manufacturers of these intermediate inputs. Therefore, a more careful analysis is needed to identify the inputs that are not available at a high quality in the countries that are technologically constrained and are moving from import substitution to export promotion phase. Therefore we propose a methodology which follows a conservative approach with the help of which we can generate a specific list of intermediate inputs on a belief that if they are provided to the local exporting firms at a cheaper rate can help them produce a better unit value final product to export.

First, the paper establishes a direct and significant relationship between the import of intermediate inputs and the export performance indicators via the channel of intermediate input tariffs. The estimates are calculated from an instrumental variable technique combined with country fixed effects using the data on more than 160 countries from the time period 2000 to 2015. Results of the first stage show that any declines in tariffs significantly increase the imports of the intermediate inputs that eventually increases the export performance across the globe as indicated by the second stage results.

Then, we show strong correlations between tariff reductions and increase in export value across top exporting sectors for only five countries Pakistan, India, Sri Lanka, Turkey and Bangladesh. We see consistent results, that there is a strong correlation between tariff reductions on intermediate inputs and export Value across all these sectors.

Based upon the *conservative approach* we propose a new methodology through which we can identify the categories where the tariff cuts should be made significantly and where it should be reduced marginally. We also propose a list where the existing quality of the intermediate inputs available locally is better than the imported quality, and hence should be protected by pushing the tariffs higher or at least observing the current tariff rates.

Lastly, we make our case for Pakistan's textile and apply this methodology to generate the list of intermediate inputs in each respective Tariff Reduction Zones (TRZz) and Tariff Protection Zones (TPZs). We argue that for Pakistan to learn, India is a classic example of drastic tariff reductions on intermediate inputs and export growth. Therefore, we use the case of India to identify the inputs used in their textile sector that has a high correlation with their export value, so that if Pakistan follow suit, it can also upgrade the quality of the products they manufacture in Textile sector to export.

Finally, we compare the Pakistan's average tariff rates for each input to that of India's to identify the categories where the potential for tariff reduction exists. This methodology can also be extended to the other sectors of Pakistan where the export potential is high.

Appendix 1

Table A1: Inputs, classified as being extremely important for tariff reduction at HS-8 Digit Category

TARIFF CATEGORY: EXTREMELY IMPORTANT			
500300	**Silk waste (including cocoons unsuitable for reeling, yarn waste and garneted stock)**		
	50030010	Mulberry Silk Waste	
	50030020	Tussar Silk Waste	
	50030030	Eri Waste	
	50030040	Munga Waste	
	50030090	Others	
	50030011	Spoiled cocoon, husks, frision, frigon, not carded or combed	
	50030012	Garneted Stock, not carded or combed	
500400	**Silk; yarn (other than yarn spun from silk waste), not put up for retail sale**		
	50040010	100% Mulberry Dupion Silk yarn	
	50040090	Others	
510820	**Yarn; of fine animal hair, combed, not put up for retail sale**		
		Carded: Containing 85% or more by weight of fine animal hair	
	51081011	Yarn of fine hair of goats, carded, not put up for retail sale, containing 85% or more by weight of goats hair	
	51081019	Non-retail carded other animal hair yarn	
		5108101910	Yarn of fine hair of endangered animals, carded, not put up for retail sale, containing 85% or more by weight of other animal hair
		5108101990	Yarn of fine hair of animals, carded, not put up for retail sale, containing 85% or more by weight of other animal hair
	51081090	Other	
		5108109010	Yarn of fine hair of other endangered animal, carded not put for retail sale, containing less than 85% by weight of other animal hair
		5108109090	Yarn of fine hair of other animal, carded not put for retail sale, containing less than 85% by weight of other animal hair
511119	**Fabrics, woven; of carded wool or of carded fine animal hair, containing 85% or more by weight of wool or of fine animal hair, of a weight exceeding 300g/m2**		
	5111910	Unbleached woven fabrics	
	5111920	Bleached woven fabrics	
	5111930	Dyed woven fabrics	
	5111940	Printed woven fabrics	
	5111990	Other; of fine animal hair	
540249	**Yarn, synthetic; filament , monofilament (less than 67 decitex), other than high tenacity or textured yarn, single, untwisted or twisted 50 turns or less per metre, n.e.c. in heading no. 5402, not for retail sale, not sewing thread**		
	54024910	Filament single yarn of polyethylene (the rupture strength is bigger than or equal to 22cN/dtex, and the initial modulus is bigger than or equal to 750cN/dtex, untwisted or with a twist not exceeding 50 turns/m, not put up for retail sale)	
	54024990	Other polyethylene yarn	
580810	**Braids; in the piece; ornamental trimmings in the piece, without embroidery other than knitted or crocheted; tassels, pompons and similar articles**		
	58081000	Braids in the piece	
		5808100020	Braids of abaca or ramie, in pieces (Suitable for manufacture or decoration of headgear)
		5808100090	Braids of other textile materials, in pieces

TARIFF CATEGORY: EXTREMELY IMPORTANT			
580890	**Ornamental trimmings; tassels, pompons and similar articles; ornamental trimmings in the piece, without embroidery, other than knitted or crocheted**		
	58089000	Ornamental trimmings strips, not embroidered, in pieces, other than knitted or crocheted; tassels, pompons and similar articles	
581091	**Embroidery; with visible ground, of cotton, in strips or in motifs**		
	58109100	Embroidery of cotton, with visible ground, in pieces, in strips or in motifs	
590500	**Textile wall coverings of fabrics impregnated, coated, covered or laminated**		
	59050000	Textile wall coverings	
591190	**Textile products and articles for technical uses; n.e.c. in heading no. 5911**		
	59119000	Other specialized technical uses textile products and articles (see note 7 in Chapter 59)	
		5911900010	The self-adhesive circular polishing pad for semiconductor wafer fabrication, specified in Note 7 to this Chapter
		5911900090	Other textile products and articles, for technical uses, specified in Note 7 to this Chapter

Table A2: Inputs, classified as being important for Tariff Reductions at HS-8 Digit category

TARIFF CATEGORY: IMPORTANT	
510529	Wool; Wool Tops and Other Combed Wool, Other than in fragments
51052910	Other wool tops
51052990	Others
520533	Measuring per single yarn less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 me Measuring per single yarn less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number per single yarn): Grey
52053320	Measuring per single yarn less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number per single yarn): Bleached
52053330	Measuring per single yarn less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number per single yarn): Dyed
52053390	Measuring per single yarn less than 232.56 decitex but not less than 192.31 decitex (exceeding 43 metric number but not exceeding 52 metric number per single yarn): Other
540120	Sewing thread of man-made filaments, whether or not put up for retail sale
54012000	Of paper yarn: Of artificial filaments
540261	Yarn, synthetic; filament, monofilament (less than 67 decitex), of nylon or other polyamides (not high tenacity or textured), multiple (folded) or cabled, not for retail sale, not sewing thread
54026100	Other yarn, multiple (folded) or cabled: Of nylon or other polyamides
540600	Man-made filament yarn (other than sewing thread), put up for retail sale
54060010	Other: Man-made filament yarn (other than sewing thread), put up for retail sale: Synthetic filament yarn
54060020	Other: Man-made filament yarn (other than sewing thread), put up for retail sale: Artificial filament yarn

TARIFF CATEGORY: IMPORTANT	
54061000	Synthetic filament yarn
54062000	Artificial Filament yarn
540744	Printed Woven Fabrics Of Synthetic Filament Yarn, Including Woven Fabrics Obtained From Materials Of Heading 5404
54074410	Printed: Nylon brasso
54074420	Printed: Nylon georgette
54074430	Printed: Nylon Taffeta
54074440	Printed Nylon Sarees
54074490	Printed other
581099	Embroidery in the piece, in strips or in motifs
58109900	Of man-made fibers: Of other textile materials
600610	Other knitted or crocheted fabrics
60061000	of artificial fibers: of wool or fine animal hair

Author's own Calculation

Appendix 2

Table A1: Inputs, classified as being moderately important for Tariff Reductions at HS 8 Digit Category

HS 2 Digit Code	HS 6 Digit Code	Product Description	Pakistan's Tariff	India's Tariff	Sri Lanka's Tariff
51	510220	Hair; coarse animal hair, not carded or combed	3	5	0
51	510510	Wool; carded	3	10	0
51	510990	Yarn; of wool or of fine animal hair, containing less than 85% by weight of wool or fine animal hair, put up for retail sale	11	10	0
51	511219	Fabrics, woven; of combed wool or combed fine animal hair, containing 85% or more by weight of wool or fine animal hair, of a weight exceeding 200g/m2	16	0	0
52	520522	Cotton yarn; (not sewing thread), single, of combed fibers, 85% or more by weight of cotton, less than 714.29 but not less than 232.56 decitex (exceeding 14 but not exceeding 43 metric number), not for retail sale	11	10	0
52	520532	Cotton yarn; (not sewing thread), multiple or cabled, of uncombed fibers, 85% or more by weight of cotton, 714.28 to 232.56 decitex (15 to 43 metric number) per single yarn, not for retail sale	11	10	0
52	520542	Cotton yarn; (not sewing thread), multiple or cabled, of combed fibers, 85% or more by weight of cotton, 714.28 to 232.56 decitex (15 to 43 metric number) per single yarn, not for retail sale	11	10	0
52	520621	Cotton yarn; (not sewing thread), single, of combed fibers, less than 85% by weight of cotton, measuring 714.29 decitex or more, (not exceeding 14 metric number), not for retail sale	11	10	0

HS 2 Digit Code	HS 6 Digit Code	Product Description	Pakistan's Tariff	India's Tariff	Sri Lanka's Tariff
52	520624	Cotton yarn; (not sewing thread), single, of combed fibers, less than 85% by weight of cotton, less than 192.31 but not less than 125 decitex (exceeding 52 but not exceeding 80 metric number), not for retail sale	11	10	0
52	520625	Cotton yarn; (not sewing thread), single, of combed fibers, less than 85% by weight of cotton, measuring less than 125 decitex (exceeding 80 metric number), not for retail sale	11	10	0
52	520631	Cotton yarn; (not sewing thread), multiple or cabled, of uncombed fibers, less than 85% by weight of cotton, 714.29 decitex or more (not exceeding 14 metric number) per single yarn, not for retail sale	11	10	0
52	520833	Fabrics, woven; containing 85% or more by weight of cotton, dyed, 3-thread or 4-thread twill, including cross twill, weighing not more than 200g/m2	20	10	0
52	520842	Fabrics, woven; containing 85% or more by weight of cotton, of yarns of different colors, weighing more than 100g/m2 but not more than 200g/m2	20	0	0
54	540211	Yarn, synthetic; filament, monofilament (less than 67 decitex), of high tenacity nylon or other polyamides, of aramids, not for retail sale, not sewing thread	11	10	0
54	540244	Yarn, synthetic; filament, monofilament (less than 67 decitex), other than high tenacity or textured yarn, elastomeric, single, untwisted or twisted 50 turns or less per meter, not for retail sale, not sewing thread	7	10	0
54	540262	Yarn, synthetic; filament, monofilament (less than 67 decitex), of polyesters (not high tenacity or textured), multiple (folded) or cabled, not for retail sale, not sewing thread	11	10	0
54	540332	Yarn, artificial; filament, monofilament (less than 67 decitex), of viscose rayon (not high tenacity), single, twisted more than 120 turns per meter, not for retail sale, not sewing thread	3	10	0

HS 2 Digit Code	HS 6 Digit Code	Product Description	Pakistan's Tariff	India's Tariff	Sri Lanka's Tariff
54	540333	Yarn, artificial; filament, monofilament (less than 67 decitex), of cellulose acetate, single, not for retail sale, not sewing thread	11	10	0
54	540490	Filament, synthetic; strip and the like (e.g.. artificial straw), of synthetic textile materials of an apparent width not exceeding 5mm	11	10	0
56	560750	Twine, cordage, ropes, cables; of synthetic fibers other than polyethylene or polypropylene, whether or not plaited, braided or impregnated, coated, covered or sheathed with rubber or plastics	20	10	20
58	580900	Fabrics, woven; of metal thread and metallized yarn of heading no. 5605, of a kind used in apparel, as furnishing fabrics or similar purposes; n.e.c. or included	20	10	0
58	581092	Embroidery; with visible ground, of man-made fibers, in the piece, in strips or in motifs	20	10	0
59	591000	Textiles; transmission or conveyor belts or belting, of textile material, whether or not impregnated, coated, covered or laminated with plastics, or reinforced with metal or other material	20	10	0
59	591120	Textile products and articles for technical uses; bolting cloth, whether or not made up	11	10	0
59	591140	Textile products and articles for technical uses; straining cloth of a kind used in oil presses and the like, including that of human hair	11	10	0
60	600122	Fabrics; looped pile fabrics, of man-made fibers, knitted or crocheted	20	10	0
60	600240	Fabrics; knitted or crocheted, other than those of heading 60.01, of a width not exceeding 30 cm, containing by weight 5% or more of elastomeric yarn but not containing rubber thread	20	10	0

Note: Products where the Pakistani tariff is high and extremely different than Indian's tariff rate has been highlighted.

Appendix 3

Table A1: Inputs, classified as being Extremely Important for Protection at HS 8 Digit Category

HS 2 Digit Code	HS 6 Digit Code	Product Description
50	500710	Silk; woven fabrics of noil silk
50	500720	Silk; woven fabrics, containing 85% or more by weight of silk or of silk waste other than noil silk
50	500790	Silk; woven fabrics n.e.c. in heading no. 5007
52	520811	Fabrics, woven; containing 85% or more by weight of cotton, unbleached, plain weave, weighing not more than 100g/m2
52	520821	Fabrics, woven; containing 85% or more by weight of cotton, bleached, plain weave, weighing not more than 100g/m2
52	520829	Fabrics, woven; containing 85% or more by weight of cotton, bleached, of weaves n.e.c. in item no. 5208.2, weighing not more than 200g/m2
52	520841	Fabrics, woven; containing 85% or more by weight of cotton, of yarns of different colors, plain weave, weighing not more than 100g/m2
52	520843	Fabrics, woven; containing 85% or more by weight of cotton, of yarns of different colors, 3-thread or 4-thread twill, including cross twill, weighing not more than 200g/m2
52	520851	Fabrics, woven; containing 85% or more by weight of cotton, printed, plain weave, weighing not more than 100g/m2
52	520921	Fabrics, woven; containing 85% or more by weight of cotton, bleached, plain weave, weighing more than 200g/m2
52	520951	Fabrics, woven; containing 85% or more by weight of cotton, printed, plain weave, weighing more than 200g/m2
52	521149	Fabrics, woven; containing less than 85% by weight of cotton, mixed mainly or solely with man-made fibers, weighing more than 200g/m2, of yarns of different colors, of weaves n.e.c. in item no. 5211.4
52	521214	Fabrics, woven; of cotton, of yarns of different colors, weighing not more than 200g/m2, n.e.c. in chapter 52
54	540754	Fabrics, woven; containing 85% or more by weight of textured polyester filaments, printed
54	540772	Fabrics, woven; containing 85% or more by weight of synthetic filaments (excluding nylon or other polyamides and polyesters), dyed
54	540810	Fabrics, woven; of viscose rayon, high tenacity, artificial filament yarn
54	540821	Fabrics, woven; of artificial filament yarn, containing 85% or more by weight of artificial filament, strip or the like, bleached or unbleached
54	540831	Fabrics, woven; of artificial filament yarn, of artificial monofilament, strip and the like, n.e.c. in heading no. 5408, unbleached or bleached
58	580126	Fabrics; chenille, of cotton, other than fabrics of heading no. 5802 or 5806

HS 2 Digit Code	HS 6 Digit Code	Product Description
58	580300	Gauze; other than narrow fabrics of heading no. 5806
58	580610	Fabrics; woven pile (including terry toweling and similar terry fabrics) and chenille fabrics (excluding goods of heading no. 5807)
58	580710	Labels, badges and similar articles; woven, of textile materials, in the piece, in strips or cut to shape or size, not embroidered
60	600390	Fabrics; knitted or crocheted fabrics, other than those of heading 60.01 and 60.02, of a width not exceeding 30 cm, other than of wool and fine animal hair, cotton, synthetic or artificial fibers

Table A2: Inputs, classified as being Important for Protection at HS 8 Digit category

HS 2 Digit Code	HS 6 Digit Code	Product Description
52	520823	Fabrics, woven; containing 85% or more by weight of cotton, bleached, 3-thread or 4-thread twill, including cross twill, weighing not more than 200g/m2
52	520849	Fabrics, woven; containing 85% or more by weight of cotton, of yarns of different colors, of weaves n.e.c. in item no. 5208.4, weighing not more than 200g/m2
52	521021	Fabrics, woven; containing less than 85% by weight of cotton, mixed mainly or solely with man-made fibers, bleached, plain weave, weighing 200g/m2 or less
52	521029	Fabrics, woven; containing less than 85% by weight of cotton, mixed mainly or solely with man-made fibers, weighing 200g/m2 or less, bleached, of weaves n.e.c. in item no. 5210.2
52	521049	Fabrics, woven; containing less than 85% by weight of cotton, mixed mainly or solely with man-made fibers, weighing 200g/m2 or less, of yarns of different colors, of weaves n.e.c. in item no. 5210.4
52	521059	Fabrics, woven; containing less than 85% by weight of cotton, mixed mainly or solely with man-made fibers, weighing 200g/m2 or less, printed, of weaves n.e.c. in item no. 5210.5
52	521120	Fabrics, woven; containing less than 85% by weight of cotton, mixed mainly or solely with man-made fibers, weighing more than 200g/m2, bleached
52	521223	Fabrics, woven; of cotton, dyed, weighing more than 200g/m2, n.e.c. in chapter 52
52	521225	Fabrics, woven; of cotton, printed, weighing more than 200g/m2, n.e.c. in chapter 52
54	540730	Fabrics, woven; from synthetic filament yarn, adhesive or thermal bonded
54	540741	Fabrics, woven; containing 85% or more by weight of filaments of nylon or other polyamides, unbleached or bleached
54	540753	Fabrics, woven; containing 85% or more by weight of textured polyester filaments, of yarns of different colors

HS 2 Digit Code	HS 6 Digit Code	Product Description
54	540761	Fabrics, woven; containing 85% or more by weight of non-textured polyester filaments
54	540769	Fabrics, woven; containing less than 85% by weight of non-textured polyester filaments
56	560210	Felt; needle loom felt and stitch-bonded fiber fabrics, whether or not impregnated, coated, covered or laminated
56	560311	Nonwovens; whether or not impregnated, coated, covered or laminated, of man-made filaments, (weighing not more than 25g/m2)
60	600320	Fabrics; knitted or crocheted fabrics, other than those of heading 60.01 and 60.02, of a width not exceeding 30 cm, of cotton
60	600542	Fabrics; warp knit (including those made on galloon knitting machines), other than those of headings 60.01 to 60.04, of artificial fibers, dyed
60	600633	Fabrics; knitted or crocheted fabrics, other than those of headings 60.01 to 60.04, of synthetic fibers, of yarns of different colors

Table A3: Inputs, classified as being Moderately Important for Protection at HS-8 digit Category

HS 2 Digit Code	HS 6 Digit Code	Product Description
52	520527	Cotton yarn; (not sewing thread), single, of combed fibers, 85% or more by weight of cotton, less than 106.38 but not less than 83.33 decitex (over 94 but not over 120 metric number), not for retail sale
52	520528	Cotton yarn; (not sewing thread), single, of combed fibers, 85% or more by weight of cotton, measuring less than 83.33 decitex (exceeding 120 metric number), not for retail sale
52	520819	Fabrics, woven; containing 85% or more by weight of cotton, unbleached, of weaves n.e.c. in item no. 5208.1, weighing not more than 200g/m2
52	520822	Fabrics, woven; containing 85% or more by weight of cotton, bleached, plain weave, weighing more than 100g/m2 but not more than 200g/m2
52	520831	Fabrics, woven; containing 85% or more by weight of cotton, dyed, plain weave, weighing not more than 100g/m2
52	520839	Fabrics, woven; containing 85% or more by weight of cotton, dyed, of weaves n.e.c. in item no. 5208.3 weighing not more than 200g/m2
52	520852	Fabrics, woven; containing 85% or more by weight of cotton, printed, plain weave, weighing more than 100g/m2 but not more than 200g/m2
52	520859	Fabrics, woven; containing 85% or more by weight of cotton, printed, of weaves n.e.c. in item no. 5208.5, weighing not more than 200g/m2
52	520911	Fabrics, woven; containing 85% or more by weight of cotton, unbleached, plain weave, weighing more than 200g/m2
52	520931	Fabrics, woven; containing 85% or more by weight of cotton, dyed, plain weave, weighing more than 200g/m2
52	520949	Fabrics, woven; containing 85% or more by weight of cotton, of yarns of different colors, of weaves n.e.c. in item no. 5209.4, weighing more than 200g/m2

HS 2 Digit Code	HS 6 Digit Code	Product Description
52	520959	Fabrics, woven; containing 85% or more by weight of cotton, printed, of weaves n.e.c. in item no. 5209.5, weighing more than 200g/m2
52	521131	Fabrics, woven; containing less than 85% by weight of cotton, mixed mainly or solely with man-made fibers, weighing more than 200g/m2, dyed, plain weave
52	521142	Fabrics, woven; containing less than 85% by weight of cotton, mixed mainly or solely with man-made fibers, weighing more than 200g/m2, of yarns of different colors, denim
52	521222	Fabrics, woven; of cotton, bleached, weighing more than 200g/m2, n.e.c. in chapter 52
54	540233	Yarn, synthetic; filament, monofilament (less than 67 decitex), textured, of polyesters, not for retail sale, not sewing thread
54	540751	Fabrics, woven; containing 85% or more by weight of textured polyester filaments, unbleached or bleached
54	540752	Fabrics, woven; containing 85% or more by weight of textured polyester filaments, dyed
54	540771	Fabrics, woven; containing 85% or more by weight of synthetic filaments (excluding nylon or other polyamides and polyesters), unbleached or bleached
56	560122	Wadding; other articles thereof, of man-made fibers
56	560130	Wadding; textile flock and dust and mill neps
56	560229	Felt; of textile materials other than wool or fine animal hair (excluding needle loom felt and stitch-bonded fiber fabrics), not impregnated, coated, covered or laminated
56	560819	Twine, cordage or rope; knotted netting, for other than fishing, of man-made textile materials
56	560890	Twine, cordage or rope; knotted netting, of other than man-made textiles
58	580123	Fabrics; woven pile, of cotton, weft pile fabrics other than uncut and corduroy, other than fabrics of heading no. 5802 or 5806
58	580133	Fabrics; woven pile, of man-made fibers, other weft pile fabrics, other than fabrics of heading no. 5802 or 5806
58	580220	Fabrics; terry toweling and similar woven terry fabrics, of textile materials, excluding cotton, excluding narrow fabrics of heading no. 5806
58	580430	Lace; hand-made, in the piece, in strips or motifs, (other than fabrics of headings 60.02 to 60.06)
58	580631	Fabrics; narrow woven fabrics, n.e.c. in heading no. 5806, of cotton (excluding goods of heading no. 5807)
58	580632	Fabrics, narrow woven fabrics, n.e.c. in heading no. 5806, of man-made fibers (excluding goods of heading no. 5807)
58	581100	Quilted textile products; in the piece, composed of one or more layers of textile materials assembled with padding by stitching or otherwise (excluding embroidery of heading no. 5810)
60	600191	Fabrics; pile fabrics (excluding long pile and loop pile), of cotton, knitted or crocheted
60	600631	Fabrics; knitted or crocheted fabrics, other than those of headings 60.01 to 60.04, of synthetic fibres, unbleached or bleached

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