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The EU Custom Union on Trade Specialisation and Labour Market: Implications for Turkish Industries

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ABSTRACT

The purpose of this paper is to analyze the labor market implications of the EU Custom Union membership of Turkey by using detailed trade data and presenting a geometric tool on trade specialization. Theories suggest that trade expansion through integration may create inefficiency in labor market due to rigidities in factor prices and mobility of factors. Different formation of trade, such as intra-industry trade (IIT, the export and import of similar goods) may, however, entail smaller labor-market adjustment costs than inter-industry trade. Results show that Turkish membership to the EU Custom Union has not improved the specialization procedure in trade. Results further imply that labor market has encountered big adjustment problems.

1. INTRODUCTION

The EU custom union membership of Turkey established a partial free trade environment, effective from January 1996 onwards, for the purposes of eliminating barriers to trade, promoting conditions of fair competition in free trade, increasing new investment opportunities, and establishing a framework for further regional and multilateral cooperation.

Any type of an economic integration, however, may entail a considerable amount of economic adjustment in the country entering, because it encourages specialization across rather than within industries Clark (2002). Theories points out that new formation of trade may shift

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jobs among industries while leaving many jobless due to trade and labor market specializations.

Labor market adjustment problem will be resulted in unmatched supply and demand conditions and it revolves around job gains and job losses and the subsequent need for workers to relocate. Trade expansion may create this inefficiency in labor market due to rigidities in factor prices and mobility of factors. While trade expansion may result in temporary inefficiencies in labor market, intra-industry trade (IIT, the export and import of similar goods) may, however, entail smaller labor-market adjustment costs than inter-industry trade.

Recent empirical papers use measures of change in intra-industry trade as indicators of labor market adjustment. The different indices of IIT have been suggested. Hamilton and Kniest (1991), Greenaway *et al*. (1991, 1994, and 2002) and Brülhart (1994) link the various types of IIT to the adjustment issues. Some authors point out that trade liberalization will induce factor reallocation within rather than between industries. Common assertion from trade economists is that reallocation within sectors less costly than between sectors. The approach emphasized in this paper takes this idea which is known as *smooth-adjustment hypothesis* (SAH). According to SAH, workers previously employed in "declining" sectors are more mobile than those employed in "expanding" sectors, and individuals who are more likely to switch sectors the longer they are unemployed. A plausible explanation for this is that individuals initially attempt to find jobs that complement their general and specific skills in order to accrue the associated rewards, and move sector only as this prospect diminishes (Haynes, Upward, and Wright, 2000).[i]

This paper connects trade specialization to labor market adjustment process to explain the effects of the EU custom union membership of Turkey. The research takes the trade-box approach of Azhar (2003), Azhar *et al*. (1998), and extends the work of Clark (2002) in two directions: First, it uses detailed data on exports and imports for 1000 product groups, on average, and second, it analyzes the dynamics of the process of these data to see the year-by-year change in the intra-industry-trade (called as Marginal Intra Industry Trade, MIIT) and its different formations. Both extensions are expected to give some implications for the labor market adjustment.

The paper is organized as follows. Section 2 explores different measures of IIT and changes in IIT for the Turkish economy, and uses trade-box approach for each industry in a dynamic fashion. The effects of custom union membership and adjustment implications with results are presented in Section 3. Conclusions are set out in Section 4.

2. INTRA-INDUSTRY TRADE (IIT) AND SMOOTH ADJUSTMENT HYPOTHESIS (SAH)

The intra-industry-trade and Smooth-Adjustment-Hypothesis connection is emphasized first by Balassa (1966). In his pioneering study, he pointed out that the connection between free trade and adjustment problem has been crucial and hidden in trade components. Azhar and Elliot (2003) state that if increases in trade are *intra*-industry in nature, the adjustment costs in labor market will be less forbidding. This is because resource transfers as a result of sectorally matched increases in imports and exports probably occur within individual industries or within possibly firms.[ii] It, however, remains a basic question whether evidence of increases in intra-industry-trade, as measured in conventional ways, provides a sufficient basis for accurate inferences about adjustment.[iii]

There is relatively lack of empirical evidence of the trade related (trade-induced) shifts in the composition of demand on industry employment. Milner and Wright (1998) investigate labor market responses to trade liberalization in an industrializing country approach and find empirical support for the differential responses between sectors. In general, they commented that opening to trade might affect competition as well as both efficiency with which all firms use factors and the distribution of output within a sector between more or less efficient firms.

Different types of trade are captured in measurements of intra-industry trade: Horizontal trade in similar products with differentiated varieties, trade in vertically differentiated products distinguished by quality and price, and vertical specialization of production resulting in trade in similar goods at different stages of production (OECD 2002). The direct connection between trade and its adjustment implications is given by Greeneaway and Hine (1994), Brülhart and Elliot (1996, 2002), Brülhart and Hine (1999), Lovely and Nelson (2000 and 2002), among others. All emphasize the role of trade by using its variants as the change in intra-industry-trade. In this line, Azhar, Elliott, and Milner (1998) present a very useful geometric comparison of the empirical properties of the various change in intra-industry-trade called as marginal intra-industry-trade indices. Brülhart (1999) details this analysis and reviews the corresponding measures in empirical results, with a particular reference to adjustment issues. Lovely and Nelson (2002) argue, however, that there is a fundamental problem in underlying link between the measures of marginal intra-industry-trade and measure of labor adjustment. The corresponding problem stems from the fact that changes in labor allocation reflect changes in production structure, while changes in trade patterns reflect changes in production and demand creating a false alarm for this connection.

The common measure that is intensively used for the analysis of the share of intra-industry-trade in total trade is the Grubel-Llyod index

(GL) (Grubel, Lloyd, 1971) or one of its variants. Letting X_k and denote M_k exports and imports of commodity *k*, GL index of intra-industry-trade in sector *k* is given by

$$GL_{kt} = \frac{IIT_{kt}}{TT_{kt}} = \frac{X_{kt} + M_{kt} - |X_{kt} - M_{kt}|}{X_k t + M_{kt}} = 1 - \frac{|X_{kt} - M_{kt}|}{X_{kt} + M_k t}. \quad (1)$$

GL_{kt} gives IIT as a share of total trade in commodity *k* at time t, and takes the value between 0 (all trade is IIT) and 1 (al trade is inter-industry).

Representing GL index along with other trade measures as a function of trade ratio provides us with a means of analyzing periodic changes in the share values of IIT relative TT. We follow Azhar *et al*. (1998) approach and correspond it to the adjustment issue using trade-box representation.

Let X>M and the trade ratio is,

$$\frac{X}{M} = r_x \quad (2)$$

Then, we may represent the GL index in terms of trade ratio as,

$$GL = \frac{2}{r_x + 1}. \quad (3)$$

Here we use the fact that, if X>M then absolute difference between X and M will be equal to each other. Substituting the value $X = r_x M$ into the GL formula, we obtain equation (3). Analogously, if X<M, one may illustrate that,

$$GL = \frac{2}{r_m + 1}\ , \quad (4)$$

where, $r_m = M/X$ now. Eliminating the corner solution, where either of X or M is zero, for any trade point on the space, the equality

$$\frac{IIT}{2} = \frac{TT}{r+1} = \frac{NT}{r-1} \quad (5)$$

holds. Here, TT and NT stand for total trade and net trade, respectively. The trade ratio, r, is represented without subscript because the relationship holds for X>M or M>X. This fundamental relationship enables us to measure the dynamic of IIT in each trade flow.

Table 1 gives a sample relationship between ratios and volumes. It gives the export-import ratio and corresponding shares of IIT and NT in total trade. Between (where the corresponding) and the export axis, the total trade share of net trade will be greater than that of IIT. This implies that, if an industry moves toward this direction the increase in the share of IIT will be less than that of NT. As long as the industry is

net exporter, however, adjustment problem is not expected. The things get opposite when industry switches from the net exporter position to the net importer one. Even though the GL index may show the equal share of ITT in both cases, some degree of adjustment issue may come to the scene. In those cases, resource reallocation will be necessary because unmatched increases or decreases in export and imports may affect industry's total demand. When volume of exports and imports are equal to each other, the GL index will be 1 making total trade all IIT. As a result, IIT share in total trade will be greater than NT share in total trade.

The most important issue – the formation of a change in TT – has not been resolved yet. The corresponding changes in trade formation are crucial for the labor market adjustment problem. Figure 1 illustrates the big picture in a trade-box approach. It presents the encapsulation of exports and imports in the coordinate plane of an industry's trade-box. The dimension of trade-box is generated by the maximum value of either import of exports in the period of analysis. There are different labor market implications of each area in the box. The GL index is, for example, equal to 1 on the 45° degree-line representing the combinations of perfectly matched two-way trade. Similarly, the share of IIT in gross trade is constant along the so-called equi-GL lines. Equi-TT lines are the combinations trade points that have equal trade levels. Furthermore, on the equi-NT line net trade |X – M| is constant.[iv] The equi-IIT line illustrates the combinations of trade points that show equal absolute IIT values.

TABLE 1

Relation between Shares of IIT and NT in Total Trade

	r	IIT/TT	NT/TT	
	5	0.33	0.67	
	4	0.40	0.60	NT/TT>IIT/TT
r = X/M	3	0.50	0.50	
	2	0.67	0.33	
	1	1.00	0.00	NT/TT<IIT/TT
	2	0.67	0.33	
r = M/X	3	0.50	0.50	
	4	0.40	0.60	NT/TT>IIT/TT
	5	0.33	0.67	

3. CUSTOM UNION AGREEMENT AND ADJUSTMENT COSTS

Investigating the adjustment implication requires detailed examination of the change in trade ratios. Trade-box serves this information and its formation is in Appendix A. The box sets up the change in all trade-related-variables, with possible implications on labor market adjustments. It provides very useful information to see all trade formations and corresponding dynamic adjustment issues in a dynamic sense.[v] There are 8 regions in the trade-box shown in Appendix A. Four of them in the next exporter region that is to the left of 45 degree line which represents the combinations of perfectly matched two-way trade with GL index values equal to unity as aforementioned. The remaining regions V, VI, VII, VIII, and AP are in the net-importer region that falls symmetrically to the right of the same line. Industries in the net-exporter region are net expected to have adjustment problems in labor market. The net-importer regions represent ascending degrees of adjustment problem in the labor market from region V to AP. Regions I and II are in the net-exporter area where export volume shrinks when the economy starts at point A. Regions III and IV will still satisfy the net exporter position of the industry in analysis.[vi]

The *smooth adjustment hypothesis* suggests that if two consecutive trade points remain in the net exporter (NE) plane, an increase in net trade means that sector is doing well in its trade performance. In order to get the implications of trade-box approach let us assume that the economy starts at point A.[vii] The change in trade volumes, for example, will facilitate the economy to any of eight regions shown in Appendix A. It should be noted that the economy might not experience a large adjustment problem as long as it stays in the net-exporter (NE) regions. Thus the study concentrates on the net importer regions only to give the implications on the labor market adjustment.

A movement to Region V or Region VI from point A is associated with increases in both IIT and IIT/TT. Net trade falls in Region V and rises in Region VI so that the economy may feel some degree of adjustment problem since it switched from a net exporter to a net importer. In general, the increase in TT resulted from an increase in exports as well as imports may diminish adjustment pressures.

In Region VII, the conditions $\Delta GL < 0$, $\Delta IIT > 0$, and $\Delta NT > 0$ hold and imply that the economy feels potential labor adjustment problem. While IIT is positive, the change in TT is larger than that of IIT. For a large ratio of imports to exports (M/X), share of net trade (NT) in total trade (TT) will be larger than share of intra-industry-trade (IIT) in total trade (TT). According to the *smooth adjustment hypothesis*, adjustment problem is likely when NT growth exceeds that of IIT. The severity of adjustment problem mainly depends on the TT growth rate. If TT growth is large enough, IIT may grow more than NT grows. This

decreases the adjustment pressures even though the economy is in the NI region.

The biggest adjustment pressure may be felt in Region VII. Here, $\Delta IIT < 0$, $\Delta (IIT/TT) < 0$, and $\Delta NT > 0$. In Region VIII, exports fall and imports rise. Large increases in M/X are associated with declines in both IIT and IIT/TT. At the same time, industries experience increases in NT. Economies that move into Region VIII and BP have a pronounced comparative disadvantage. Thus, they are likely to experience substantial problems in the labor market. When the economy starts as a net-importer (NI), the formation of trade changes and adjustment problems may be interpreted accordingly.

The industry 5509, in Table 2 for example, starts as a net exporter with increasing export relative to starting point in 1990 for example. Although the regions sometimes changes, the industry stays net exporter until 2004. The industry 6503 is in Region VI in 1991 and experiences a trade volume decrease in 1992. The industry stays as a net importer and its position does not improve until 2004.[viii] Other industries or product groups can be synthesized accordingly.

4. RESULTS

The summary of a detailed analysis of 4-digit Harmonized System based on the OECD data on international trade for more than 1000 product groups of Turkish industries are presented in Appendix B. The summary of total 14 HS industries is obtained from the corresponding trade-box for each year.[ix] The numbers in each table show the percentage of the product groups in the industry and their regions in trade-box. Increasing percentage means that the corresponding product groups are poorly performing in trade and trade-related ratios defined earlier, thus, experiencing to some degree of labor market adjustment problem.

The data from 1990 to 1995 represent the pre-EU Custom Union membership period. Thus, one expects that trade creation and trade diversion effects of custom union membership take industries in a more advantageous positions (regions in trade-box). The advantage, of course, takes its root from the change in trade formation. As a result, labor market implications for each product group may be interpreted accordingly.

First table gives the percentages for all industries with number of product groups are presented for each year. Almost 70 percent of all product groups are net importers. The numbers do not show any improvements in net importer regions where labor market experience adjustment problems with changing degrees. AP (Adjustment Problem), that is the summation of Regions VI, VII, VIII, and BP, does not change form pre and post-membership era of Turkey to custom union. The

TABLE 2

A Sample Product Groups Representing Trade-Box Regions and Adjustment Process

Industry	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
5509	OK	OK	X	OK	OK	X	OK	OK	X	OK	OK	X	OK	OK
5510	BP	BP	OK	OK	X	OK	OK	OK	OK	X	OK	OK	OK	OK
5511	OK	OK	OK	X	OK	OK	OK	X	X	OK	OK	OK	OK	OK
5512	BP	VII	VII	BP	VIII	VI	VIII	BP	BP	VIII	BP	VIII	VI	VII
6503	VI	BP	VIII	BP	VII	V	BP	BP	BP	VII	BP	V	VII	BP
6504	BP	VI	VIII	V	BP	VII	VIII	BP	BP	VIII	BP	VI	VII	VI
6811	OK	OK	X	X	OK	BP	VI	BP	BP	V	BP	VIII	V	BP
6812	V	VIII	VIII	BP	VII	V	VIII	VIII	VIII	VI	V	VII	VII	VII
7313	VIII	BP	V	BP	VI	VI	VIII	VI	VI	VIII	BP	VI	VI	VIII
7314	X	BP	V	X	BP	V	BP	VIII	BP	BP	BP	V	VII	VII
8448	X	VII	VI	X	VII	VI	V	BP	VII	X	V	X	VII	BP

(X: Shrinks in Exports (Regions I and II). OK: Industry still net exporter (regions III, IV). V, VII, VIII are regions representing different degrees of adjustment problems. BP (Big Problem): Industry is net-importer with decreasing in trade volumes in Region VIII. Big Problem in labor market adjustment is experienced. All results are derived from 4-digit Harmonized System trade data (OECD). The product groups above are randomly selected).

numbers in BP (Big problem) Region are getting more volatile after 1996 implying that labor markets are encountering big problems.

In Animal and Animal Product group, 40 percent of product groups are net importer with almost experiencing adjustment problem. Mineral Product group is located in the more-troubled regions after 1996. The percentage of the group increases to mid fifties in percentage from lower fifties. Vegetable products are particularly important because the domain of the custom union agreement did not cover these groups of product. Short-run impacts can be seen right after 1996. For the following 3 to 4 years the percentage of the firms (product groups) increased to 20s from upper 10s. The share of firms in AP regions climbed to 40s and stayed constant afterwards.

Metals, and Machinery-Electrical product groups are having some improvements. Particularly, in the Metal industry, an increase in export performance in Regions III and IV are seen clearly, possibly decreasing the pressure on the labor market in this industry. In Machinery-Electrical product group, the percentage of firms declines in total adjustment problem (AP). The Transportation industry has some significant improvements in net-export regions wit a significant decrease in AP regions. There is no surprise here, simply because we see satisfactory investment level in the production of transportation vehicles in Turkey after the membership to the EU Custom Union. The same type of detailed analysis of all other product groups showed no significant improvements.

All results clearly arise many questions on the benefits of EU Custom Union membership. Additional questions may arise once we search for the effects of the membership to the EU.

4. CONCLUSION

This paper analyzed the effects of trade formation on the industrial adjustment of labor force in the Turkish industries. The research has drawn a panel of Turkish industries from 1990 to 2004 to examine the "smooth adjustment hypothesis" (SAH). The SAH states that intra-industry trade is associated with lower factor reallocation costs than inter-industry trade. We apply the trade-box approach that is related to implicit employment change for each industry.

An examination of various indicators of matched-trade in a trade-box shows that majority of Turkish Industries are still in the net importer plane and they appear to stay as the candidates for structural adjustment problems in the labor market. Results further imply that adjustment costs that are counted as short-run phenomena now appear to be a long-run problem for the Turkish industries.

There are some trade policy implications of the results: First, the study does not specifically indicate which groups of workers share the burden of adjustment costs. Governments, however, can reduce the adjustment costs if they underpin trade reforms indicated in international commitments and speed trade reforms. Second, they should adopt trade policies to reduce the burden by creating well functioning labor market and credit market to help displaced workers and companies. Third, countries like Turkey have to apply for pro-export policies to effectively adjust labor market to integration process.

The last point, we believe, is very important because the final stage of custom union process for Turkey will be the full membership to the European Union. We feel that in future years as the full membership approaches, trade policies toward decreasing the corresponding costs will be much more heavily applied with complicated issues. With given enough experience from the EU custom union membership, Turkey should discuss and investigate main markets and mechanisms influencing the size of adjustment costs and/or the efficiency of the adjustment process and take steps accordingly.

These results expose considerable scope for future works. Particular area to extend this work would be the investigating the matched-trade between countries in the service industry. This would be particularly important to test the robustness of the results. In addition, the impact of *economic unions* would be examined to illustrate the adjustment problems.

NOTES

i The models of the new trade theory are consistent with the smooth adjustment hypothesis. This result effectively stems from the fact that all the influential models explaining IIT through scale economies assume the products of an industry to be perfectly homogenous in terms of quantitative and qualitative factor requirements. Intra- industry adjustment costs are thus eliminated simply by assumption.

ii Three are basically three reasons why IIT might entail smaller labor market adjustment costs than inter-industry trade: First, the mobility of labor across firms and occupations might be greater within industries than between industries; second, relative wages might be more flexible within industries than between industries; Third, other production factors might be more mobile within than between industries (Brülhart and Traeger, 2004, p.3).

iii As Brülhart (2002) indicates, trade *per se* cannot be called a cause for adjustment costs. The size and pattern of trade flows are not exogenous. Rather, they are shaped by underlying factor endowments, demand patterns, technologies, income levels and policy regimes of trading countries. Labor is treated as a mobile factor, moving freely among subsectors of the economy. As in Lovely and Nelson (2000), we rely on the assertion that movement across industries is more "costly" to labor than movement between subsectors. We associate movements of labor between subsectors of a given industry with intra-industry, and thus low-cost, labor adjustment.

iv Here, trade and the GL index may change but NT may remain identical overtime.

v Restricting the analysis on two time periods, for example from 1992 and 2000 only, would have resulted in ignoring the time dimension of the trade formation. The picture, for example, shows that industries change their regional position in the trade box on the yearly bases frequently.

vi The table includes the agricultural products as well as manufacturing simply because any type of trade change may also shift the production factors from agriculture to manufacturing or vice-versa. There are simply two ways of looking at the table. One way is to see the change in net exporter-net importer plane; the second way is to observe the change in trade formation.

vii The analysis is independent of starting points.

viii Results for year-by-year changes are presented in the anlysis. Thus, the numbers and anlysis presented in 1991 should be read as the change from 1990.

ix The analysis has 14 trade-box for each year from 1991 to 2004.

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APPENDIX A

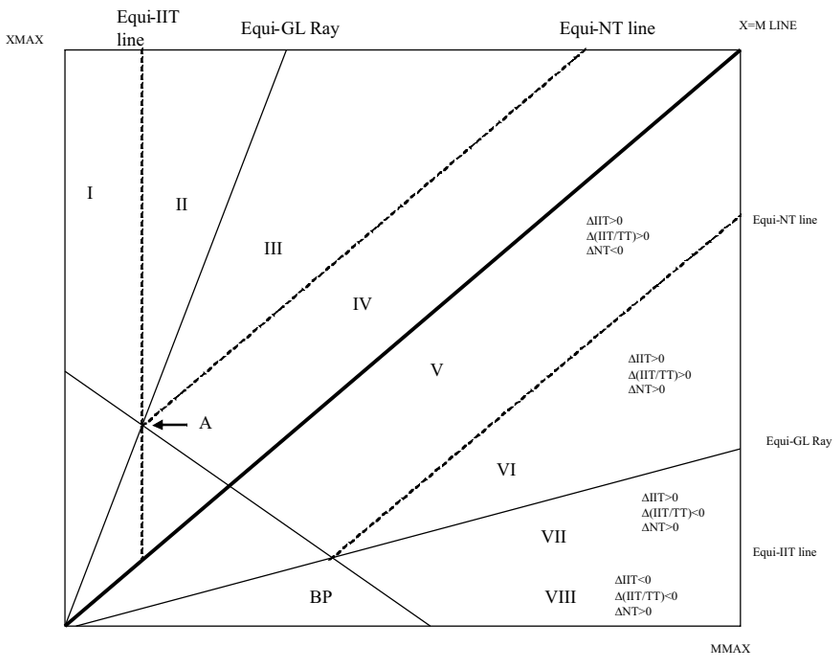

Figure 1. Industry Trade-Box

APPENDIX B

All Industries

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
X	0.15	0.12	0.14	0.12	0.06	0.09	0.10	0.16	0.22	0.14	0.18	0.09	0.05	0.06
OK	0.18	0.20	0.17	0.24	0.26	0.23	0.22	0.17	0.13	0.19	0.20	0.26	0.31	0.30
V	0.04	0.06	0.05	0.05	0.05	0.06	0.07	0.06	0.04	0.05	0.03	0.05	0.06	0.04
VI	0.10	0.19	0.17	0.08	0.17	0.21	0.15	0.11	0.04	0.14	0.03	0.17	0.19	0.20
VII	0.05	0.06	0.10	0.02	0.17	0.13	0.08	0.06	0.02	0.11	0.03	0.14	0.16	0.20
VIII	0.16	0.13	0.18	0.04	0.18	0.13	0.16	0.12	0.09	0.17	0.04	0.16	0.13	0.12
BP	0.32	0.24	0.19	0.44	0.10	0.15	0.22	0.32	0.46	0.20	0.49	0.14	0.11	0.09
n.obs.	931	934	955	986	1013	1055	1107	1091	1091	1083	1061	1047	1047	1065
net imp.	0.67	0.68	0.69	0.64	0.68	0.68	0.68	0.67	0.65	0.67	0.62	0.65	0.64	0.64
AP	0.63	0.63	0.64	0.59	0.62	0.62	0.61	0.61	0.61	0.62	0.59	0.60	0.59	0.60

Animal and Animal Products

X	0.41	0.11	0.27	0.21	0.17	0.29	0.16	0.48	0.35	0.31	0.30	0.11	0.12	0.18
OK	0.11	0.36	0.27	0.41	0.34	0.35	0.44	0.10	0.23	0.28	0.33	0.56	0.50	0.46
V	0.00	0.11	0.04	0.00	0.03	0.03	0.03	0.03	0.00	0.03	0.00	0.11	0.08	0.07
VI	0.04	0.11	0.04	0.03	0.10	0.03	0.13	0.00	0.03	0.13	0.00	0.04	0.04	0.07
VII	0.07	0.04	0.04	0.00	0.07	0.00	0.09	0.03	0.00	0.03	0.00	0.04	0.12	0.11
VIII	0.07	0.14	0.12	0.00	0.21	0.10	0.03	0.07	0.00	0.03	0.00	0.04	0.04	0.07
BP	0.30	0.14	0.23	0.34	0.07	0.19	0.13	0.28	0.39	0.19	0.37	0.11	0.12	0.04
n.obs.	27	28	26	29	29	31	32	29	31	32	30	27	26	28
net imp.	0.48	0.54	0.46	0.38	0.48	0.35	0.41	0.41	0.42	0.41	0.37	0.33	0.38	0.36
AP	0.48	0.43	0.42	0.38	0.45	0.32	0.38	0.38	0.42	0.38	0.37	0.22	0.31	0.29

Vegetable Products

X	0.32	0.36	0.29	0.31	0.15	0.16	0.21	0.36	0.40	0.33	0.27	0.18	0.08	0.22
OK	0.34	0.23	0.27	0.37	0.39	0.40	0.33	0.20	0.22	0.27	0.29	0.39	0.47	0.32
V	0.01	0.06	0.03	0.01	0.03	0.01	0.09	0.00	0.01	0.00	0.01	0.01	0.06	0.02
VI	0.03	0.07	0.05	0.07	0.11	0.12	0.04	0.04	0.06	0.07	0.02	0.11	0.14	0.17
VII	0.03	0.06	0.05	0.03	0.11	0.04	0.07	0.07	0.00	0.05	0.00	0.04	0.04	0.05
VIII	0.06	0.10	0.12	0.04	0.19	0.07	0.08	0.10	0.10	0.10	0.01	0.16	0.12	0.06
BP	0.21	0.12	0.19	0.17	0.03	0.20	0.20	0.23	0.21	0.19	0.39	0.11	0.09	0.15
n.obs.	71	69	75	75	74	82	92	90	90	86	82	80	78	81
net imp.	0.34	0.41	0.44	0.32	0.46	0.44	0.47	0.44	0.38	0.41	0.44	0.44	0.45	0.46
AP	0.32	0.35	0.41	0.31	0.43	0.43	0.38	0.44	0.37	0.41	0.43	0.43	0.38	0.43

Appendix B continues overleaf

Appendix B continued

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Foodstuffs														
X	0.07	0.25	0.20	0.18	0.15	0.19	0.26	0.35	0.44	0.36	0.37	0.22	0.04	0.13
OK	0.46	0.30	0.36	0.44	0.49	0.38	0.35	0.23	0.18	0.30	0.39	0.44	0.61	0.50
V	0.05	0.05	0.02	0.04	0.09	0.02	0.06	0.02	0.06	0.06	0.06	0.00	0.08	0.04
VI	0.02	0.07	0.13	0.09	0.11	0.12	0.07	0.00	0.08	0.04	0.00	0.06	0.04	0.08
VII	0.07	0.07	0.04	0.00	0.06	0.04	0.07	0.06	0.00	0.04	0.02	0.12	0.08	0.13
VIII	0.10	0.09	0.11	0.02	0.06	0.04	0.02	0.12	0.08	0.04	0.04	0.06	0.14	0.10
BP	0.22	0.18	0.13	0.22	0.04	0.21	0.17	0.23	0.16	0.16	0.12	0.10	0.00	0.02
n.obs.	41	44	45	45	47	52	54	52	50	50	49	50	49	52
net imp.	0.46	0.45	0.44	0.38	0.36	0.42	0.39	0.42	0.38	0.34	0.24	0.34	0.35	0.37
AP	0.41	0.41	0.42	0.33	0.28	0.40	0.33	0.40	0.32	0.28	0.18	0.34	0.27	0.33
Mineral Products														
X	0.20	0.23	0.26	0.12	0.02	0.13	0.14	0.20	0.24	0.09	0.24	0.09	0.08	0.04
OK	0.17	0.25	0.18	0.33	0.38	0.23	0.22	0.20	0.15	0.26	0.18	0.28	0.29	0.38
V	0.07	0.05	0.05	0.07	0.09	0.06	0.05	0.07	0.07	0.06	0.04	0.06	0.06	0.02
VI	0.09	0.08	0.13	0.09	0.13	0.19	0.12	0.07	0.06	0.11	0.00	0.23	0.16	0.19
VII	0.07	0.13	0.03	0.00	0.09	0.10	0.09	0.05	0.04	0.19	0.02	0.09	0.14	0.13
VIII	0.09	0.08	0.15	0.14	0.15	0.13	0.14	0.07	0.04	0.11	0.04	0.17	0.06	0.15
BP	0.33	0.20	0.21	0.26	0.15	0.15	0.24	0.33	0.41	0.17	0.49	0.08	0.20	0.09
n.obs.	46	40	39	43	47	52	58	55	54	53	51	53	49	47
net imp.	0.63	0.53	0.56	0.56	0.60	0.63	0.64	0.60	0.61	0.64	0.59	0.62	0.63	0.57
AP	0.57	0.48	0.51	0.49	0.51	0.58	0.59	0.53	0.54	0.58	0.55	0.57	0.57	0.55
Chemicals & Allied Industries														
X	0.07	0.06	0.07	0.05	0.01	0.02	0.05	0.07	0.09	0.07	0.06	0.02	0.01	0.02
OK	0.07	0.08	0.04	0.10	0.12	0.10	0.08	0.09	0.07	0.06	0.09	0.08	0.11	0.08
V	0.06	0.04	0.06	0.06	0.05	0.07	0.12	0.06	0.06	0.07	0.06	0.04	0.04	0.06
VI	0.09	0.30	0.24	0.12	0.34	0.26	0.22	0.19	0.05	0.20	0.02	0.26	0.33	0.36
VII	0.01	0.06	0.10	0.02	0.23	0.08	0.09	0.02	0.02	0.08	0.02	0.23	0.19	0.18
VIII	0.24	0.19	0.22	0.05	0.19	0.18	0.19	0.14	0.14	0.24	0.07	0.18	0.20	0.18
BP	0.45	0.28	0.27	0.61	0.06	0.30	0.26	0.43	0.57	0.28	0.67	0.19	0.12	0.10
n.obs.	135	135	135	145	155	157	164	164	162	165	167	166	165	170
net imp.	0.85	0.86	0.90	0.85	0.86	0.89	0.87	0.85	0.84	0.87	0.85	0.90	0.88	0.89
AP	0.79	0.82	0.84	0.79	0.82	0.82	0.76	0.79	0.78	0.81	0.79	0.86	0.84	0.83

Appendix B continues opposite

Appendix B continued

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Plastics/Rubbers														
X	0.07	0.02	0.07	0.10	0.00	0.10	0.07	0.07	0.15	0.05	0.12	0.07	0.00	0.00
OK	0.22	0.24	0.15	0.20	0.28	0.13	0.20	0.12	0.15	0.20	0.15	0.17	0.24	0.24
V	0.05	0.05	0.07	0.02	0.08	0.05	0.07	0.07	0.05	0.05	0.02	0.00	0.07	0.05
VI	0.12	0.20	0.22	0.10	0.18	0.23	0.20	0.10	0.05	0.24	0.02	0.15	0.34	0.37
VII	0.07	0.07	0.12	0.00	0.20	0.20	0.02	0.20	0.00	0.17	0.05	0.22	0.22	0.22
VIII	0.12	0.15	0.20	0.02	0.20	0.25	0.27	0.17	0.12	0.17	0.02	0.29	0.12	0.07
BP	0.34	0.27	0.17	0.56	0.08	0.05	0.17	0.27	0.49	0.12	0.61	0.10	0.00	0.05
n.obs.	41	41	41	41	40	40	41	41	41	41	41	41	41	41
net imp.	0.71	0.73	0.78	0.71	0.73	0.78	0.73	0.80	0.71	0.76	0.73	0.76	0.76	0.76
AP	0.66	0.68	0.71	0.68	0.65	0.73	0.66	0.73	0.66	0.71	0.71	0.76	0.68	0.71
Raw Hides. Skins. Leather. Fur. etc.														
X	0.25	0.18	0.24	0.24	0.13	0.18	0.11	0.22	0.39	0.18	0.12	0.13	0.07	0.20
OK	0.19	0.18	0.12	0.12	0.19	0.12	0.22	0.17	0.06	0.35	0.29	0.27	0.40	0.20
V	0.00	0.00	0.00	0.06	0.13	0.06	0.06	0.06	0.00	0.00	0.06	0.07	0.13	0.00
VI	0.00	0.47	0.12	0.06	0.06	0.12	0.11	0.06	0.06	0.06	0.00	0.20	0.07	0.07
VII	0.00	0.06	0.29	0.00	0.13	0.18	0.00	0.11	0.00	0.18	0.18	0.07	0.13	0.13
VIII	0.06	0.00	0.24	0.12	0.25	0.24	0.22	0.06	0.06	0.24	0.06	0.13	0.07	0.07
BP	0.50	0.12	0.00	0.41	0.13	0.12	0.28	0.33	0.44	0.00	0.29	0.13	0.13	0.33
n.obs.	16	17	17	17	16	17	18	18	18	17	17	15	15	15
net imp.	0.56	0.65	0.65	0.65	0.69	0.71	0.67	0.61	0.56	0.47	0.59	0.60	0.53	0.60
AP	0.56	0.65	0.65	0.59	0.56	0.65	0.61	0.56	0.56	0.47	0.53	0.53	0.40	0.60
Wood & Wood Products														
X	0.14	0.11	0.13	0.08	0.11	0.09	0.14	0.12	0.20	0.15	0.15	0.17	0.06	0.08
OK	0.08	0.11	0.13	0.25	0.20	0.24	0.17	0.18	0.11	0.15	0.21	0.17	0.26	0.25
V	0.08	0.09	0.04	0.10	0.07	0.04	0.07	0.11	0.11	0.04	0.02	0.06	0.08	0.00
VI	0.06	0.28	0.15	0.08	0.20	0.16	0.16	0.12	0.07	0.20	0.04	0.21	0.16	0.12
VII	0.04	0.09	0.17	0.04	0.17	0.09	0.03	0.04	0.00	0.18	0.02	0.13	0.22	0.31
VIII	0.22	0.15	0.23	0.02	0.19	0.25	0.16	0.19	0.14	0.13	0.08	0.10	0.08	0.12
BP	0.37	0.17	0.17	0.43	0.06	0.13	0.28	0.25	0.38	0.16	0.49	0.17	0.14	0.12
n.obs.	49	46	48	51	54	55	58	57	56	55	53	48	50	51
net imp.	0.78	0.78	0.75	0.67	0.69	0.67	0.69	0.70	0.70	0.71	0.64	0.67	0.68	0.67
AP	0.69	0.70	0.71	0.57	0.61	0.64	0.62	0.60	0.59	0.67	0.62	0.60	0.60	0.67

Appendix B continues overleaf

Appendix B continued

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Textiles														
X	0.24	0.14	0.16	0.17	0.09	0.15	0.13	0.25	0.37	0.24	0.25	0.08	0.06	0.06
OK	0.35	0.43	0.43	0.45	0.47	0.44	0.44	0.32	0.18	0.32	0.33	0.47	0.49	0.52
V	0.03	0.03	0.03	0.07	0.03	0.04	0.04	0.05	0.04	0.03	0.05	0.05	0.04	0.05
VI	0.03	0.13	0.09	0.07	0.11	0.12	0.08	0.04	0.03	0.09	0.04	0.09	0.10	0.13
VII	0.04	0.03	0.04	0.01	0.11	0.08	0.02	0.02	0.01	0.05	0.02	0.08	0.10	0.09
VIII	0.07	0.11	0.11	0.04	0.11	0.08	0.11	0.08	0.04	0.18	0.05	0.14	0.11	0.12
BP	0.24	0.14	0.13	0.20	0.09	0.09	0.19	0.24	0.34	0.10	0.26	0.09	0.10	0.03
n.obs.	119	118	117	121	122	127	131	131	131	131	130	130	130	130
net imp.	0.40	0.43	0.41	0.38	0.44	0.41	0.44	0.43	0.45	0.44	0.42	0.45	0.45	0.42
AP	0.38	0.41	0.38	0.31	0.41	0.37	0.40	0.37	0.41	0.41	0.37	0.41	0.41	0.37
Footwear/Headgear														
X	0.00	0.15	0.23	0.27	0.13	0.07	0.13	0.44	0.19	0.25	0.29	0.14	0.07	0.00
OK	0.43	0.38	0.23	0.27	0.40	0.40	0.31	0.06	0.19	0.19	0.29	0.29	0.40	0.40
V	0.07	0.00	0.08	0.13	0.00	0.27	0.06	0.06	0.00	0.00	0.00	0.07	0.07	0.00
VI	0.21	0.08	0.08	0.00	0.00	0.13	0.06	0.06	0.06	0.13	0.07	0.21	0.00	0.20
VII	0.00	0.00	0.08	0.00	0.20	0.07	0.13	0.00	0.06	0.19	0.00	0.14	0.33	0.20
VIII	0.07	0.08	0.23	0.00	0.13	0.07	0.19	0.13	0.06	0.13	0.00	0.07	0.13	0.07
BP	0.21	0.31	0.08	0.33	0.13	0.00	0.13	0.25	0.44	0.13	0.36	0.07	0.00	0.13
n.obs.	14	13	13	15	15	15	16	16	16	16	14	14	15	15
net imp.	0.57	0.46	0.54	0.47	0.47	0.53	0.56	0.50	0.63	0.56	0.43	0.57	0.53	0.60
AP	0.50	0.46	0.46	0.33	0.47	0.27	0.50	0.44	0.63	0.56	0.43	0.50	0.47	0.60
Stone/Glass														
X	0.19	0.06	0.19	0.19	0.05	0.07	0.12	0.15	0.25	0.16	0.16	0.12	0.07	0.03
OK	0.19	0.34	0.18	0.28	0.38	0.28	0.32	0.25	0.17	0.22	0.25	0.26	0.36	0.39
V	0.08	0.02	0.09	0.07	0.05	0.07	0.02	0.03	0.03	0.09	0.07	0.10	0.07	0.08
VI	0.04	0.17	0.18	0.04	0.19	0.25	0.14	0.08	0.03	0.16	0.00	0.16	0.17	0.12
VII	0.08	0.09	0.07	0.04	0.10	0.12	0.07	0.07	0.02	0.05	0.00	0.12	0.14	0.22
VIII	0.10	0.13	0.09	0.05	0.17	0.07	0.10	0.20	0.05	0.19	0.04	0.17	0.10	0.07
BP	0.33	0.19	0.21	0.33	0.05	0.14	0.24	0.22	0.45	0.14	0.49	0.07	0.09	0.08
n.obs.	52	53	57	57	58	57	59	60	60	58	57	58	58	59
net imp.	0.62	0.60	0.63	0.53	0.57	0.65	0.56	0.60	0.58	0.62	0.60	0.62	0.57	0.58
AP	0.54	0.58	0.54	0.46	0.52	0.58	0.54	0.57	0.55	0.53	0.53	0.52	0.50	0.49

Appendix B continues opposite

Appendix B continued

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Metals														
X	0.17	0.12	0.16	0.08	0.05	0.10	0.07	0.14	0.22	0.11	0.20	0.08	0.04	0.03
OK	0.15	0.19	0.15	0.25	0.28	0.22	0.22	0.21	0.14	0.20	0.22	0.31	0.35	0.37
V	0.02	0.08	0.06	0.03	0.06	0.05	0.14	0.06	0.07	0.04	0.00	0.04	0.02	0.02
VI	0.08	0.21	0.16	0.08	0.12	0.23	0.12	0.10	0.02	0.13	0.02	0.21	0.24	0.21
VII	0.05	0.03	0.09	0.04	0.18	0.14	0.05	0.05	0.02	0.10	0.04	0.07	0.13	0.24
VIII	0.20	0.08	0.18	0.05	0.21	0.08	0.13	0.13	0.04	0.18	0.02	0.15	0.14	0.08
BP	0.33	0.28	0.20	0.46	0.10	0.18	0.27	0.31	0.49	0.23	0.49	0.14	0.07	0.05
n.obs.	106	107	114	118	125	132	135	134	138	135	127	123	127	131
net imp.	0.68	0.69	0.69	0.67	0.67	0.68	0.71	0.65	0.64	0.69	0.57	0.61	0.61	0.60
AP	0.66	0.61	0.63	0.64	0.61	0.64	0.57	0.59	0.57	0.64	0.57	0.57	0.58	0.58
Machinery/Electrical														
X	0.02	0.05	0.04	0.05	0.01	0.02	0.02	0.03	0.05	0.05	0.11	0.06	0.05	0.01
OK	0.06	0.04	0.03	0.08	0.09	0.08	0.08	0.08	0.05	0.10	0.10	0.15	0.15	0.21
V	0.02	0.08	0.07	0.07	0.06	0.08	0.05	0.12	0.02	0.03	0.05	0.03	0.07	0.03
VI	0.24	0.22	0.26	0.08	0.18	0.30	0.21	0.16	0.03	0.18	0.03	0.14	0.19	0.21
VII	0.05	0.09	0.15	0.02	0.22	0.27	0.19	0.11	0.05	0.20	0.07	0.24	0.26	0.30
VIII	0.26	0.12	0.24	0.04	0.22	0.21	0.24	0.10	0.10	0.19	0.05	0.19	0.14	0.11
BP	0.35	0.40	0.21	0.66	0.22	0.06	0.22	0.40	0.70	0.26	0.59	0.20	0.15	0.12
n.obs.	127	129	130	130	130	131	131	131	131	131	131	131	131	131
net imp.	0.92	0.91	0.93	0.87	0.90	0.91	0.91	0.89	0.89	0.85	0.79	0.79	0.80	0.78
AP	0.90	0.84	0.86	0.80	0.84	0.83	0.86	0.76	0.88	0.82	0.74	0.76	0.73	0.75
Transportation														
X	0.13	0.00	0.05	0.05	0.05	0.00	0.06	0.16	0.16	0.04	0.15	0.15	0.11	0.07
OK	0.07	0.22	0.16	0.10	0.19	0.21	0.16	0.08	0.28	0.28	0.23	0.30	0.39	0.43
V	0.00	0.00	0.00	0.05	0.14	0.08	0.00	0.04	0.04	0.08	0.04	0.15	0.00	0.07
VI	0.13	0.17	0.26	0.05	0.10	0.25	0.19	0.16	0.08	0.20	0.08	0.04	0.04	0.00
VII	0.20	0.06	0.11	0.00	0.24	0.17	0.06	0.00	0.08	0.16	0.00	0.15	0.18	0.14
VIII	0.13	0.22	0.11	0.05	0.19	0.17	0.32	0.04	0.04	0.08	0.08	0.04	0.04	0.21
BP	0.33	0.33	0.32	0.70	0.10	0.13	0.19	0.52	0.32	0.16	0.42	0.19	0.25	0.07
n.obs.	15	18	19	20	21	24	31	25	25	25	26	27	28	28
net imp.	0.80	0.78	0.79	0.85	0.76	0.79	0.77	0.76	0.56	0.68	0.62	0.56	0.50	0.50
AP	0.80	0.78	0.79	0.80	0.62	0.71	0.77	0.72	0.52	0.60	0.58	0.41	0.50	0.43