Political Tariff Protection in Iran`s Agriculture Sector

Yaser Feizabadi

Assistant Professor at Islamic Azad University -Ghaemshahr Branch ,
Department of Agricultural Economics
E-mail : Yaserfeiz@yahoo.com

Abstract :

The superiority of free trade is one of the profession`s most cherished beliefs, yet international trade is rarely free. In this paper ,firstly, tariff protection trend of Iran`s agriculture sector is analysed by statistical analysis approach during the years 1985-2005. Agriculture`s tariff regime is characterized by i) high average tariff ii) extremely dispersion of tariff levels across tariff lines iii) significant amount of tariff escalation and ix) deep gap between average nominal tariffs and import-weighted average tariffs. consequently , Several analytical propositions are derived that are consistent with the observed patterns of tariff protection in developing countries : i) nominal protection rates escalate with the degree of processing ii) higher average tariff protection in agriculture sector compared to developed countries` agriculture and iii) higher non-agricultural tariff protection than agricultural tariff protection. Afterwards Tariff equation of agriculture in year 2006 is estimated for 156 staple products and political fitted tariff and political protection indicator are estimated for these products. This political-economy analysis allows us to identify two sets of protected products : First, Over-protected products are those which their actual tariffs are higher than their Political fitted tariffs. Tariff reduction should not be Politically costly and could be more speedy. In this case tariff reduction would improve resources allocation and income distribution (poverty reduction) within the agriculture sector. Second, Under-protected products are those which their actual tariffs are lower than their Political fitted tariffs. Most of agricultural crops are included in this group. Tariff reduction in this case is Politically costly and longer adjusted period may be necessary .

Introduction :

Perhaps no other area of economics displays such a gap between what policy makers practice and what economists preach as does international trade . Iranian economic history has been influenced by import substitution industrialization approach to development and consequently Agriculture Sector has been ignored compared to industry sector .It has led to dramatic interference of government in economic activities, specifically in the field of trade policies. Iranian tariff regime is characterized by high average tariff (nominal and import-weighted tariff) , an

extremely high dispersion of tariff levels across tariff lines and a significant amount of tariff escalation.

Tariff Structure Characters for Agriculture Sector during 1985-2005 is shown in table1. As table indicates , average nominal tariff is dramatically high with huge fluctuations over the period. The maximum rate of tariff is closed to %100 over the first years of period and it`s minimum is equal to %25 over 1995-1997.

It is obviously seen that agriculture tariff rates are much higher than developing and developed countries`s Agriculture sectors. (see appendix , table 4). Import-weighted average tariffs have also had the same trend and analysis as nominal tariffs. Highest Import-weighted average tariff belongs to year 2001(%54.07) while the lowest belongs to year 1998(%1.64) . The most surprising thing is that there is a deep gap between average nominal tariffs and average Import-weighted tariffs . To get down to the details , this finding would be explained by this fact that some line`s import have been banned by law (i.e.: Alcoholic beverages and Pork) but they have had unreasonably high tariff rates while their Import-weighted tariffs have been slight or even zero. It will definitely mislead the commentators and lead to poor judgement about tariff structure . In addition, as column 4 obviously shows ,the standard deviation of tariffs over first years of period are closed to %100,which indicates a high degree of dispersion in it`s tariff structure . The most salient feature of tariff structure is the degree of tariff escalation[1] , i.e. , tariffs are higher for processed products than raw material During the period . Tariff escalation can be found across all tariffs lines(see Appendix, table 5) .While not particular to specific lines, tariff escalation is rather significant in processed fruits and vegetables such as Maize Oil, Olive Oil, Processed Cereal, Bakery Products, Processed Potato, Fruit Juice and Processed Vegetable. Given the discussion above, it is not surprising that most distorting tariffs are found in processed products, where the tariff range is between 0-100 .The last column of table shows the number of Tariff lines. Since Brussels nomenclature tariff system has changed to HS 6-digit system in 1997, the number of tariff lines has risen to 684 lines . In year 2003, HS 6-digit system changed to HS 8-digit system which caused a rise in tariff lines to 709 lines. In the end, these lines exceeded 1000 lines in 2005 .

---

[1] . The classification of different stages of production was calculated according to WTO filter used in Trade Policy Review.

These differences point to the relatively restrictive tariff structure in Agriculture sector .As Regard above-mentioned issues, three propositions are derived that are broadly consistent with the stylized and observed patterns of tariff protection in developing countries (see Appendix, table 4 and 5) : i) nominal protection rates escalate with the degree of processing in favor of fully- processed products and wholesalers rather than first stage- processed products, farmers and smallholders ii) higher average tariff protection in agriculture sector compared to all developed countries agriculture sector (and even many developing countries agriculture sector) and finally often iii) higher agriculture sector`s tariff protection compared to non-agriculture sector`s tariff protection in which agriculture sector (particularly smallholders) are hurt as a result of government`s industrial protection (as it is shown in figure below).

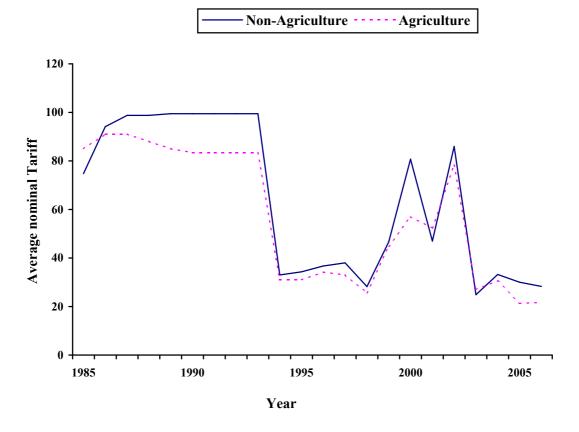**Figure 1:Tariff Protection trend of Agriculture sector compared to Non-Agriculture Sector**

Table 1 : Tariff Structure Characters for Agriculture Sector (%)-Iran

Tariff Year	Average Nominal Tariff	Average Import-weighted Tariff	Standard Deviation	Tariff lines
1985	74.78	22.22	8.65	516
1986	94.1	26.8	90.81	520
1987	98.76	15	92.35	525
1988	98.76	12.99	93.42	525
1989	99.44	18	93.42	525
1990	99.44	16.75	93.42	525
1991	99.44	16.75	93.42	525
1992	99.44	30.34	93.42	525
1993	99.44	30.7	93.42	525
1994	25.04	2.88	20.91	525
1995	25.04	2.84	25.58	525
1995	25.04	1.75	25.58	525
1996	28.14	1.8	26.82	684
1997	28.21	1.64	26.80	686
1998	46.68	4.56	36.77	686
1999	80.74	4.38	69.72	687
2000	46.96	54.07	71.74	687
2001	85.98	10.36	64.04	687
2002	24.85	8.35	23.47	687
2003	33.22	11.3	25.97	709
2004	30.6	11.7	25.06	928
2005	28.3	13.1	25.37	1036

Source: Research results

Methodology :

Political Economy of Tariffs

High tariffs appear consistent with the political economy equilibrium in Iran .To assess the political cost that tariff reduction may induce, one first needs to understand what determines the Iranian tariff structure. We follow the empirical on endogenous tariff formation .

The theory of endogenous protection describes how a combination of agent`s preferences over trade policy and the weight given to different group's preferences may translate into deviations from first-best trade policies . Here we briefly summarize the main results of the theoretical and empirical literature[1]. We then use this framework to identify sectors in which tariffs are above their political fitted value , which in turn indicates that tariff reductions should not be costly .[2]

General Predictions

The predictions of the correlates of expected cross-sectoral variations in tariff protection are presented below. Other things equal , the level of protection received by an industry is higher :*[3]*

- *The higher the level of industry concentration*[4]. This captures free-riding incentives a`la Olson.

[1] . For recent review of the empirical and theoretical literature, see Rodrik (1995) . For recent empirical literature applied to the region see Rama (1994). For alternative approaches to the theory of endogenous protection, based on " social insurance" for example, see Hillman (1989) .

2 .Due to data constraint, the analysis focuses on manufacturing exclusively .

[3] All these results are also well documented in the empirical literature on endogenous tariff formation, see Rodrik (1995) . However, both the theoretical and empirical results are somewhat partial equilibrium, since they do not necessarily account for the simultaneity bias . for an empirical study that accounts for the simultaneity bias between imports and tariffs, see Trefler(1993). This aspect is neglected in the empirical section .

[4] See Rodrik (1987) for a theoretical justification and Trefler(1993) or Marvel and Ray (1983) for empirical examples. Note that there is both empirical and theoretical evidence that this need not be the case . On one hand, industry concentration allows to solve the free-riding problem. On the other hand , an increase in group size may result in higher group contributions (see Cornes and sandler ,1996) Moreover , the theory is not well-founded in empirical measures of industry concentration as shown by Hillman (1991) and Long and Soubeyran (1996). For ambiguous evidence on the relation between protection and industry concentration see Baldwin(1984).However, there is a general presumption that industry concentration leads to higher levels of protection and this is confirmed in the empirical section.

- *The lower the import penetration ratio*[1]. The rationale for this is that the lower the import penetration ratio , the lower the relative weight of consumers compared to producers in the government's objective function .[2]

- *The higher the degree of processing of the product*[3]. Here we capture lobbying rivalry. if sector *j* purchases goods from sector *i* then sector *j* will counter – lobby any increase in sector *i*'s level of protection . Thus, the higher the share of sector *i* production that is purchased by other sectors the smaller the endogenous tariff. Therefore, as long as consumers are not organized, consumer goods receive ,ceteris paribus, higher levels of protection than intermediate goods.

- *The higher the labor/capital ratio* [4]. Cadot et al .(1997) show that tariffs are higher in sectors where the share of capital remuneration in value added is large , after introducing lobbying rivalry on the labor market . A higher labor/capital ratio ,ceteris paribus, has two opposing effects on the share of capital remuneration in value added. On one hand, the direct effect tends to reduce it , as a higher labor / capital ratio obviously implies a smaller capital/labor ratio . On the other hand, a higher labor/ capital ratio implies a higher marginal productivity of capital relatively to labor which in turn raises the share of capital remuneration in value added . Under suitably general conditions , it can then be shown that the latter effect dominates the former if the elasticity of substitution between capital and labor is smaller then 1(which is a generally accepted value in the empirical literature).[5]

- *The smaller the share of intra-industry trade.*[6] Cadot et al.(1997) argue that the larger the share of intra – industry trade in total trade, the larger the elasticity of

---

[1] .See Grossmam and Helpman (1994) for a theoretical justification . this result has bees generally challenged on empirical grounds, as discussed by Rodrik (1995) . For empirical examples , see Anderson (1980) or Finger and Harrison(1994) .

[2] .To see this, note that $m/y = (c-y)/y = c/y-1$ where *m* are imports (or net imports) , *c* is consumption and *y* the level of production.

[3] .See Cadot et al. (1997) for a theoretical and Ray (1991) or Marvel and Ray (1983) for empirical examples.

[4] For empirical evidence, see e.g., Figner and Harrison (1994) and Rodrik (1995).

[5] In a two factor sector, the share of capital remuneration in value added is given by :
$\beta = rk /[wl+ rk] = 1/[wl/ rk+1]$, where *r* is capital wage , *k* is the amount of capital, *w* is labor wage and *l* is the amount of labor. Then $\partial\beta/\partial(l/k) = 1/[wl/(rk)+1]^2 \, w/ r(1+\sigma)$ where σ is the elasticity of substitution estimation of the elasticities of substitution between labor and capital generally yield values below one .

[6] For theoretical explanations see Cadot et al. (1997), levy (1997) and Marvel and Ray (1987) ; for an empirical example, see Marvel and Ray (1987).

import demand for goods produced in the domestic economy , and thus following Ramsey pricing rule, the lower the tariff (since the efficiency costs of a tariff is relatively large compared to the producers gain in that case). Marvel and Ray (1987) suggest an alternative explanation based on intermediate inputs counter-lobbying: they argue that intra – industry trade essentially arises among producers (purchase of intermediate goods), and as producers are more concentrated than consumers , they tend to be more efficient in combating protectionist pressures . Finally, Levy(1997) argues that an increase in intra–industry trade benefits all agents whereas an increase in inter–industry trade has the usual stolper–Samuelson redistributive effects and therefore are subject to more conflict and higher lobbying pressures .

If one assumes that labor markets are segmented in the sense that labor is better conceived as being mobile across a particular group of industries rather than across the economy as a whole , then it can be shown that the level of protection received by an industry is higher:

- *The lower the equilibrium wage in this sector.*[1] Cadot et al .(1997) show that the optimal endogenous tariff of each sector is positively related to the share of specific capital in total sales . Then, the wage in sector *I* (once we control for output and labor/capital ratios), the smaller the share of capital in total sales , and therefore the smaller the incentives to lobby in the political game .

Empirical specification

The Iranian tariff equation in agriculture sector is given by :

$$\text{Log } T_i = \alpha_0 + \Sigma \ \alpha_k \log \ pv_{i,k} + \mu_i$$

Where subscript *i* refers to 156 most important agricultural products aggregation of the HS 8-digit classification. T_i is tariff in product *i,* αs are parameters, $PV_{i,k}$ is the political economy variable *k* in product i , μ is the error term . The political – economy variables were listed above. The construction of these variables are given in the annex.

---

[1] . See Cadot et al.(1997) for a theoretical justification and Anderson and Ray (1987) and Ray (1991) for empirical examples.

Identification of over-protected and under – protected products

The political – economy analysis also allows us to identify over-protected and under – protected industries. The Indicator of over – protection (I_i) determined by the ratio of the actual tariff level (t_i) to the fitted value ($\hat{t}_i$) from the above estimation:

$$ I_i = \frac{t_i}{\hat{t}_i} $$

If the ratio is larger than 1 then this indicates that the product has a higher tariff level than what would have been predicted from the above estimation.[1]

We identify over-protected products are those where the value of the actual tariff is higher than the value predicted by the political economy variables described . This corresponds to all products for which the indicator in the third column of table 3 is above 1.

Results :

Estimation results for tariff equation of Iran's agriculture in year 2006 are reported in the table 2 below . The estimation method is OLS .The Labor/capital ratio has been omitted because of data lack. The overall fit of the equation is relatively good and variables tend to have the expected sign except for intra-industry trade. The reason for this is probably due to the fact that Iran tariff structure tends to highly protect capital intensive products .

The political-economy analysis also allows us to identify products where tariffs are above their political fitted value. We define these products as those where the tariff fitted value obtained is larger than actual applied tariff (i.e. , the indicator in the last column of table 3 is bigger then 1). The top over-protected lines are: Olive Oil, Maize Oil, Sweets, Macaroni, Biscuits, Pickles, Tomato Paste, Processed Olive, Processed Citrus, Fruit Juice and Ice Cream.

---

[1] Other political-economy variables, such as the share of public ownership were excluded of the analysis , but could be introduced if data was available at the industry level.

Table 2 :Estimation Results for Tariff Equation of Iran's Agriculture Sector

Variables	Parameters	Standard Error
Constant	61.48 ***	7.59
Concentration Index	0.0056 ***	0.001
Intra-Industry Trade	0.56 ***	0.058
Import Penetration Ratio	-1.39 **	0.643
Degree of Processing	7.36 ***	2.624
Wage	-0.005 *	0.0005

* .**.and.*** are significant at 10 ,5 and 1 percent level respectively.

$R^2 = 0/65$ Method : OLS   Number of Observation = 156

Source: Research results.

These are all products where the average tariff is above 30 percent. Given that they tend to be relatively over – protected , as suggested by the political economy variables , tariff reductions should not be politically costly[1].

Moreover, all these products consist of processed products which implies that tariff reductions will also reduce the extent of tariff escalation in Agriculture`s tariff structure (see table 5) , contributing to efficiency gains due to resource reallocation and income distribution. With the exception of Biscuit, Sweets, Tomato paste, these over – protected sectors are not involved in export activities (see table 3). The high levels of protection are distorting the allocation of resources to these activities in which Agriculture Sector has apparently a low comparative advantage. Reallocating resources from these sectors to the rest of the economy by lowering tariffs in these over-protected sectors should therefore, not only have a low political cost, but also provide a boost on exports of products in which agriculture sector has a comparative advantage.We define under-protected products as those where the tariff fitted value obtained is not larger than actual applied tariff (i.e. , the indicator in the last column of

---

[1] . This statement relies on the assumption that non crucial political economy variable for any of these sectors has been ignored.

table 3 is smaller then 1).The top under – protected sectors (i.e, those for which the indicator in table 3 has the lowest values) are: Milk, Yoghurt, Egg, Tomato, Carrot ,Cucumber, Eggplant, Saffron, Barley, Maize, Rice and Cotton. These are all sectors in which the average tariff is below 10 percent and therefore should not be affected by a tariff reduction that reduces the highest tariffs. The results obviously indicate that most of agricultural crops(first stage processed products) have been Under-protected, so poor farmers and smallholders have been hurt from the lack of government`s tariff protection. However, there are some products that have average tariffs above or equal to 30 percent and for which the value of the political indicator in table 3 is below 1. These are products in which tariff reduction will be politically costly and a longer adjustment period may be necessary. Note that all these products consist of fully-processed or semi-processed products .These lines consist of Sauce, Processed Vegetable, Processed Potato, Peanut Oil, Rice Mill, Wheat Mill. Long-run tariff reduction in these cases will alleviate inequality and poverty within Agriculture sector. Moreover, some of these products export a significant amount of their domestic production. Tariff reductions in these sectors will probably lead to within agriculture reallocation of resources from inefficient producers that sell within the domestic market to more efficient producers that aim towards foreign markets. Some products such as cacao powder, olive and maize oil are included in this group. Given that within agriculture reallocation implies relatively low adjustment costs, the adjustment period for these products could be shorter.

By careful attention to the table 3 , it is easily recognized that some products have received high tariff protection in spite of their low import penetration ratio(Sausage, Processed Peanut, Fruit juice, Sauces, Ice cream, Processed Vegetable, Bakery Products,…). In this case, neither producers nor government gain from high tariff protection, but it raises the gap between average nominal tariff and average Import-weighted Tariff (see column 2 and 3 in table 1). Tariff cuts for these products rationalizes the tariff protection structure in agriculture sector.The remaining lines show little export activities. Reducing tariffs in these products (in the medium run to

allow for costly adjustment) will cause reallocation of resources into more efficient products with a more outward oriented production structure. As regard smallholders are more vulnerable than full-processed producers, For subsistence agriculture, domestic protection policies should replace tariff protection policy.

Conclusions :

Iranian economic history has been influenced by government`s interference in favor of industrial and fully-processed products rather than agricultural crops. This paper provides a political economy analysis of tariff reduction trend in favor of subsistence Agriculture in general and it`s specific products in order to improve the income distribution within this sector. The theoretical and empirical models were presented and results were discussed.

After a brief overview of the past tariff policy , the theoretical basis for our analysis are presented and empirical model and results were discussed and finally tariff equation, over-protected and under-protected products were identified.

These results suggest devising a long-run political tariff structure in which trade reforms and rational tariffs reduction are aimed so as to inequality decreases in this sector. For this reason , Tariff equation for agriculture sector is estimated for 156 staple products out of 24 section according to Agreement On Agriculture(AOA) by OLS method and Eviews-3 software. Political variables as independent variables in tariff equation include concentration index , Import/output ratio, Intra-industry trade, degree of processing and wage. The overall fit of the equation is relatively good and variables tend to have the expected signs , at high significance level. Afterwards, political fitted tariff and political protection indicator are estimated for all products. This political-economy analysis allows the identification of two sets of highly protected products : those in which tariff reduction are going to be politically difficult (such as Sauce, Processed Vegetable, Processed Potato, Peanut Oil, Rice Mill, Wheat Mill) and those in which tariff cuts are not politically costly (such as Olive Oil, Maize Oil, Sweets, Macaroni, Biscuits, Pickles, Tomato Paste, Processed Olive, Processed Citrus, Fruit Juice, Ice Cream). The first group could be given a longer adjustment period. For the second group tariff cuts could be more speedy.Both groups include semi or fully processed products. In both cases tariff reductions would improve resources allocation and efficiency in this sector. The rest of results obviously indicate

that most of agricultural crops (first stage processed products) have been Under-protected, so poor farmers and smallholders have been hurt from the lack of government`s tariff protection. Since, farmers are much more vulnerable than full-processed producers, domestic protection policies ought to replace tariff protection. Lastly, special effort should be made to reduce external tariffs on semi and full-processed goods in favor of agricultural crops and smallholders. Therefore, the Iranian authorities should consider speeding up the tariff cuts to mitigate an effective rates of protection. It would cause fairer income distribution (poverty reduction) within the agriculture sector .

References :

1) Anderson,k.(1980), " The political market for government assistance to Australian manufacturing industries ", the economic record, 56,132-144.

2) Baldwin, R.(1969), " The case against infant-industry promotion", Journal of political economy. 77: 295-305

3) Baldwin, R.(1976), " The political economy of post war US trade policy" ,The bulletin . No 4 New York university graduate school of business administration.

4) Baldwin, R.(1989), " The political economy of free trade" ,Journal of economy perspectives , 3: 119-135

5) Baldwin, R.(1991), " The political economy perspective on trade policy" in A.Hillman,ed, Markets and politicians: politicized economic choice, Boston.

6) Baldwin, R.(1984), " Trade policies in developed countries ", in : R.W.Jones and P.B. kenen, eds., Handbook of international economics, North-Holland, Amesterdam.

7) Cadot,O.(1997), "Lobbying and the structure of protection" , CEPR discussion paper.

8)Finger , M. and A. Harrison (1994), " The MFA paradox :More protection and more trade ? ", mimeo ,The world bank , Washington, Dc

9) Grossman,G. and E.Helpman(1994), "Protection for sale ", American Economic Review 84,833-850.

10) Hillman A.L (1989), " The political economy f protection" , Harwood academy publisher , London .

11) Hillman A.L (1991)," Market structure, politics and protection" in. Helpman and A.Razin, International and trade policy , MIT press

12) Levy, P,I. (1993 a),"Lobbying and international cooperation in tariff setting", Unpublished paper, Stanford university.

13) Levy, P,I. (1993 b),"A political economic of free trade agreement", Unpublished

14) Marvel, H. and J. Ray (1983), " The kennedy round :Evidence on the regulation of trade in the US ",American economic review 73, 190-197

15) Marvel, H. and J. Ray (1983), " Intra-industry trade : Sources and effects on protection" , Journal of political economy" 95 ,1278-1290

paper, Stanford university.

16) Marvel, H. and J. Ray (1983), " Intra-industry trade : Sources and effects on protection" , Journal of political economy" 95 ,1278-1290

17) Rama,M (1994), "Endogenous trade policy : A time series approach " ; Econometrics and politics 6, 215-232

18) Ray, E. (1987), " The impact of special interests on preferential trade concessions by the US" ;Review of economics and statistics 69, 187-195

19) Ray, E. (1991), " Protection of manufactures in the US ",in the green away,Global protectionism : Is the Us playing on a level field? ,Macmillan ,London

20) Rodrik, D (1995), " Political economy of trade policy" in: G. Grossman and K.roggof.eds.,Handbook of international economics III, North Holland, Amasterdam.

21) Rodrik, D (1987), "Policy targeting with endogenous distortion :Theory of optimum policy revisited" , quarterly journal of economics 102, 903-910.

22) Trefler, D(1993), "Trade liberalization and the theory of endogenous protection", Journal of political economy 101, 138-160

Appendix 1 :

Table 3: Political Economy of Tariff and Trade Description for some selected products, (HS 8-digit classification)

Tariff Line	Output	Import/Output Ratio	Export/Output Ratio	Actual Tariff	Political Fitted Tariff	Political Economy Indicator
02010000	Beef	0.23	0	50	25	2
02040000	Lamb	0	0	50	40	1.26
02070000	Chicken	0.001	0.0011	50	47	1.055
04010000	Milk	0	0.00003	4	5	0.74
04202190	Cream	0.067	0.00007	30	45	0.66
04031000	yogurt	0	0.0024	4	28	0.14
04050000	Butter	16.1	0.0461	20	8	2.47
04060000	Cheese	0.0008	0.0033	70	38	1.82
04070000	Egg	0.00008	0.0012	10	34	0.29
04090000	Honey	0	0.0351	100	34	2.92
06030000	Flowers	0.0003	0.1212	100	68	1.47
07010000	Potato	0	0.2527	30	26	1.17
07020000	Tomato	0	0.0042	20	69	0.29
07031000	Onion	0.00001	0.0234	30	39	0.76
07032000	Garlic	0.0095	0.0129	100	50	2
07061000	Carrot	0	0.0102	20	58	0.34
07070000	Cucumber	0	0.0199	20	34	0.58
07093000	Eggplant	0	0.0365	20	25	0.81
07095100	Mushroom	0	0.00047	20	23	0.85
07096000	Pepper	0	0.0483	20	23	0.85
07011200	Olive	0.0175	0.0006	20	23	0.85
07131000	Pea	0.0003	0.2824	15	9	1.59
07131300	Bean	0.0004	0.0057	30	24	1.23
07134000	Lentil	0	0.0006	30	26	1.13
07802130	Almond	0.237	0.0171	100	87	1.14
08023000	Nut	0.0005	0.801	100	74	1.35
08025000	Pistachio	0	0.815	100	77	1.29
08030000	Banana	4.44	0.0015	70	62	1.12
08041000	Date	0	0.0957	70	63	1.104
08042000	Fig	0	0.1036	50	71	0.705
08051000	Orange	0	0.0092	50	44	1.125
08052000	Tangerine	0	0.0245	50	50	1
08055000	Lemon	0	0.0024	40	36	1.108
08060000	Grape	0	0.0499	40	44	0.903
08070000	Melon	0	0.0051	40	36	1.104
08081000	Apple	0	0.0273	50	44	1.127
08082000	Pear	0	0.0017	40	45	0.88
08091000	Apricot	0	0.0031	40	35	1.127
08092000	Cherry	0.00009	0.0026	50	43	1.164
08093000	Peach	0	0.0003	40	45	0.897
08094000	Plum	0	0.001	50	41	1.206
08101000	Strawberry	0.002	0.0053	50	45	1.103

Tariff Line	Output	Import/Output Ratio	Export/Output Ratio	Actual Tariff	Political Fitted Tariff	Political Economy Indicator
08102000	Mulberry	0	0.00002	50	45	1.117
08105000	Kiwi Fruit	0	0.7	40	47	0.854
08130000	Dried Fruits	0.0779	0.2364	50	60	0.847
09020000	Tea	0.161	0.0831	40	34	1.168
09094000	Cumin	0	0.4863	50	34	1.459
09102000	Saffron	0	0.8	15	35	0.433
10010000	Wheat	0.011	0	4	3	1.387
10030000	Barley	0.287	0	4	2	0.5
10050000	Maize	1.038	0.00007	4	9	0.470
10060000	Rice	0.449	0.00005	4	5	0.825
11010000	Wheat Mill	0	0.00019	30	35	0.815
11022000	Maize Mill	0.0074	0	10	18	0.542
11023000	Rice Mill	0	0.006	30	35	0.857
11029000	Barley Mill	0	0.00004	15	20	0.764
12021000	Soya	4.643	0.1444	4	4	1
12020000	Peanut	8.765	0.0048	30	27	1.126
12050000	Colza	0.0072	0	4	7	0.552
15071200	Soya Oil	3.154	0.0578	4	10	0.413
15089000	Peanut Oil	0.042	0.0111	30	34	0.881
15091000	Olive Oil	0.052	0.00036	50	36	1.388
15152900	Maize Oil	0.116	0.0167	50	42	1.185
15155000	Sesame Oil	0.0089	0.0036	15	19	0.779
16010000	Sausage	0	0.00013	50	37	1.354
17010000	Sugar	0.122	0.00026	4	20	0.201
17040000	Sweets	0.0024	0.3878	70	37	1.911
18050000	Cacao Powder	0.44	0.00007	30	45	0.667
19022000	Macaroni	0.0048	0.0029	70	42	1.652
19040000	Processed Cereal	0.0073	0.0446	50	50	1
19050000	Bakery Products	0.00007	0.0265	50	50	1
19053100	Biscuit	0	0.1932	50	45	1.107
20011000	Pickles	0	0.0471	50	45	1.117
20020000	Tomato Paste	0	0.1989	70	55	1.269
20041000	Processed Potato	0.012	0.0028	50	64	0.871
20050000	Processed Vegetable	0.00084	0.0028	50	51	0.981
20057000	Processed Olive	0.00876	0.002	50	44	1.127
20071000	Marmalade	0.0276	0	15	34	0.432
20081100	Processed Peanut	0.00016	0	50	45	1.102
20083000	Processed Citrus	0.00018	0.0362	50	45	1.110

Tariff Line	Output	Import/Output Ratio	Export/Output Ratio	Actual Tariff	Political Fitted Tariff	Political Economy Indicator
20090000	Fruit juice	0.0007	0.0123	70	57	1.218
21032000	Sauces	0.00219	0.0023	50	83	0.605
21050000	Ice cream	0	0.0084	50	44	1.124
22090000	Vinegar	0.00031	0.0267	30	27	1.099
24020000	Cigarette	1.08	0.0165	4	3	1.164
24030000	Tobacco	49.93	0.04	10	13	0.764
52010000	Cotton	0.0469	0.00002	4	8	0.502

Source: Research results.

Table 4: Tariff escalation in developing and Industrial countries` Agriculture Sector[1], 1997-99 (Unweighted Averages in %)

Stage of Production	Developing	Industrial
First Stage Processing	19.0	5.2
Semi-processed	26.3	5.4
Full-processed	29.6	5.8
Ratio of countries without escalation to sample size	4/37	1/7

Source : WTO 2000 Integrated Data Base CD-ROM and WTO Trade Policy Review,Various issues

Table 5 : Tariff escalation in Iran` Agriculture Sector, 1985-2005(Unweighted Average in %)

Output	Tariff	Average Nominal Tariff		Average Import-Weighted Tariff	
		Maximum	Minimum	Maximum	Minimum
Raw Materials	Meats	59.91	14.45	149.88	0
	Vegetables	74.1	11.36	53.74	3.7
	Cereals	17.69	2.64	50.74	0.73
	Fruits and Grains	45.57	6.36	51.103	0.5
Processed Products	Processed Meats	212.81	25	172.82	0
	Processed Vegetables	200	0	200	0
	Processed Cereals	146.25	21.25	200	23.15
	Processed Fruits and Grains	61.03	13.47	150.28	0.8

Source: Research results.

---

[1] . Including 37 Developing countries and 7 Industrial countries (European Union is considered as one country)

Appendix 2 : Variables Construction

Tariffs : The endogenous variable corresponds in all equations to the nominal tariffs for selected products of the HS 8-digit classification.

Concentration Index : (Output of the agriculture sector /number of firms in agriculture sector)/ (Output in product i /number of firms in product i)

Import Penetration Ratio : Import/gross output

Level of Processing : The average of the level of processing determined by WTO TRP at the HS 8-digit classification. The WTO classification gives a value of 1 to first stage processing goods, a value of 2 to semi-processed goods and a value of 3 to fully-processed goods.

Intra-industry Trade : 1-[(Import + Export)/(Import - Export)]

Wage : Labor cost /number of employees