

An estimation of tariff pass-through in Tunisia

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Abstract

In this paper we evaluate the extent to which changes in tariffs and in international prices are transmitted into consumer prices in Tunisia over the period 2000 to 2008. A pass-through equation is estimated using sectoral panel data at the retail-product level and controlling for unobserved sectoral heterogeneity. The main result indicates that changes in tariffs are only partially transmitted to changes in retail prices, with an average pass-through of 10 percent. This partial pass-through effect is lower in magnitude than the one found in other developing-country studies. This finding might be explained by the fact that trade liberalization in Tunisia is not well supported by trade related institutions and policies such a stable macroeconomic environment, a competitive exchange rate and competitive policies.

1. Introduction

In the past two decades an increasing number of developing countries have started unilateral or regional trade liberalization processes in most regions of the world market. In particular, many countries in the North African region have intensified their participation in regional trade agreements, such as MENA and Euromed, and have also engaged in unilateral trade liberalization policies. The main underlying goal of these trade policies is improving market access and paving the way towards increasing trade, as well as entering into or increasing their participation in global production networks.

An important question for economic development is whether these policies help to reduce poverty and to increase the welfare of its citizens. It could be that reducing tariffs and non-tariff barriers national producers would be displaced by more productive foreign firms that are able to export to the region and this eventually could translate into losses for domestic producers and overall welfare losses. It could also be possible that increasing international competition would reduce domestic prices and this could translate into increasing consumption and welfare for most consumers. For this reason, it is important to evaluate the net welfare effects of such policies in specific countries. A first step to accomplish this evaluation is to analyze the extent to which changes in international prices and in trade and non-trade barriers are transmitted to changes in domestic prices.

In this paper, we focus on the Tunisian case for two reasons. First, this is the first attempt to evaluate the pass-through of international prices into domestic prices in this country using data in the 2000s, a period in which Tunisia witnessed important economic and institutional changes. Second, Tunisia still has relatively high tariffs and a large number of non-tariff barriers, despite the fact that the average tariff rate has been reduced in recent years. For instance, the average MNF tariff for manufacturing products has been reduced from 19 percent in 2006 to 12 percent in 2013 (the corresponding tariffs for agricultural goods were 54 and 19 percent respectively).

The paper is structured as follows. Section 2 outlines the trade and exchange rate policies in Tunisia in recent years and presents some stylized facts. Section 3 reviews the related literature and section 4 presents the methodology, describes the main data and variables and presents the results. Finally, section 5 concludes.

2. Tunisian economic policy

2.1 Trade policy

In the last two decades Tunisia has increasingly diversified the economy focusing on specific agricultural products, namely olive oil, dates and several organic fruits and vegetables, as well as on manufacturing industries, tourism, and the mining and energy sector.

Table 1 reports import shares over time for different product categories. Note that only the product categories for which domestic price data were available are covered. Transport – which comprises cars, premium gasoline and gasoil – together with Housing play the largest role. The importance of clothing and footwear has constantly declined since 2002. On the other hand housing, water, gas, electricity has gained importance.

Table 1. Import shares over time in percent

Categories of Goods	Year						
	2002	2003	2004	2005	2006	2007	2008
Bread and Cereals	4.87	3.14	2.77	2.9	2.77	4.97	4.97
Clothing and Footwear	14.53	14.67	12.35	11.29	9.55	9.2	7.29
Fish and Seafood	0.19	0.28	0.22	0.28	0.3	0.26	0.27
Fresh and dried Fruits	0.11	0.08	0.17	0.08	0.07	0.07	0.05
Furniture, household articles	3.99	3.81	3.78	4.17	4.18	3.76	3.57
Housing, water, gas, electricity	9.49	10.55	9.92	13.14	14.08	12.32	16.06
Meat and Poultry	0	0.04	0.22	0.21	0.14	0.11	0.1
Milk, Cheese and Eggs	0.28	0.32	0.36	0.28	0.2	0.22	0.27
Oil and fats	1.12	1.47	1.37	1.48	1.57	1.24	1.91
Salt and condiments	0.03	0.03	0.03	0.04	0.03	0.02	0.03
Sugar, Jam, tea, coffee and chocolate	1.33	1.05	1.08	1.12	1.46	1.09	0.99
Tobacco	0.45	0.47	0.47	0.52	0.47	0.43	0.34
Vegetables	0.29	0.25	0.26	0.25	0.19	0.39	0.13
Drinks	0.12	0.13	0.09	0.1	0.08	0.09	0.07
Health	2.03	1.96	1.97	2.01	1.78	1.69	1.54
Transport	12.29	13.13	13.67	14.79	15.2	13.58	15.22

Note: Authors' calculation using trade statistics from UN-COMTRADE.

Despite maintaining relatively high tariff barriers, some trade liberalization has taken place in the late three decades with average tariffs decreasing from about 24 percent in 2006 to 13 percent in 2013 (Table 2).

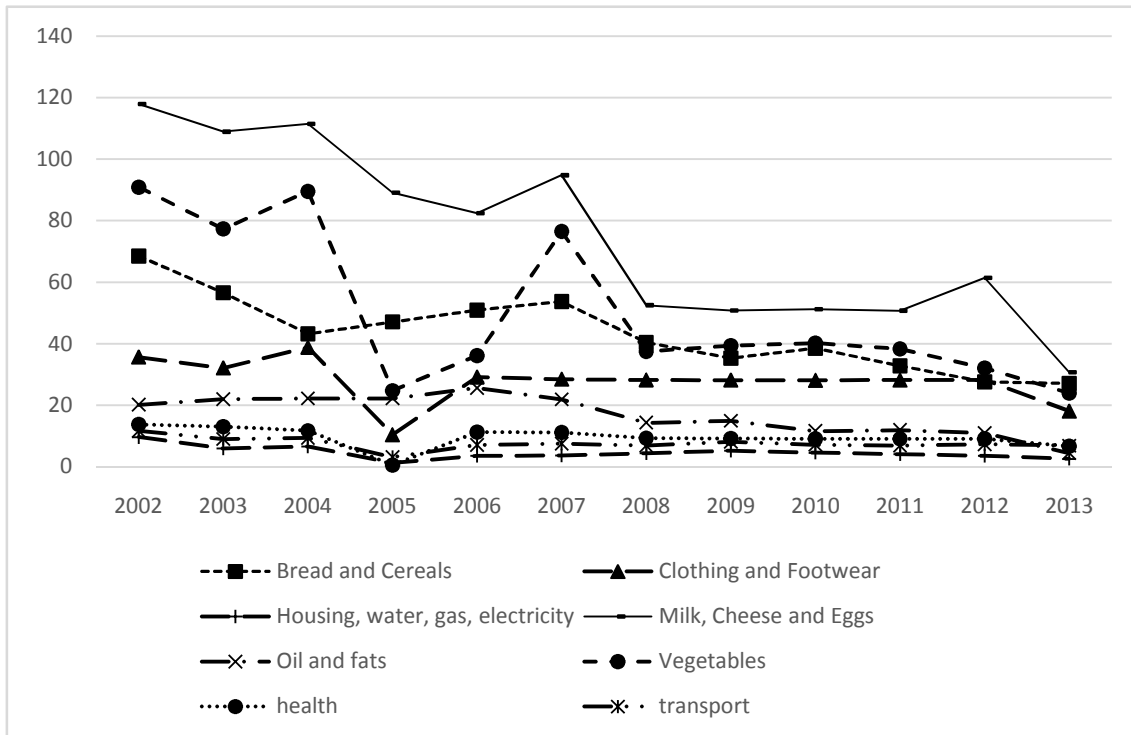
Table 2. Average tariffs by sector and tariff type

	Tariff type	2006	2013
All products	Average of MFN tariffs	23.87%	12.80%
	Average of preferential tariffs	22.19%	10.62%
Agricultural	Average of MFN tariffs	58.32%	21.23%
	Average of preferential tariffs	54.24%	19.45%
Non-agricultural	Average of MFN tariffs	18.93%	11.68%
	Average of preferential tariffs	17.60%	9.36%

Source: Market Access Map. International Trade Center.

Figure 1 illustrates some of those developments. Clearly 2005 was a year of exceptionally low tariffs, and the tariff burden increased significantly in 2006 and 2007. Note that in many cases applied tariffs had been lower than bound tariffs, so that these changes were possible in accordance with WTO provisions.

Figure 1. Evolution over time of weighted average applied tariffs



Source: Author's elaboration using WITS and ITC data.

Tunisia entered the GATT in 1990 and therefore is a WTO member since its formation in 1995. Tunisia's commitments under the WTO included the reduction of tariffs in the agricultural sector by 24 percent in ten years (1995 to 2004), as well as the opening up of quotas for the importation of agricultural and food processing products (World Bank, 2014). The country also participates in a number of free trade agreements (FTA). In particular, Tunisia entered the Pan-Arab FTA (PAFTA) and the FTA with the EU both

in 1998 and signed an FTA with EFTA and another with Turkey in 2005. It is worth noting that tariffs on industrial imports from the EU dropped from about 100 percent in the 1990s to zero by 2008. In contrast, agricultural imports remained with high levels of tariff and non-tariff barriers.

Turning to non-tariff measures (NTMs), Figures 2 and 3 show the products for which the incidence of NTMs is high. Figure 2 shows products affected by more than 50 different NTMs. Most products in this graph are agricultural goods. Figure 3, shows products for which the number of NTMs is higher than 20, those comprise food and vegetable products and also energy goods (gasoil and gasoline). Both figures compare the number of NTMs in the years for which the data are available. For most products, an increase in the number can be observed in 2005 with respect to 2002¹.

Figure 2. Number of NTMs for products affected by more than 50 NTMs

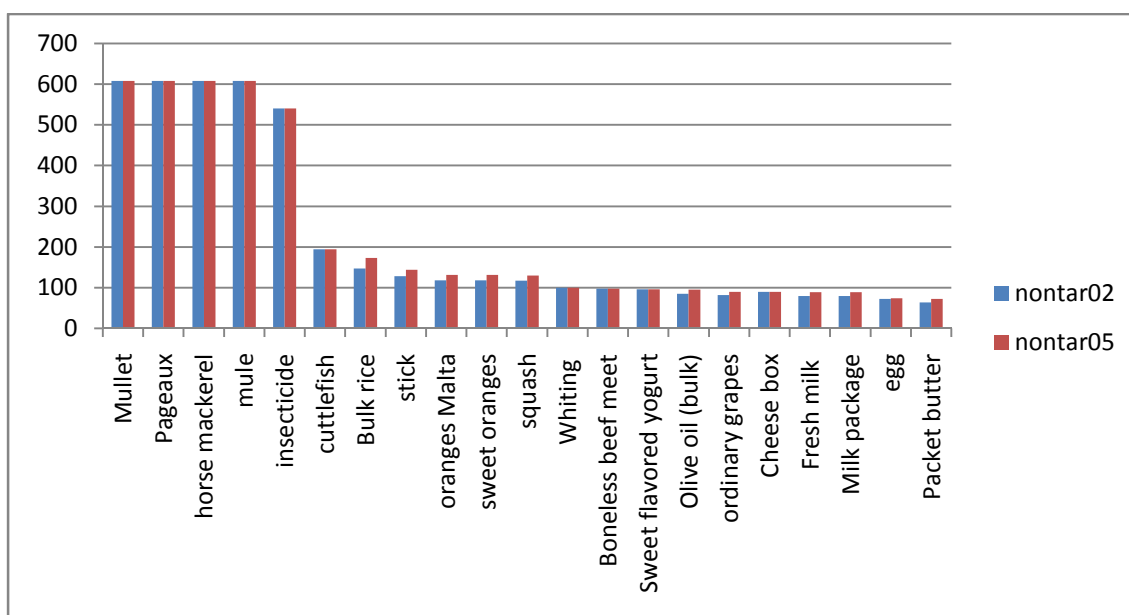
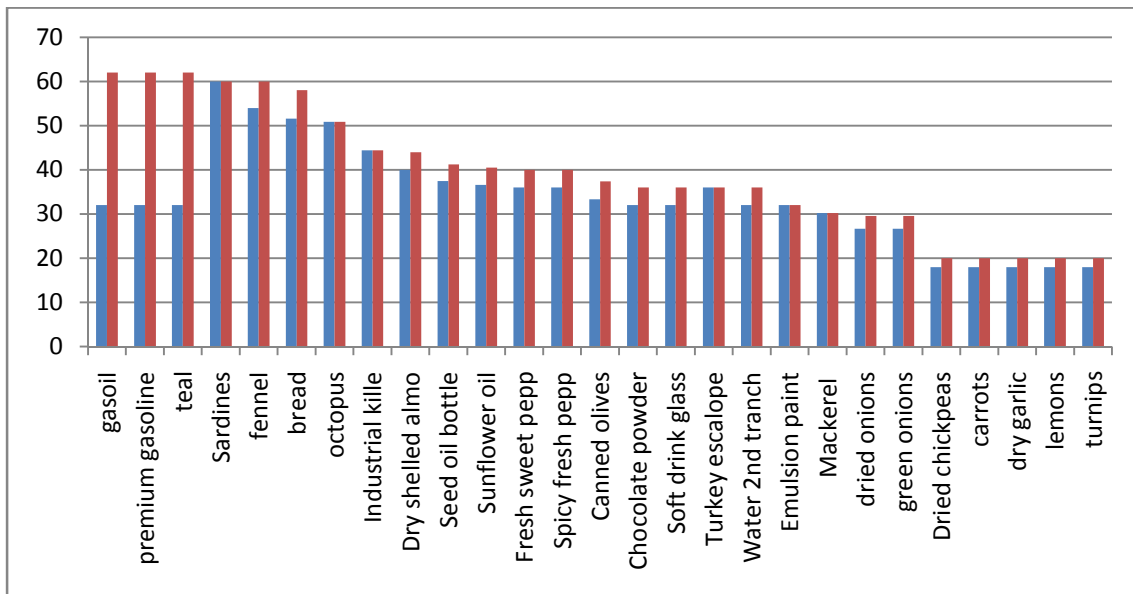


Figure 3. Number of NTMs for products affected by more than 20 NTMs

¹ This could be due to the data construction, since the information available indicates the number of NTMs in the year in which the corresponding regulation applied but the duration of the measures is not provided.



According to the World Bank (2010) Tunisia's tariff policy is still very distortive and has even become more so with the EU liberalization process, with imports from third countries entering at duties of more than 40 percent and the same product entering duty free from the EU. Consequently, it is of crucial importance the use of weighted tariff in the subsequent analysis.

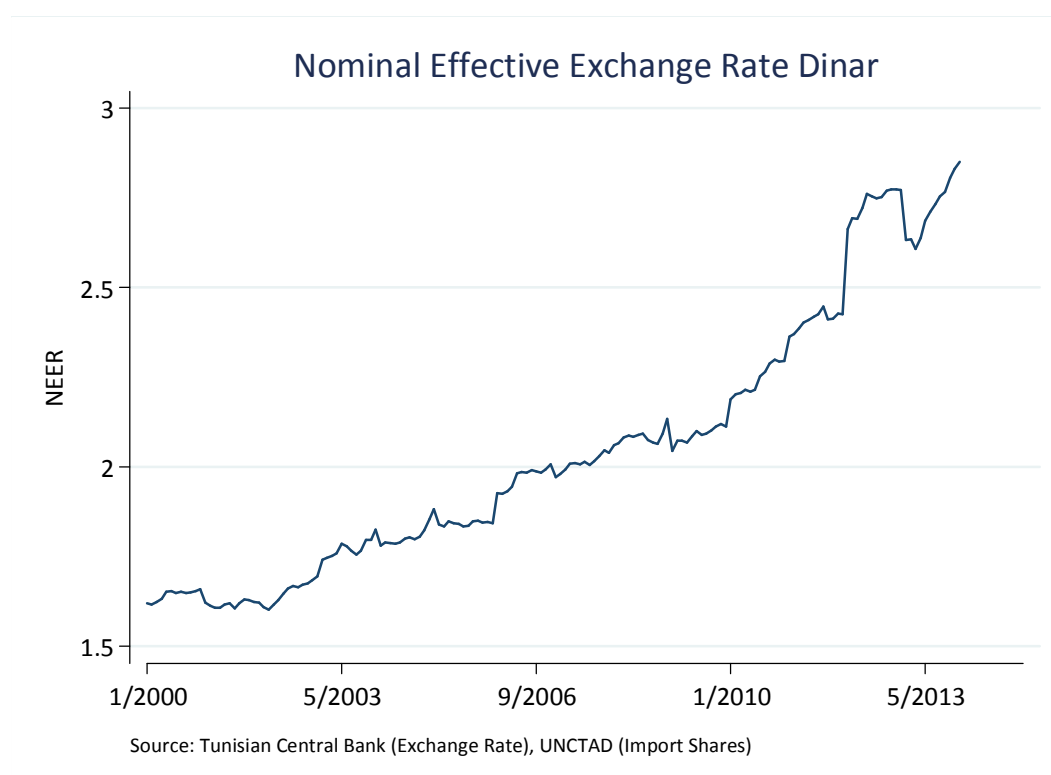
Despite the important reductions in tariffs observed in the data, there has been, however, little progress in reducing non-tariff barriers. Tunisia uses non-tariff barriers such as technical norms and costly rule of origin requirements to restrict trade with GAFTA members. Indeed, importers often select to pay the MFN tariff instead of incurring the cost of obtaining preferential treatment (World Bank, 2009).

It is also worth noting that the investment climate has improved in the 2000s, mainly due to the economic reforms and the reduction of behind the border trade costs (World Bank, 2009).

2.2 Monetary policy

During the 1990s and in order to maintain a fairly constant real effective exchange rate (REER), Tunisia adopted a REER targeting policy, which helped preserve the competitiveness of the country. However, since 2000 a more flexible exchange rate policy has been adopted, and from 2000 until 2008 the nominal effective exchange rate depreciated by about 30 percent as can be seen in Figure 4.² The depreciation was the consequence of a number of shocks affecting the country, namely the events of September 2001 and several severe droughts that affected agriculture production.

Figure 4. Evolution over time of the Tunisian monthly effective exchange rate



² The nominal effective exchange rate is calculated as the trade weighted arithmetic mean of exchange rates with the most important partner currencies - in so far as data was available from the BCT.

With respect to other policies that also influence consumer prices, the use of administered prices and consumer food subsidies have to be mentioned. There are fixed producer buying prices for wheat and other domestic support for barley, milk, olive oil and sugar beets. Tunisia had used price controls since 1986 on agricultural inputs and producer prices, although the former have been completely removed, there are still guaranteed public prices for grain and milk. With respect to consumer subsidies, since 2000 grains, vegetable oil, and milk are covered by the subsidies (Minot et al, 2009).

3. Literature review

Trade shocks are related to changes in domestic prices in a complex way. Prices faced by households (retail prices) are usually affected by a number of factors, namely middleman mark-ups, availability of local substitutes, transport costs, competition policies. These factors lead to an imperfect price transmission and in turn generate important differences between retail prices and border prices. The latter are in general more sensitive to changes in tariff barriers than retail prices. The standard model used to estimate the effect of trade policies or exchange rate movements on retail prices is a pass-through model that distinguishes between domestic and imported varieties (Goldberg and Knetter, 1997).

The literature estimating exchange rate pass-through (ERPT) is very rich, especially for developed country studies. Menon (1995) nicely surveys the early empirical studies, which mainly indicate evidence of incomplete pass-through, especially in countries with low inflation. For the Tunisian case however, we are only aware of one study by Senhadji, Sedik and Kpodar (2007) that evaluates the degree of ERPT to consumer

prices in Tunisia³ using quarterly data for 43 consumption products (goods and services) over the period from 1995 to 2006. The methodology used in their paper is based on time-series and panel data models and the consumer price index for groups of goods is used as dependent variable. The main results indicate that a 10 percent nominal depreciation of the dinar increase inflation in the 0.7-0.9 percentage points. Similar results are found using time series and panel-data models and the authors mention that trade liberalization of administered prices –mainly food and fuel prices– should increase the degree of ERPT. Indeed, by adding dummy variables for those products they find that the degree of ERPT increases significantly by 37 percent. In general the statistical significant of the point estimates was very low (10 percent level) implying broad confident bands for the estimates. Some studies extended the pass-through model with trade policy variables to separately estimate ERPT and tariff pass-through (TPT). To our knowledge, there are only four authors that have estimated ERPT and TPT simultaneously (Feenstra, 1989; Menon (1996) and Mallick and Marques, (2008)). However, these studies are (mostly) concerned with the import price at the border of the importing country. More recently, based on Nicita (2009) a bulk of literature has emerged studying the effect of trade policy on local consumer prices. Since we are interested in the distributional effects of trade policy this will be the approach followed in this paper. Recent studies following this approach are Nicita (2009) for the Mexican case, Marchand (2012) for India and Borraz et al (2013) for Brazil. To our knowledge the Tunisian case has not been studied separately. Nicita (2009) evaluates the effect of the formation of Mercosur on the household's income and expenditure over the period 1990 to 2000. He assumes that consumer goods cannot be differentiated by origin and the price of these goods can be expressed as an average price of importer and local

³Fanizza et al (2001) for a description of Tunisia's monetary policy in the 1990s.

substitutes. The estimated pass-through differs for agricultural products and manufacturing and it is estimated at around 33 and 27 percent respectively. The study does not find regional differences in the TPT on agricultural prices, but finds that those differences are significant for manufacturing activities, with regions closer to the US having a TPT of about 70 percent, which declines to 40 percent at 1000 Km.

Marchand (2012) estimates how price changes are transmitted from the border to the consumers using a slightly different model to Nicita (2009) for the Indian case. He uses an ad-hoc model in which domestic prices depend on international prices, the exchange rate in domestic currency, industry-specific trends and time and state dummies. The author is able to estimate different TPT for rural and urban areas and finds that the TPT is significantly lower in rural areas (around 44 percent versus 64 percent in urban areas). ERPT has only a positive and significant coefficient (about 30 percent) for rural areas, whereas it is not significantly different from zero for urban areas. Finally, in Borraz et al (2013) the authors estimate a similar model to Nicita (2009) for the Brazilian case over the period from 1990 to 1999 and find that the TPT is around 0.44 and that trade costs do not have differential effect across geographical areas, hence the interaction term between transport costs and tariffs is excluded from the estimation results. We will follow a similar approach to Nicita (2009) and Borraz et al (2013) and since Tunisia is a small country in terms of area we will not differentiate between geographical regions.

4. Methodology

In this section we present the methodology used to evaluate the impact of trade liberalization in Tunisia on domestic prices. We use retail price data of domestic goods

in combination with producer price data and international prices to estimate a pass-through equation.

Retail prices can react only partially to changes in international prices and the extent to which the transmission is complete depends not only on the changes in trade policies, such as tariff reductions or non-tariff barriers or on given domestic policies, such as price support and exchange rate policies, but also on exchange rate policies, on the specific institutional and economic environment and competition policies. It could happen that retail prices do not fully incorporate changes in border prices if the circumstances in the given country impede or complicate the transmission of the changes. In particular, the lack of substitutes, the impact of transport costs, the influence of competitor prices, price controls, rigid margins of intermediaries could affect the extent to which reductions in border prices are passed to retail prices.

Prices are also affected by competitive conditions in the country. If there are barriers to entry into a market, trade liberalization will only benefit those who are operating on it. These firms, benefiting from an important market power, are in a position to set high prices while enjoying import tariff cut. Tariff reform will thus not impact consumer prices. An evidence of barriers to entry is given Rijkers et al (2014). They show that politically connected firms manipulated investment laws to further its own business interests. They prove a correlation between connected firms, entry restrictions and protectionism in the original code enacted in 1993. In addition, the probability of reforms to investment laws promulgating in additional restrictions on entry is significantly higher when politically connected firms are present. Moreover, the start-up of new politically connected firms is significantly correlated with the imposition of new authorization requirements and FDI restrictions.

It is also important to note that price transmission also depends on the market shares of production and consumption of the goods. For example, if a country is a large producer or consumer of a given product it could impact its international price. In the case of Tunisia, which could be considered as a small country in economic terms, this should not be an issue for the majority of goods.

Another important issue is the speed of adjustment. According to World Bank studies for developing countries, changes in international prices of commodities are passed through to domestic prices within 3-6 months, depending on the local production situation, access to markets, and import/export logistics. And even if markets are fully integrated and well functioning, the average pass-through ranges between 20-70 percent, meaning that a 10 percent change in international prices results in a 2 to 7 percent increase in domestic prices.

In large wheat importing countries of the Middle East and North Africa prices are transmitted quite rapidly (E.g. Egypt, Iraq, and United Arab Emirates). However, this is not the case in countries like Tunisia with high food subsidies and controlled prices.

The empirical strategy consists on adapting the framework developed by Goldberg and Knetter (1997) and Campa and Goldberg (2002) and used by Nicita's (2009)⁴ and Borraz (2013) to the Tunisian case. We express prices as follows:

$$P_{kt} = PP_{kt}^{\alpha} (PI_{kt}(1 + \tau_{kt}))^{1-\alpha} \quad (1)$$

Where P_{kt} is the local price faced by households for good k at time t . PI_{kt} denotes the international price in local currency, τ_{kt} denotes the tariff of good k at period t ; and PP_{kt} is the production price. Here α indicates the domination of local varieties over imported varieties and $(1-\alpha)$ the importance of international prices, of trade policies and trade

⁴We are not able to differentiate by regions due to lack of data on regional retail prices.

costs on local prices. The degree of pass-through is given by α . The pass-through is complete when α takes the value of zero and changes in border prices are 100 percent passed to retail prices, whereas if $\alpha=1$ the pass-through changes in border prices do not affect retail prices.

Taking logs of equation (1) we obtain,

$$\ln P_{kt} = \alpha \ln PP_{kt} + (1 - \alpha) \ln PI_{kt} + (1 - \alpha) \ln(1 + \tau_{kt}) \quad (2)$$

Loosening the restrictions imposed on coefficients in (2), the following model is estimated in accordance with Nicita (2009),

$$\ln P_{kt} = \beta_0 + \beta_1 \ln PP_{kt} + \beta_2 \ln PI_{kt} + \beta_3 \ln(1 + \tau_{kt}) + \varepsilon_{kt} \quad (3)$$

where ε_{kt} denotes the error term that is assumed to be iid and the rest of variables are the same as in equation (1).

5. Data, variables and empirical model

5.1 Data and variables

Bilateral tariff data was taken from the World Bank's TRAINS database, which covers years from 2002 to 2008.⁵ Because tariff data for 2007 is missing, it was assumed that 2006 tariffs were retained in 2007. Additionally, for tariffs missing at the beginning of the period it was assumed that they are at least as high, as the earliest available tariff. I.e. a conservative estimate was applied. Effectively applied tariffs (AHS) were used in the analyses. Additionally, in some regressions we control for the coverage ratio of non-tariff barriers (NTB), the corresponding data are from the World Bank⁶. We are using unilateral NTBs applied by Tunisia on its imports from the world and from the EU.

⁵ While tariff data for 2013 was available from the ITC's Investment map, these data were not bilateral, which made the calculation of weighted average difficult. Also, since data from 2009 to 2012 was missing it was not possible to exploit these data without strong assumptions.

⁶ Compiled and kindly shared by Mariem Malouche, Trade Practice, World Bank.

Coverage ratios are calculated as the share of import of the HS6 that are subject to NTBs with respect to total imports in each price-category to reflect the incidence of this factor on imports at the more aggregated level. It is important to notice that it is a crude proxy, given the wide variety of measures (import quotas, security standards, phytosanitary standards, etc). Weighted average tariffs were constructed using import shares from UN-COMTRADE, considering only those products with positive imports.⁷

International prices were approximated using import unit values, i.e. expenditure per unit, based on UN COMTRADE. Unit values were calculated in Dollar per Kilogram. Note that since import values are collected including cost, insurance and freight (c.i.f.) trade cost do not need to be controlled for in the regression analysis. As in the case of tariffs, weighted unit values were calculated based on the respective commodity's import share. Unit values were converted to Tunisian dinar using exchange rates obtained from the Central Bank of Tunisia.

Retail prices and industrial price indices were kindly provided by the Tunisian Institute National de la Statistique. Retail prices were available for more than 140 product or product groups. Unfortunately, for lack of recording in the years for which tariff data are available, and lack of concordance in the trade data, we are left with 75 items. Industrial prices were available for 70 product groups. Those that could be linked to retail price categories are employed.

Since no official conversion table was available that allowed us to merge industrial prices, trade and tariff data, and retail prices, we manually constructed such tables that

⁷Note, that UN COMTRADE does not report data for Taiwan. It was assumed that the COMTRADE partner designated "Other Asia, nes" largely coincides with Taiwan, in accordance with the UN International Trade Statistics knowledge base, see <http://unstats.un.org/unsd/tradekb/Knowledgebase/Taiwan-Province-of-China-Trade-data>.

can be found in the appendix. Note that tariff data were retrieved in combined harmonize system (HS) nomenclature and were converted to HS 1996 before they could be merged with the trade and non-tariff measures data.

Table 3 presents the evolution of simple average tariffs for different categories of goods. The categorization is the same as in the Tunisian Retail price data. Evidently, average tariffs are higher for food products. The highest tariffs were imposed on bread and cereal products and salt and condiments. While tariffs have declined on average for most food products (with the exception of drinks) tariffs on clothing and footwear, housing, water, gas and electricity, health, and meat and poultry have largely been retained.

Table 3. Simple Average Effectively Applied Tariff Rate in percent

Categories of Goods	Year						
	2002	2003	2004	2005	2006	2007	2008
Bread and Cereals	19.37	18.8	18.4	17.03	16.99	16.99	15.63
Clothing and Footwear	15.78	15.67	16.06	12.35	14.42	14.42	15.39
Fish and Seafood	7.88	7.88	7.85	6.7	6.69	6.69	7.95
Fresh and dried Fruits	23.4	22.92	22.55	19.84	19.78	19.78	18.22
Furniture, household articles	13.15	12.92	12.83	8.86	11.42	11.42	12.53
Housing, water, gas, electricity	7.89	7.4	7.28	4.63	6.68	6.68	6.94
Meat and Poultry	5.17	5.13	5.07	4.96	4.96	4.96	4.77
Milk, Cheese and Eggs	16.12	15.48	15.68	15.92	15.96	15.96	13.83
Oil and fats	8.24	8.15	7.97	6.82	7.53	7.53	6.8
Salt and condiments	15.87	15.75	15.66	11.71	12.11	12.11	13.43
Sugar, Jam, tea, coffee and chocolate	12.84	12.38	12.28	10.64	11.23	11.23	11.56
Tobacco	9.2	9.07	8.73	7.43	7.57	7.57	7.45
Vegetables	19.35	18.97	18.63	13.61	13.61	13.61	13.62
Drinks	17.01	16.97	16.93	15.44	17.37	17.37	16.87
Health	6.77	5.57	5.41	3.16	4.73	4.73	4.98
Transport	11.08	11.14	10.98	7.95	10.02	10.02	10.57

Note: Authors' calculation using trade statistics form UN-COMTRADE.

Weighted averages –reported in Table 4 – show a decrease from about 52 percent in 2000 to 31 percent in 2008. The values are in many cases considerably larger than in Table 2 indicating that tariffs on goods with a high import share within categories are relatively large. For many products the pattern in weighted averages is more pronounced, which indicates that higher tariffs have seen more reduction.

Table 4. Weighted Average Effectively Applied Tariff Rate in percent

Categories of Goods	Year						
	2002	2003	2004	2005	2006	2007	2008
Bread and Cereals	68.51	56.57	43.23	47.1	50.88	53.71	40.37
Clothing and Footwear	35.68	32.15	38.87	10.44	29.21	28.5	28.26
Fish and Seafood	36.17	37.34	36.39	24.55	24.43	25.98	38.01
Fresh and dried Fruits	110.88	103.83	91.27	89.06	84.82	69.58	51.02
Furniture, household articles	33.73	32.47	31.74	9.62	29.85	29.62	29.93
Housing, water, gas, electricity	9.64	5.92	6.56	1.25	3.52	3.64	4.36
Meat and Poultry	104.28	94.98	81.45	79.57	83.75	88.5	59.7
Milk, Cheese and Eggs	117.91	108.93	111.47	89.07	82.42	94.78	52.51
Oil and fats	20.15	21.93	22.21	22.21	25.61	21.9	14.32
Salt and condiment	72.84	51.95	46.92	18.14	15.82	12.68	36.99
Sugar, Jam, tea, coffee and chocolate	19.49	19.59	18.91	17.22	16.95	16.9	15.17
Tobacco	30.77	26.93	22.32	10.36	24.14	23.97	17.97
Vegetables	90.87	77.34	89.49	24.71	36.09	76.47	37.41
Drinks	49.58	49.4	50.89	39.73	58.2	50.29	46.59
Health	13.72	13.01	11.69	0.54	11.21	11.11	9.26
Transport	11.72	9.05	9.38	3.15	7.11	7.54	6.93

Note: Authors' calculation using trade statistics form UN-COMTRADE.

In many sectors NTB coverage ratios – as reported in Table 5 – amount to 100%. They are, however, quite low for “Clothing and Footwear” and “Furniture and household

articles”. In general, there is no clear inter-temporal pattern. For some products the coverage ratios are significantly reduced over time(Housing, Salt and condiments and Drinks), whereas others show increasing figures over time (Clothing and Footwear and Furniture).

Table 5. Coverage ratios in percent

Categories of goods	Year						
	2002	2003	2004	2005	2006	2007	2008
Bread and Cereals	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Clothing and Footwear	0.11	0.12	0.09	3.15	2.14	2.85	2.04
Fish and Seafood	90.20	95.15	97.10	98.03	97.93	98.57	98.45
Fresh and dried Fruits	100.00	100.00	100.00	99.96	99.86	100.00	100.00
Furniture, household articles	22.38	27.02	28.05	32.61	33.93	33.45	34.84
Housing, water, gas, electricity	54.69	57.22	62.88	58.87	57.05	52.25	50.45
Meat and Poultry	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Milk, Cheese and Eggs	100.00	99.63	100.00	100.00	100.00	100.00	100.00
Oil and fats	92.80	93.40	93.97	94.83	93.79	89.98	92.49
Salt and condiment	78.37	81.87	70.04	69.30	69.39	67.66	61.75
Sugar, Jam, tea, coffee and chocolate	97.79	97.09	97.21	98.25	97.88	97.59	97.80
Tobacco	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Vegetables	99.94	99.95	99.35	99.82	99.70	99.93	99.76
Drinks	73.18	73.99	65.37	69.72	71.41	67.42	72.34
Health	99.05	99.13	99.31	98.99	98.99	98.89	99.03
Transport	61.15	65.21	62.62	93.55	94.40	92.78	94.43

Note: Authors’ calculation using trade statistics form UN-COMTRADE, and World Bank.

Table 6 presents pairwise correlation coefficients of the variables in natural logs. Most of the crude correlations are not significant at the 5% level. Vis-à-vis consumer price the coefficients always bear the expected sign. Note, that there is a significant negative relationship between tariffs and non-tariff measures, indicating that tariffs and non-tariff measures could be used as substitutes. The latter appear to be the case especially when importing products with a relatively low unit value.

Table 6. Pairwise correlations of variables in natural logs

	Consumer prices	Weighted average tariff	NTM coverage ratio	Weighted unit values	Industrial prices
Consumer prices	1				
Weighted average tariff	-0.0142	1			
NTM coverage ratio	0.3578*	0.1061*	1		
Weighted unit values	-0.0915*	-0.4730*	-0.2829*	1	
Industrial prices	0.0608*	-0.1471*	0.0657*	0.2856*	1
Exchange rate	0.0572*	-0.1585*	-0.0854*	0.0796*	0.4731*

Note: * indicates significance at 1% level.

5.2 Main results

Equation (3) is estimated for all goods and for broad categories for the period 2002 to 2008 using monthly data for industrial prices and international prices (proxied with weighted import unit values) and for yearly weighted tariffs. The main results for all goods are presented in Table 7. The model is estimated by generalized least squares (GLS). Column 1 in Table 7 presents results for a model with time dummies and column 2 includes in addition product dummies. The TPT is 7 percent according to the specification with both sets of dummies and the international and production prices coefficients present the expected positive sign and are statistically significant. The degree of TPT is considerably lower in comparison to that found in studies for other developing countries. Including the coverage ratio leads to higher coefficient estimate of the tariff pass-through in column (3). However, including product dummies the results become insignificant. It is worth noting that the coverage ratio itself is not statistically significant in any of the two specifications in Table 7 and that the number of

observation is reduced in columns (3) and (4) because the coverage ratio is missing for some products and for others it does not have time variation.

Table 7. Tariff pass-through for all goods

VARIABLES	(1) All goods	(2) All goods	(3) All goods	(4) All goods
Ind. Price	0.258** [0.109]	0.163** [0.0727]	0.141 [0.133]	0.0490 [0.0906]
Weight. UV per Kg	-0.00561 [0.00442]	0.00311 [0.00410]	-0.0170*** [0.00503]	0.00179 [0.00494]
Weight. Tariff	0.0939** [0.0443]	0.0639* [0.0350]	0.117** [0.0482]	0.0531 [0.0390]
Coverage Ratio			0.00143 [0.00104]	0.00121 [0.000798]
Constant	-1.258** [0.525]	-2.201*** [0.389]	-0.703 [0.642]	-1.721*** [0.487]
Product dummies	No	Yes	No	Yes
Year dummies	Yes	Yes	Yes	Yes
Observations	4,656	4,656	3,889	3,889
Numberofproducts	73	73	64	64

Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1.
Ind. Price, Weight. UV per Kg, Weight. Tariff in logs

GLS estimations with product dummies and with a time trend are also presented for broad categories and for single products in Tables 8 and 9. According to the results in Table 8, the coefficient of weighted tariffs is positive for agricultural products and statistically significant in column 1, but it turns insignificant when the coverage ratio of NTMs is added as regressor. For manufactured goods the pass-through coefficient is close to the one found for all goods when the coverage ratio is added as a regressor, but it is not significantly different from zero in the specification without NTMs. For the service sector, the pass-through is negative in both specifications, indicating that decreases in tariffs and not tariff barriers actually are associated to increases in domestic prices for services.

Table 8. Tariff pass-through for broad categories

VARIABLES	(1) Agriculture	(2)	(3) Manufactures	(4)	(5)	(6)
Weight. UV per Kg	0.00194 [0.00567]	0.00189 [0.00602]	0.00670* [0.00377]	0.00135 [0.00459]	0.00297 [0.00303]	-0.000241 [0.00513]
Weight. Tariff	0.0827* [0.0433]	0.0653 [0.0456]	0.0400 [0.0411]	0.0724* [0.0397]	-0.229*** [0.0722]	-0.147* [0.0865]
Coverage Ratio		0.00300** [0.00132]		-0.000738*** [0.000223]		-0.0227** [0.00890]
Ind. Price	0.225 [0.140]	0.286* [0.151]	0.247*** [0.0576]	0.123 [0.0938]	0.192*** [0.0442]	0.145*** [0.0513]
Constant	0 [0]	0 [0]	0.280 [0.287]	-0.504 [0.462]	-2.404*** [0.242]	0.121 (0.867)
Product dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,894	2,787	822	502	940	600
Number of products	50	48	12	8	12	8

Note: Standard errors in brackets. Ind. Price, Weight. UV per Kg, Weight. Tariff in logs*** p<0.01, ** p<0.05, * p<0.1

Table 9 presents the results for broad consumption categories. The results show positive and significant tariff effects (reductions in tariffs are associated to reductions in domestic prices) for four items, namely Bread and Cereals Milk, Cheese and Eggs and Tobacco. The coverage ratio present mostly non-significant coefficients and in a few cases negative. Finally, results for single products are presented in the Appendix in Table A.3. Positive and significant tariff pass-through is found for 16 products. In particular full pass-through is found for chocolate powder, seed oil bottle and fresh milk and partial pass-through for the other 13 products. As regards the coverage ratio, it presents positive and significant estimates for Fresh milk in bulk, Synthetic carpet mats, Cement and Teal, however the information is missing for many product.

Table 9. Tariff pass-through for specific categories

Variables	lwuvk	lwtariff	covntm	lindprice	Obs	Products
Bread and Cereals	-0.0229	0.472***		0.487	456	6
Bread and Cereals	-0.0206	0.429***	0.000883	0.478	456	6
Clothing and Footwear	0.122	-12.44		2.127***	44	2
Clothing and Footwear	0.0874	0	-0.0553	0.0913	22	1
Fish and Seafood	0.0126	0.126		-0.156	574	8
Fish and Seafood	0.013	0.125	0.0365	-0.17	574	8
Fresh and dried Fruits	-0.0126	-0.0507		3.865***	290	7
Fresh and dried Fruits	-0.0126	-0.0507		3.865***	290	7
Furniture, household articles	0.00439	0.0118		0.190***	526	7
Furniture, household articles	-0.00227	-0.00213	-0.000540**	-0.183	228	4
Housing, water, gas, electricity	0.00395	0.0615		0.355***	520	7
Housing, water, gas, electricity	-0.00277	0.034	-0.00171	0.259***	216	3
Meat and Poultry	0.0194	0.346		0.531**	119	2
Meat and Poultry	0.0194	0.346		0.531**	119	2
Milk, Cheese and Eggs	-0.0175**	0.242***		0.391**	324	5
Milk, Cheese and Eggs	-0.0239***	0.244***	-0.0424*	0.424**	324	5
Oil and fats	-0.00328	-0.0176		-0.0594	168	2
Oil and fats	-0.00328	-0.0176		-0.0594	168	2
Salt and condiment	0.00015	0.00148		0.00742	252	3
Salt and condiment	0.00123	0.00181		0.325***	168	2
Sugar, Jam, tea,coffee and chocolate	-0.0085	0.083		-0.133	181	3
Sugar, Jam, tea,coffee and chocolate	-0.0109	-0.162	-0.0693	-0.192	181	3
Tobacco	-0.00456	0.134***		0.487***	252	3
Tobacco	-0.00456	0.134***		0.487***	252	3
Vegetables	-0.0043	0.0226		-0.753	530	14
Vegetables	-0.00929	0.0114	-1.205***	-0.685	507	13
Health	0.231**	-1.912***		-0.0855	168	2
Health	0.231**	-1.912***		-0.0855	168	2
Transport	0.00523	-0.0555		0.0363**	252	3
Transport	0.00471	-0.0366		0.0259	216	3

Note: All models estimated with robust s.e.with a time trend and product fixed effects.

6. Conclusions

In this paper we have estimated the tariff pass-through for the Tunisian economy using data from 2000 to 2008. The main results indicate that changes in tariffs are only partially transmitted to changes in retail prices, with an average pass-through of 10

percent. This partial pass-through effect is lower in magnitude than the one found in other developing-country studies. We also estimated the model for specific sectors and the results indicate the tariff pass-through for agricultural products is around 8 percent and for agricultural products around 7 percent, whereas for the service sector the pass-through is negative. This result confirms that a trade liberalization not strengthened by trade related institutions and policies such a stable macroeconomic environment, a competitive exchange rate, competitive policies fails to contribute to an efficient allocation of resources. As a consequence, consumer prices will not decrease as expected following tariff reduction. Consumers will not profit from trade liberalization. As the markets are distorted by government interventions via price controls, subsidies, taxes and barriers to entry, tariff cuts will benefit the few firms operating in liberalized markets.

The results concerning the transmission of NTMs to domestic prices are not very informative. This could be due to errors in the data and to the lack of a sufficiently accurate measure of NTMs for Tunisian imports. More work is needed to refine the measure used and to obtain more clear-cut results.

An important aspect that should be mentioned is that high share of the imported goods (around 40-50 percent of imports) are intermediate goods and part and components, which are also subject to protection, but which cannot be directly linked to retail prices. An interesting aspect to be investigated is how changes in protection concerning these products will affect the prices of the final goods produced in Tunisia using those imported inputs. We leave this for further research.

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Appendix

TableA.1 Conversion Table for Retail categories and HS 1996

Code	Retail category	Hs6	Hs product description
1	Semolina	N/a	N/a
2	Couscous	190240	Couscous
3	Macaroni	190211	Uncooked pasta, not stuffed or otherwise prepared :-- containing eggs
3	Macaroni	190219	Uncooked pasta, not stuffed or otherwise prepared :-- other
3	Macaroni	190230	Other pasta
4	Flour packet	110100	Wheat or meslin flour.
4	Flour packet	110210	Rye flour
4	Flour packet	110220	Maize (corn) flour
4	Flour packet	110230	Rice flour
4	Flour packet	110510	Flour, meal and powder
5	Bread	190510	Crispbread
5	Bread	190520	Gingerbread and the like
5	Bread	190540	Rusks, toasted bread and similar toasted products
5	Bread	190590	Other
6	Stick	190590	Other
7	Bulk rice	100610	Rice in the husk (paddy or rough)
7	Bulk rice	100620	Husked (brown) rice
7	Bulk rice	100630	Semi-milled or wholly milled rice, whether or not polished or glazed
7	Bulk rice	100640	Broken rice
8	Lamb	020410	Carcasses and half-carcasses of lamb, fresh or chilled
8	Lamb	020430	Other meat of sheep, fresh or chilled :- carcasses and half-carcasses of lamb, frozen
9	Boneless beef meat	020130	Boneless: processed & other
9	Boneless beef meat	020230	Boneless, processed
9	Boneless beef meat	021020	Meat of bovine animals
10	Industrial killed whole chicken and plucked	020711	Of fowls of the species gallusdomesticus :-- not cut in pieces, fresh or chilled
10	Industrial killed whole chicken and plucked	020712	Of fowls of the species gallusdomesticus :-- not cut in pieces, frozen
11	Turkey escalope	020724	Of turkeys :-- not cut in pieces, fresh or chilled
11	Turkey escalope	020725	Of turkeys :-- not cut in pieces, frozen
12	Mullet (average)	030269	Other fish, excluding livers and roes :-- other
12	Mullet (average)	030379	Other
13	Mule	030269	Other fish, excluding livers and roes :-- other
13	Mule	030379	Other
14	Whiting (average)	030378	Other fish, excluding livers and roes :-- hake (merluccius spp., urophycis spp.)
15	Sardines (average)	030261	Other fish, excluding livers and roes :-- sardines (sardinapilchardus, sardinops spp.), sardinella (sardinella spp.), brisling or sprats (sprattussprattus)
15	Sardines (average)	030371	Other fish, excluding livers and roes :-- sardines (sardinapilchardus, sardinops spp.), sardinella (sardinella spp.), brisling or sprats (sprattussprattus)
15	Sardines (average)	160413	Fish, whole or in pieces, but not minced :-- sardines, sardinella and brisling or sprats

16	Mackerel (average)	030264	Other fish, excluding livers and roes :-- mackerel (scomberscombrus, scomberaustralasicus, scomberjaponicus)
16	Mackerel (average)	030374	Other fish, excluding livers and roes :-- mackerel (scomberscombrus, scomberaustralasicus, scomberjaponicus)
16	Mackerel (average)	160415	Fish, whole or in pieces, but not minced :-- mackerel
17	Pageaux (average)	030269	Other fish, excluding livers and roes :-- other
17	Pageaux (average)	030379	Other
18	Horse mackerel	030269	Other fish, excluding livers and roes :-- other
18	Horse mackerel	030379	Other
19	Octopus	030751	Octopus (octopus spp.) :-- live, fresh or chilled
19	Octopus	030759	Octopus (octopus spp.) :-- other
20	Cuttlefish	030741	Cuttle fish (sepia officinalis, rossiamacrosoma, sepiola spp.) And squid (ommastrephes spp., loligo spp., nototodarus spp., sepioteuthis spp.) :-- live, fresh or chilled
20	Cuttlefish	030749	Cuttle fish (sepia officinalis, rossiamacrosoma, sepiola spp.) And squid (ommastrephes spp., loligo spp., nototodarus spp., sepioteuthis spp.) :-- other
21	Egg	040700	Birds' eggs, in shell, fresh, preserved or cooked.
22	Fresh milk in bulk	040110	Of a fat content, by weight, not exceeding 1 %
22	Fresh milk in bulk	040120	Of a fat content, by weight, exceeding 1 % but not exceeding 6 %
22	Fresh milk in bulk	040130	Of a fat content, by weight, exceeding 6 %
23	Milk package	040110	Of a fat content, by weight, not exceeding 1 %
23	Milk package	040120	Of a fat content, by weight, exceeding 1 % but not exceeding 6 %
23	Milk package	040130	Of a fat content, by weight, exceeding 6 %
24	Sweet flavored yogurt	040310	Yogurt
25	Cheese box	040610	Fresh (unripened or uncured) cheese, including whey cheese, and curd
25	Cheese box	040620	Grated or powdered cheese, of all kinds
25	Cheese box	040630	Processed cheese, not grated or powdered
25	Cheese box	040640	Blue-veined cheese
25	Cheese box	040690	Other cheese
26	Packet butter	040510	Butter
27	Seed oil bottle (soybean)	150710	Crude oil, whether or not degummed
27	Seed oil bottle (soybean)	150790	Other
28	Olive oil (bulk)	150910	Virgin
28	Olive oil (bulk)	150990	Other
29	Sunflower oil	151211	Sunflower-seed or safflower oil and fractions thereof :-- crude oil
29	Sunflower oil	151219	Sunflower-seed or safflower oil and fractions thereof :-- other
30	Corn oil	151521	Maize (corn) oil and its fractions :-- crude oil
30	Corn oil	151529	Maize (corn) oil and its fractions :-- other
31	Thawed	N/a	N/a
32	Watermelons	080711	Melons (including watermelons) :-- watermelons
33	Melons	080719	Melons (including watermelons) :-- other
34	Ordinary grapes	080610	Fresh
34	Ordinary grapes	080620	Dried
35	Lemons	080530	Lemons (citrus limon, citrus limonum) and limes (citrus aurantifolia)
36	Oranges malta	080510	Oranges
37	Sweet oranges	080510	Oranges

38	Dry shelled almonds	080212	Almonds :-- shelled
39	Artichokes	070910	Globe artichokes
40	Carrots	070610	Carrots and turnips
41	Choux	070420	Brussels sprouts
42	Squash	070990	
43	Fennel	090950	Seeds of fennel; juniper berries
44	Green beans	070820	Beans (vigna spp., phaseolus spp.)
44	Green beans	071022	Leguminous vegetables, shelled or unshelled :-- beans (vigna spp., phaseolus spp.)
45	Dried onions	070310	Onions and shallots
45	Dried onions	071110	Onions
45	Dried onions	071220	Onions
45	Dried onions	200120	Onions
46	Turnips	070610	Carrots and turnips
47	Green onions	070310	Onions and shallots
47	Green onions	071110	Onions
47	Green onions	071220	Onions
47	Green onions	200120	Onions
48	Dry garlic	070320	Garlic
49	Fresh sweet peppers	070960	Fruits of the genus capsicum or of the genus pimenta
50	Spicy fresh peppers	070960	Fruits of the genus capsicum or of the genus pimenta
51	Potatoes	071010	Potatoes
52	Fresh peas	070810	Peas (pisumsativum)
53	Tomatoes	070200	Tomatoes, fresh or chilled.
53	Tomatoes	200210	Tomatoes, whole or in pieces
54	Dried chickpeas	071320	Chickpeas (garbanzos)
55	Dried beans	200551	Beans (vigna spp., phaseolus spp.) :-- beans, shelled
55	Dried beans	200559	Beans (vigna spp., phaseolus spp.) :-- other
56	Caster sugar	170111	Raw sugar not containing added flavouring or colouringmatter :-- cane sugar
56	Caster sugar	170112	Raw sugar not containing added flavouring or colouringmatter :-- beet sugar
57	Chocolate powder	180610	Cocoa powder, containing added sugar or other sweetening matter
58	Normal black tea	090230	Black tea (fermented) and partly fermented tea, in immediate packings of a content not exceeding 3 kg
58	Normal black tea	090240	Other black tea (fermented) and other partly fermented tea
59	Super red tea	090230	Black tea (fermented) and partly fermented tea, in immediate packings of a content not exceeding 3 kg
59	Super red tea	090240	Other black tea (fermented) and other partly fermented tea
60	Blended coffee	090111	Coffee, not roasted :-- not decaffeinated
60	Blended coffee	090112	Coffee, not roasted :-- decaffeinated
60	Blended coffee	090121	Coffee roasted :-- not decaffeinated
60	Blended coffee	090122	Coffee roasted :-- decaffeinated
61	Pure coffee	090111	Coffee, not roasted :-- not decaffeinated
61	Pure coffee	090112	Coffee, not roasted :-- decaffeinated
61	Pure coffee	090121	Coffee roasted :-- not decaffeinated
61	Pure coffee	090122	Coffee roasted :-- decaffeinated

62	Tomato concentrate	210320	Tomato ketchup and other tomato sauces
63	Salt	250100	Salt (including table salt and denatured salt) and pure sodium chloride, whether or not aqueous solution or containing added anti-caking or free-flowing agents; sea water.
64	Canned harissa	090420	Fruits of the genus capsicum or of the genus pimenta, dried or crushed or ground
65	Peppercorns	090411	Pepper :-- neither crushed nor ground
65	Peppercorns	090412	Pepper :-- crushed or ground
66	Canned olives	071120	Olives
66	Canned olives	200570	Olives
67	Soft drink glass	220290	Other
68	Mineral water	220110	Mineral waters and aerated waters
68	Mineral water	220210	Waters, including mineral waters and aerated waters, containing added sugar or other sweetening matter or flavoured
69	Cigarettes (cristal)	240220	Cigarettes containing tobacco
69	Cigarettes (cristal)	240290	Other
70	Cigarettes inter march	240220	Cigarettes containing tobacco
70	Cigarettes inter march	240290	Other
71	Neffa	240399	Other
72	Degreasing a jacket	N/a	N/a
73	Degreasing trousers	N/a	N/a
74	Men's shirts (1)	620510	Of wool or fine animal hair
74	Men's shirts (1)	620520	Of cotton
74	Men's shirts (1)	620530	Of man-made fibres
74	Men's shirts (1)	620590	Of other textile materials
75	Vest	620791	Other :-- of cotton
75	Vest	620792	Other :-- of man-made fibres
75	Vest	620799	Other :-- of other textile materials
75	Vest	620891	Other :-- of cotton
75	Vest	620892	Other :-- of man-made fibres
75	Vest	620899	Other :-- of other textile materials
75	Vest	610910	Of cotton
75	Vest	610990	Of other textile materials
76	Jean pants boy	620342	Trousers, bib and brace overalls, breeches and shorts :-- of cotton
76	Jean pants boy	620349	Trousers, bib and brace overalls, breeches and shorts :-- of other textile materials
77	Men's shoes	640110	Footwear incorporating a protective metal toe-cap
77	Men's shoes	640191	Other footwear :-- covering the knee
77	Men's shoes	640192	Other footwear :-- covering the ankle but not covering the knee
77	Men's shoes	640199	Other footwear :-- other
77	Men's shoes	640212	Sports footwear :-- ski-boots, cross-country ski footwear and snowboard boots
77	Men's shoes	640219	Sports footwear :-- other
77	Men's shoes	640220	Footwear with upper straps or thongs assembled to the sole by means of plugs
77	Men's shoes	640230	Other footwear, incorporating a protective metal toe-cap
77	Men's shoes	640291	Other footwear :-- covering the ankle
77	Men's shoes	640299	Other footwear :-- other

77	Men's shoes	640312	Sports footwear :-- ski-boots, cross-country ski footwear and snowboard boots
77	Men's shoes	640319	Sports footwear :-- other
77	Men's shoes	640320	Footwear with outer soles of leather, and uppers which consist of leather straps across the instep and around the big toe
77	Men's shoes	640330	Footwear made on a base or platform of wood, not having an inner sole or a protective metal toe-cap
77	Men's shoes	640340	Other footwear, incorporating a protective metal toe-cap
77	Men's shoes	640351	Other footwear with outer soles of leather :-- covering the ankle
77	Men's shoes	640359	Other footwear with outer soles of leather :-- other
77	Men's shoes	640391	Other footwear :-- covering the ankle
77	Men's shoes	640399	Other footwear :-- other
77	Men's shoes	640411	Footwear with outer soles of rubber or plastics :-- sports footwear; tennis shoes, basketball shoes, gym shoes, training shoes and the like
77	Men's shoes	640419	Footwear with outer soles of rubber or plastics :-- other
77	Men's shoes	640420	Footwear with outer soles of leather or composition leather
77	Men's shoes	640510	With uppers of leather or composition leather
77	Men's shoes	640520	With uppers of textile materials
77	Men's shoes	640590	Other
78	Chlaka leather women	640420	Footwear with outer soles of leather or composition leather
79	Boy sneakers	640520	With uppers of textile materials
80	Fabrics	500710	Fabrics of noil silk
80	Fabrics	500720	Other fabrics, containing 85 % or more by weight of silk or of silk waste other than no silk
80	Fabrics	500790	Other fabrics
80	Fabrics	511111	Containing 85 % or more by weight of wool or of fine animal hair :-- of a weight not exceeding 300 g/m2
80	Fabrics	511119	Containing 85 % or more by weight of wool or of fine animal hair :-- other
80	Fabrics	511120	Other, mixed mainly or solely with man-made filaments
80	Fabrics	511130	Other, mixed mainly or solely with man-made staple fibres
80	Fabrics	511190	Other
80	Fabrics	511211	Containing 85 % or more by weight of wool or of fine animal hair :-- of a weight not exceeding 200 g/m2
80	Fabrics	511219	Containing 85 % or more by weight of wool or of fine animal hair :-- other
80	Fabrics	511220	Other, mixed mainly or solely with man-made filaments
80	Fabrics	511230	Other, mixed mainly or solely with man-made staple fibres
80	Fabrics	511290	Other
80	Fabrics	511300	Woven fabrics of coarse animal hair or of horsehair.
80	Fabrics	520811	Unbleached :-- plain weave, weighing not more than 100 g/m2
80	Fabrics	520812	Unbleached :-- plain weave, weighing more than 100 g/m2
80	Fabrics	520813	Unbleached :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	520819	Unbleached :-- other fabrics
80	Fabrics	520821	Bleached :-- plain weave, weighing not more than 100 g/m2
80	Fabrics	520822	Bleached :-- plain weave, weighing more than 100 g/m2
80	Fabrics	520823	Bleached :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	520829	Bleached :-- other fabrics
80	Fabrics	520831	Dyed :-- plain weave, weighing not more than 100 g/m2
80	Fabrics	520832	Dyed :-- plain weave, weighing more than 100 g/m2

80	Fabrics	520833	Dyed :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	520839	Dyed :-- other fabrics
80	Fabrics	520841	Of yarns of different colours :-- plain weave, weighing not more than 100 g/m2
80	Fabrics	520842	Of yarns of different colours :-- plain weave, weighing more than 100 g/m2
80	Fabrics	520843	Of yarns of different colours :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	520849	Of yarns of different colours :-- other fabrics
80	Fabrics	520851	Printed :-- plain weave, weighing not more than 100 g/m2
80	Fabrics	520852	Printed :-- plain weave, weighing more than 100 g/m2
80	Fabrics	520853	Printed :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	520859	Printed :-- other fabrics
80	Fabrics	520911	Unbleached :-- plain weave
80	Fabrics	520912	Unbleached :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	520919	Unbleached :-- other fabrics
80	Fabrics	520921	Bleached :-- plain weave
80	Fabrics	520922	Bleached :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	520929	Bleached :-- other fabrics
80	Fabrics	520931	Dyed :-- plain weave
80	Fabrics	520932	Dyed :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	520939	Dyed :-- other fabrics
80	Fabrics	520941	Of yarns of different colours :-- plain weave
80	Fabrics	520942	Of yarns of different colours :-- denim
80	Fabrics	520943	Of yarns of different colours :-- other fabrics of 3-thread or 4-thread twill, including cross twill
80	Fabrics	520949	Of yarns of different colours :-- other fabrics
80	Fabrics	520951	Printed :-- plain weave
80	Fabrics	520952	Printed :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	520959	Printed :-- other fabrics
80	Fabrics	852090	Other
80	Fabrics	521011	Unbleached :-- plain weave
80	Fabrics	521012	Unbleached :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	521019	Unbleached :-- other fabrics
80	Fabrics	521021	Bleached :-- plain weave
80	Fabrics	521022	Bleached :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	521029	Bleached :-- other fabrics
80	Fabrics	521031	Dyed :-- plain weave
80	Fabrics	521032	Dyed :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	521039	Dyed :-- other fabrics
80	Fabrics	521041	Of yarns of different colours :-- plain weave
80	Fabrics	521042	Of yarns of different colours :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	521049	Of yarns of different colours :-- other fabrics
80	Fabrics	521051	Printed :-- plain weave
80	Fabrics	521052	Printed :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	521059	Printed :-- other fabrics
80	Fabrics	521111	Unbleached :-- plain weave
80	Fabrics	521112	Unbleached :-- 3-thread or 4-thread twill, including cross twill

80	Fabrics	521119	Unbleached :-- other fabrics
80	Fabrics	521121	Bleached :-- plain weave
80	Fabrics	521122	Bleached :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	521129	Bleached :-- other fabrics
80	Fabrics	521131	Dyed :-- plain weave
80	Fabrics	521132	Dyed :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	521139	Dyed :-- other fabrics
80	Fabrics	521141	Of yarns of different colours :-- plain weave
80	Fabrics	521142	Of yarns of different colours :-- denim
80	Fabrics	521143	Of yarns of different colours :-- other fabrics of 3-thread or 4-thread twill, including cross twill
80	Fabrics	521149	Of yarns of different colours :-- other fabrics
80	Fabrics	521151	Printed :-- plain weave
80	Fabrics	521152	Printed :-- 3-thread or 4-thread twill, including cross twill
80	Fabrics	521159	Printed :-- other fabrics
80	Fabrics	521211	Weighing not more than 200 g/m2 :-- unbleached
80	Fabrics	521212	Weighing not more than 200 g/m2 :-- bleached
80	Fabrics	521213	Weighing not more than 200 g/m2 :-- dyed
80	Fabrics	521214	Weighing not more than 200 g/m2 :-- of yarns of different colours
80	Fabrics	521215	Weighing not more than 200 g/m2 :-- printed
80	Fabrics	521221	Weighing more than 200 g/m2 :-- unbleached
80	Fabrics	521222	Weighing more than 200 g/m2 :-- bleached
80	Fabrics	521223	Weighing more than 200 g/m2 :-- dyed
80	Fabrics	521224	Weighing more than 200 g/m2 :-- of yarns of different colours
80	Fabrics	521225	Weighing more than 200 g/m2 :-- printed
81	Zip	960711	Slide fasteners :-- fitted with chain scoops of base metal
81	Zip	960719	Slide fasteners :-- other
82	Tailoring costs: trousers	N/a	N/a
83	Tailoring costs: dress	N/a	N/a
84	Oil paint	N/a	N/a
85	Emulsion paint	320910	Based on acrylic or vinyl polymers
85	Emulsion paint	320990	Other
86	Cement	252310	Cement clinkers
86	Cement	252321	Portland cement :-- white cement, whether or not artificially coloured
86	Cement	252329	Portland cement :-- other
86	Cement	252330	Aluminous cement
86	Cement	252390	Other hydraulic cements
87	Lime	250900	Chalk.
88	Brick 12	681011	Tiles, flagstones, bricks and similar articles :-- building blocks and bricks
88	Brick 12	681019	Tiles, flagstones, bricks and similar articles :-- other
89	Round rebar 12	720853	Other, not in coils, not further worked than hot-rolled :-- of a thickness of 3 mm or more but less than 4.75 mm
90	Water 2nd tranche	220290	Other
91	Electricity 2nd	N/a	N/a

	tranche		
92	Town gas (low pressure)	271111	Liquefied :-- natural gas
92	Town gas (low pressure)	271121	In gaseous state :-- natural gas
92	Town gas (low pressure)	271129	In gaseous state :-- other
93	Bottled gas	271111	Liquefied :-- natural gas
93	Bottled gas	271121	In gaseous state :-- natural gas
93	Bottled gas	271129	In gaseous state :-- other
94	Charcoal	440200	Wood charcoal (including shell or nut charcoal), whether or not agglomerated.
94	Charcoal	270111	Coal, whether or not pulverised, but not agglomerated :-- anthracite
94	Charcoal	270112	Coal, whether or not pulverised, but not agglomerated :-- bituminous coal
94	Charcoal	270119	Coal, whether or not pulverised, but not agglomerated :-- other coal
94	Charcoal	270120	Briquettes, ovoids and similar solid fuels manufactured from coal
95	Teal	270900	Petroleum oils and oils obtained from bituminous minerals, crude.
95	Teal	271000	Petroleum oils and oils obtained from bituminous minerals, other than crude; preparations not elsewhere specified or included, containing by weight 70% or more of petroleum oils or of oils obtained from bituminous minerals, these oils b
96	Ordinary light bulb	701110	For electric lighting
97	Halogen bulb	701110	For electric lighting
98	Plastic chair	940180	Other seats
99	Foam mattress instead	940421	Mattresses :-- of cellular rubber or plastics, whether or not covered
99	Foam mattress instead	940429	Mattresses :-- of other materials
100	Synthetic carpet mats	570232	Other, of pile construction, not made up :-- of man-made textile materials
100	Synthetic carpet mats	570242	Other, of pile construction, made up :-- of man-made textile materials
100	Synthetic carpet mats	570252	Other, not of pile construction, not made up :-- of man-made textile materials
100	Synthetic carpet mats	570292	Other, not of pile construction, made up :-- of man-made textile materials
100	Synthetic carpet mats	570330	Of other man-made textile materials
101	Green soap	340111	Soap and organic surface-active products and preparations, in the form of bars, cakes, moulded pieces or shapes, and paper, wadding, felt and nonwovens, impregnated, coated or covered...:-- for toilet use(including medicated products)
101	Green soap	340119	Soap and organic surface-active products and preparations, in the form of bars, cakes, moulded pieces or shapes, and paper, wadding, felt and nonwovens, impregnated, coated or covered with soap or detergent :-- other
101	Green soap	340120	Soap in other forms
102	Bleach	282890	Other
103	Scouring powder	340540	Scouring pastes and powders and other scouring preparations
104	Insecticide	380810	Insecticides
105	Washing machine	845140	Washing, bleaching or dyeing machines
106	Earthenware plate	691200	Ceramic tableware, kitchenware, other household articles and toilet articles, other than of porcelain or china.
116	Earthenware plate	691110	Tableware and kitchenware
107	Plate glass	701331	Glassware of a kind used for table (other than drinking glasses) or kitchen purposes other than of glass-

107	Plate glass	701332	Glassware of a kind used for table (other than drinking glasses) or kitchen purposes other than of glass-
107	Plate glass	701339	Glassware of a kind used for table (other than drinking glasses) or kitchen purposes other than of glass-
108	Pot (8 l)	732391	Other :-- of cast iron, not enamelled
108	Pot (8 l)	732392	Other :-- of cast iron, enamelled
108	Pot (8 l)	732393	Other :-- of stainless steel
108	Pot (8 l)	732394	Other :-- of iron (other than cast iron) or steel, enamelled
108	Pot (8 l)	732399	Other
109	Sheet and pillowcase has places	630210	Bed linen, knitted or crocheted
109	Sheet and pillowcase has places	630221	Other bed linen, printed :-- of cotton
109	Sheet and pillowcase	630222	Other bed linen, printed :-- of man-made fibres
109	Sheet and pillowcase	630229	Other bed linen, printed :-- of other textile materials
109	Sheet and pillowcase	630231	Other bed linen :-- of cotton
109	Sheet and pillowcase	630232	Other bed linen :-- of man-made fibres
109	Sheet and pillowcase	630239	Other bed linen :-- of other textile materials
110	Towel	480300	Toilet or facial tissue stock, towel or napkin stock and similar paper of a kind used for household or sanitary purposes, cellulose wadding and webs of cellulose fibres, whether or not creped, crinkled, embossed, perforated, surface-co
110	Towel	481820	Handkerchiefs, cleansing or facial tissues and towels
110	Towel	481840	Sanitary towels and tampons, napkins and napkin liners for babies and similar sanitary articles
110	Towel	560110	Sanitary towels and tampons, napkins and napkin liners for babies and similar sanitary articles, of wadding
110	Towel	630260	Toilet linen and kitchen linen, of terry towelling or similar terry fabrics, of cotton
111	Gp consultation	N/a	N/a
112	Consultation in hospital	N/a	N/a
113	Cost of hospital stay	N/a	N/a
114	Efferalgan	300390	Other
114	Efferalgan	300490	Other
115	Tylenol	300390	Other
115	Tylenol	300490	Other
116	Injection	N/a	N/a
117	Bus / metro	N/a	N/a
118	Subscription	N/a	N/a
119	2nd class train ticket	N/a	N/a
120	4cv cars	870321	Other vehicles, with spark-ignition internal combustion reciprocating piston engine :-- of a cylinder capacity not exceeding 1,000 cc
120	4cv cars	870322	Other vehicles, with spark-ignition internal combustion reciprocating piston engine :-- of a cylinder capacity exceeding 1,000 cc but not exceeding 1,500 cc
120	4cv cars	870323	Other vehicles, with spark-ignition internal combustion reciprocating piston engine :--

			of a cylinder capacity exceeding 1,500 cc but not exceeding 3,000 cc
120	4cv cars	870324	Other vehicles, with spark-ignition internal combustion reciprocating piston engine :-- of a cylinder capacity exceeding 3,000 cc
120	4cv cars	870331	Other vehicles, with compression-ignition internal combustion piston engine (diesel or semi-diesel) :-- of a cylinder capacity not exceeding 1,500 cc
120	4cv cars	870332	Other vehicles, with compression-ignition internal combustion piston engine (diesel or semi-diesel) :-- of a cylinder capacity exceeding 1,500 cc but not exceeding 2,500 cc
120	4cv cars	870333	Other vehicles, with compression-ignition internal combustion piston engine (diesel or semi-diesel) :-- of a cylinder capacity exceeding 2,500 cc
121	Premium gasoline	271000	Petroleum oils and oils obtained from bituminous minerals, other than crude; preparations not elsewhere specified or included, containing by weight 70% or more of petroleum oils or of oils obtained from bituminous minerals, these oils b
122	Gasoil	271000	Petroleum oils and oils obtained from bituminous minerals, other than crude; preparations not elsewhere specified or included, containing by weight 70% or more of petroleum oils or of oils obtained from bituminous minerals, these oils b

Table a.2: conversion table between retail prices and industrial price categories

Code	Retail category	Category industrial prices
1	Semolina	Processed cereals
2	Couscous	Processed cereals
3	Macaroni	Processed cereals
4	Flour packet	Processed cereals
5	Bread	Processed cereals
6	Stick	Processed cereals
7	Bulk rice	Processed cereals
8	Lamb	Meat
9	Boneless beef meat	Meat
10	Industrial killed whole chicken and plucked	Meat
11	Turkey escalope	Meat
12	Mullet (average)	Preserved fish
13	Mule	Preserved fish
14	Whiting (average)	Preserved fish
15	Sardines (average)	Preserved fish
16	Mackerel (average)	Preserved fish
17	Pageaux (average)	Preserved fish
18	Horse mackerel	Preserved fish
19	Octopus	Preserved fish
20	Cuttlefish	Preserved fish
21	Egg	Other food products
22	Fresh milk in bulk	Dairy
23	Milk package	Dairy
24	Sweet flavored yogurt	Dairy
25	Cheese box	Dairy
26	Packet butter	Dairy
27	Seed oil bottle (soybean)	Oils and fats

28	Olive oil (bulk)	Oils and fats
29	Sunflower oil	Oils and fats
30	Corn oil	Oils and fats
31	Thawed	Preserved vegetables, fruit and jam
32	Melons	Preserved vegetables, fruit and jam
33	Watermelons	Preserved vegetables, fruit and jam
34	Ordinary grapes	Preserved vegetables, fruit and jam
35	Lemons	Preserved vegetables, fruit and jam
36	Oranges malta	Preserved vegetables, fruit and jam
37	Sweet oranges	Preserved vegetables, fruit and jam
38	Dry shelled almonds	Preserved vegetables, fruit and jam
39	Artichokes	Preserved vegetables, fruit and jam
40	Carrots	Preserved vegetables, fruit and jam
41	Choux	Preserved vegetables, fruit and jam
42	Squash	Preserved vegetables, fruit and jam
43	Fennel	Preserved vegetables, fruit and jam
44	Green beans	Preserved vegetables, fruit and jam
45	Dried onions	Preserved vegetables, fruit and jam
46	Turnips	Preserved vegetables, fruit and jam
47	Green onions	Preserved vegetables, fruit and jam
48	Dry garlic	Preserved vegetables, fruit and jam
49	Fresh sweet peppers	Preserved vegetables, fruit and jam
50	Spicy fresh peppers	Preserved vegetables, fruit and jam
51	Potatoes	Preserved vegetables, fruit and jam
52	Fresh peas	Preserved vegetables, fruit and jam
53	Tomatoes	Preserved vegetables, fruit and jam
54	Dried chickpeas	Preserved vegetables, fruit and jam
55	Dried beans	Preserved vegetables, fruit and jam
56	Castor sugar	Other food products
57	Chocolate powder	Other food products
58	Normal black tea	Drinks
59	Super red tea	Drinks
60	Blended coffee	Drinks
61	Pure coffee	Drinks
62	Tomato concentrate	Preserved vegetables, fruit and jam
63	Salt	Salt
64	Canned harissa	Preserved vegetables, fruit and jam
65	Peppercorns	Preserved vegetables, fruit and jam
66	Canned olives	Preserved vegetables, fruit and jam
67	Soft drink glass	Drinks
68	Mineral water	Drinks
69	Cigarettes (cristal)	Manufactured tobacco
70	Cigarettes inter march	Manufactured tobacco
71	Neffa	Manufactured tobacco

72	Degreasing a jacket	N/a
73	Degreasing trousers	N/a
74	Men's shirts	Apparel
75	Vest	Apparel
76	Jean pants boy	Apparel
77	Men's shoes	Shoes
78	Chlaka leather women	Shoes
78	Chlaka leather women	Leathers worked
78	Chlaka leather women	Leather goods
79	Boy sneakers	Shoes
80	Fabrics	Fabrics
81	Zip	Textile articles
82	Tailoring costs: trousers	Textile articles
83	Tailoring costs: dress	Textile articles
84	Oil paint	Dyes, paints, inks and adhesives
85	Painting water	Dyes, paints, inks and adhesives
86	Cement	Cement and lime plaster
87	Lime	Cement and lime plaster
88	Brick 12	Tiles and bricks
89	Round rebar 12	Articles of cement and concrete
90	Water 2nd tranche	Water
91	Electricity 2nd tranche	Electricity
92	Town gas (low pressure)	Ext. Raff. Oil of -gas
93	Bottled gas	Ext. Raff. Oil of -gas
94	Charcoal	Other products of wood
95	Petroleum	Ext. Raff. Oil of -gas
96	Ordinary light bulb	Lamps and tubes
97	Halogen bulb	Lamps and tubes
98	Plastic chair	Products in plastic materials
99	Foam mattress instead	Various textile articles
100	Synthetic carpet mats	Textile articles
101	Green soap	Soaps, detergents and cleaning products
102	Bleach	Dyes, paints, inks and adhesives
103	Scouring powder	Soaps, detergents and cleaning products
104	Insecticide	Miscellaneous parachechemical
105	Washing machine	Tools & hardware
106	Earthenware plate	Ceramic products
107	Plate glass	Glass and glass products
108	Pot (8 l)	Steel products
108	Pot (8 l)	Non-ferrous metals
109	Sheet and pillowcase has places	Various textile products
110	Towel	Various textile products
111	Gp consultation	N/a
112	Consultation hospital chu map	N/a

113	Fresh bed hospital stay	N/a
114	Efferalgan lives mg comp eff c bt	Pharmaceuticals
115	Tylenol mg comp bt	Pharmaceuticals
116	Injection	N/a
117	Bus / metro	N/a
118	Subscription	N/a
119	2nd class train ticket	N/a
120	4cv cars	Cycles and motorcycles
121	Premium gasoline	Ext. Raff. Oil of -gas
122	Gasoil	Ext. Raff. Oil of -gas

Table A.3. Tariff pass-through by product

VARIABLES	lwuvk	lwtariff	cov NTM	lindprice	Obs	R2
Boneless beef meat	0.0226**	0.0204		0.619***	72	0.781
Boneless beef meat	0.0226**	0.0204		0.619***	72	0.781
Bottled Gas	0.0802***			1.155***	84	0.91
Bulk rice	0.585***	-13.10***		3.805**	84	0.746
Bulk rice	0.585***	-13.10***		3.805**	84	0.746
Canned Harissa	0.00233***	-0.0142**		0.496***	84	0.413
Canned Harissa	0.00233***	-0.0142**		0.496***	84	0.413
Castor sugar	-0.0755***	-1.175		2.071	84	0.091
Castor sugar	-0.0755***	-1.175		2.071	84	0.091
Charcoal	0.0952***	0.689***		1.393***	84	0.78
Cheese box	0.0326**	-0.0855*		0.816***	84	0.738
Cheese box	0.0326**	-0.0855*		0.816***	84	0.738
Chlaka Leather Women	-0.122			4.038***	22	0.852
Chocolate powder	0.0439	4.388*		2.419	47	0.066
Chocolate powder	0.0439	4.388*		2.419	47	0.066
Cigarettes (Cristal)	-0.00379	0.518***		3.107***	84	0.716
Cigarettes (Cristal)	-0.00379	0.518***		3.107***	84	0.716
Cigarettes inter March	-0.0154	0.470***		2.853***	84	0.658
Cigarettes inter March	-0.0154	0.470***		2.853***	84	0.658
Cocotte (8 l) (1)	-0.349**	22.37**		0.560***	22	0.883
Couscous	0.408***	-20.85***		0.410***	36	0.999
Couscous	0.408***	-20.85***		0.410***	36	0.999
Dried chickpeas	-0.941*	-0.403		3.935***	24	0.701
Dried chickpeas	-0.941*	-0.403		3.935***	24	0.701
Dry shelled almonds	0.000258	0.277		7.336***	48	0.094
Dry shelled almonds	0.000258	0.277		7.336***	48	0.094
Earthenware plate	-0.00241	-0.0642***		0.232***	84	0.413
Earthenware plate	0	0		0	48	
Efferalgan lives mg comp eff c bt	0.168***	-0.352***		-0.200***	84	0.763
Efferalgan lives mg comp eff c bt	0.168***	-0.352***		-0.200***	84	0.763
Flour packet	0.0952***	0.435***		10.12***	84	0.649
Flour packet	0.0954***	0.430**	3.94E-05	10.11***	84	0.649
Foam mattress instead	0.0676***	0.101		0.922***	84	0.844
Fresh milk in bulk	-0.0283	2.137***		10.74***	60	0.802
Fresh milk in bulk	0.076	2.283***	0.225**	10.33***	60	0.811
Fresh sweet peppers	0.598***	-3.846***		-0.341	24	0.488
Fresh sweet peppers	0.598***	-3.846***		-0.341	24	0.488
Industrial killed whole chicken and plucked	0.0932**	1.916		2.841***	47	0.685
Industrial killed whole chicken and plucked	0.0932**	1.916		2.841***	47	0.685

Mackerel (average)	-0.00745	3.95E+06		-0.321	71	0.048
Mackerel (average)	-0.00912	4.24E+06	-2.702	-0.302	71	0.052
Men's shoes	0.151	-0.0759		0.0224	22	0.709
Men's shoes	0.151		0.00193	0.0224	22	0.709
Milk package	-0.00981**	0.0628		1.212***	60	0.889
Milk package	-0.0106*	0.0618	-0.00167	1.215***	60	0.889
Normal black tea	0.0171	24.34		-0.399	50	0.036
Normal black tea	-0.0345	1,175	4.521	1.893	50	0.088
Olive oil (bulk)	-0.0192***	-0.269***		0.181***	84	0.753
Olive oil (bulk)	-0.0192***	-0.269***		0.181***	84	0.753
Packet butter	-0.00910***	-0.165***		0.989***	84	0.944
Packet butter	-0.00910***	-0.165***		0.989***	84	0.944
Pageaux (average)	-0.0256	-0.0976		0.718	76	0.037
Pageaux (average)	-0.0256	-0.0976		0.718	76	0.037
Painting water	0.0463***	0.194***		-0.000609	84	0.847
Painting water	0.0463***	0.194***		-0.000609	84	0.847
Plate glass	-0.0272	-0.293***		0.479***	84	0.499
Plate glass	0	0		0	48	
Sardines (average)	-0.0749*	-3.780**		1.153***	72	0.194
Sardines (average)	-0.068	-6.562***	0.251	1.057***	72	0.222
Seed oil bottle (soybean)	0.0759***	5.297***		0.0908	84	0.5
Seed oil bottle (soybean)	0.0759***	5.297***		0.0908	84	0.5
Sheet and pillowcase has places	0.304***	0.556***		0.481***	84	0.959
Sheet and pillowcase has places	0.370***	-0.663	-0.00377*	2.712***	48	0.928
Spicy fresh peppers	-0.0467	0.286		0.595***	24	0.595
Spicy fresh peppers	-0.0467	0.286		0.595***	24	0.595
Sweet flavored yogurt	0.464***	-2.469***		0.619**	36	0.982
Sweet flavored yogurt	0.464***	-2.469***		0.619**	36	0.982
Synthetic carpet mats	-0.0532***	-0.153***		-0.564	84	0.523
Synthetic carpet mats	-0.0200***	-0.0256	0.00164***	0.903***	84	0.894
Tomato concentrate	0.0133***	0.0121***		1.147***	84	0.939
Tomato concentrate	0.0133***	0.0121***		1.147***	84	0.939
Town gas (low pressure)	-0.0167***			0.331***	84	0.894
Tylenol mg comp bt	-0.153*	-0.485**		-2.119***	84	0.93
Tylenol mg comp bt	-0.153*	-0.485**		-2.119***	84	0.93
Whiting (average)	0.0300***	-115,316**		-1.594	36	0.191
Whiting (average)	0.0300***	-115,316**		-1.594	36	0.191
Artichokes	-0.592	6.902			23	0.123
Carrots	0.356	-5.286		-52.27	23	0.189
Carrots	0.356	-5.286		-52.27	23	0.189
Cement	-0.0041	0.115*		0.813***	84	0.788
Cement	-0.0394***	0.818***	0.0484*	0.738***	48	0.727
Choux	5.613				10	0.061

Choux	5.613			10	0.061
Cuttlefish	0.0226**	6.667	0.924***	78	0.522
Cuttlefish	0.0226**	6.667	0.924***	78	0.522
Dried beans	4.645	-150.8	-9.161	14	0.192
Dried beans	4.645	-150.8	-9.161	14	0.192
Dried onions	0.00363	-0.175***	1.833**	84	0.176
Dried onions	0.00363	-0.175***	1.833**	84	0.176
Dry garlic	-0.196	-6.347	-0.522	24	0.254
Dry garlic	-0.196	-6.347	-0.522	24	0.254
Fennel	0.119	-0.157	0.206	73	0.03
Fennel	0.119	-0.157	0.206	73	0.03
Gasoil	0.00741***	0.315***	0.0321***	84	0.717
Gasoil	0.00741***	0.315***	0.0321***	84	0.717
Green beans	0.0947	-0.141	-2.575	74	0.087
Green beans	0.0947	-0.141	-2.575	74	0.087
Green onions	0.00295	0.016	1.096***	24	0.92
Green onions	0.00295	0.016	1.096***	24	0.92
Green soap	0.0850***	-0.303*	2.028***	84	0.872
Horse mackerel	-0.0277	0.15	-0.0372	78	0.125
Horse mackerel	-0.0277	0.15	-0.0372	78	0.125
Lemons	-0.995	-6.595	-1.948	24	0.1
Lemons	-0.995	-6.595	-1.948	24	0.1
Lime	-0.06	-13.66	0.611**	16	0.701
Macaroni	-0.290***	-0.207	0.782	84	0.65
Macaroni	-0.290***	-0.207	0.782	84	0.65
Melons	0.00699	-0.0756	1.313	26	0.014
Melons	0.00699	-0.0756	1.313	26	0.014
Mule	-0.0577**	0.163	-0.939***	84	0.572
Mule	-0.0577**	0.163	-0.939***	84	0.572
Neffa	0.0871***	0.186***	3.469***	84	0.882
Neffa	0.0871***	0.186***	3.469***	84	0.882
Octopus	0.0401***	0.185*	-0.0255	79	0.363
Octopus	0.0401***	0.185*	-0.0255	79	0.363
Oranges Malta	-0.0798	0.365	3.323	34	0.233
Oranges Malta	-0.0798	0.365	3.323	34	0.233
Ordinary grapes	-0.269**	-1.219	2.203**	74	0.056
Ordinary grapes	-0.269**	-1.219	2.203**	74	0.056
Premium gasoline	0.000574	-0.458***	0.153***	84	0.736
Premium gasoline	0.000574	-0.458***	0.153***	84	0.736
Salt	0	0	0	84	
Squash	-0.000558	-0.0888***	0.212	84	0.393
Squash	-0.000558	-0.0888***	0.212	84	0.393
Stick	-0.933***	0.925**	-7.012***	84	0.883
Stick	-0.933***	0.925**	-7.012***	84	0.883

Sweet oranges	-0.0478***	0.423***		-0.654	48	0.453
Sweet oranges	-0.0478***	0.423***		-0.654	48	0.453
Teal	-0.0151**	-0.698***		0.315***	84	0.899
Teal	-0.00571	-0.587***	0.0163***	0.320***	84	0.91
Turnips	0.425	-2.163		-42.51	25	0.115
Turnips	0.425	-2.163		-42.51	25	0.115
Watermelons	0.286*	-0.790*		3.504***	36	0.333
Watermelons	0.286*	-0.790*		3.504***	36	0.333