Agricultural market access proposals in the Doha round
Dutch agro-food interests

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This report analyses the impact of market access proposals tabled in the current WTO Doha round. The first part of the study assesses the 'bite' of tariff reductions by comparing border prices of Dutch products with those of imports before and after implementing tariff reductions. The second part of the study analyses the impact of proposals for sensitive products in terms of tariff rate quota (TRQ) expansion and highlights complexities surrounding the implementation of the proposals.

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Preface

Deadline after deadline is missed in the WTO Doha round of negotiations on trade liberalisation. Access to European agricultural markets is one of the main hurdles (next to domestic support in the US and non-agricultural market access in India and Brazil) in the way of a successful conclusion of the round.

Commissioned by the Ministry of Agriculture, Nature and Food Quality (LNV) LEI (agricultural Economics Research Institute) analysed the impact of market access proposals in terms of border prices of Dutch and imported products and in terms of the expansion of tariff rate quotas (TRQs) if products are declared sensitive. The objective is to provide a broad perspective on current proposals across the agro-food sector, accounting for both offensive and defensive interests.

The study has been discussed several times during a multilateral consultation organised by LNV, where both the business community and government are represented. The researchers are obliged to the participants of these consultations for their constructive comments and suggestions. Without these discussions this study would not have been possible in its present form. The researchers owe a special thanks to the guidance of the LNV steering committee consisting of Jean Rummenie, Carla Boonstra, Rien Huige and Gerrit Meester. The research has been conducted by Martin Banse and Marijke Kuiper (project leader).

Dr J.C. Blom
Director General LEI

Summary

The Doha negotiations focus on three key issues: agricultural market access in the EU, domestic support in the US and non-agricultural market access in India and Brazil. In this study we focus on the negotiations regarding agricultural market access that are most directly relevant for the position of the EU. The analysis is divided in two parts. The first part analyzes the impact of EU, G20 and US proposals for tariff reduction on the competitiveness of Dutch producers. The key question in this part is the extent to which the different market access proposals would result in prices of imports below those of Dutch producers. All market access proposals increase competition and therefore generate pressure to maintain protection, reflected by an allowance in the 2004 Framework Agreement to denote tariff lines as sensitive. The second part focuses on the quota expansions implied by the EU, US and G20 proposals for sensitive products.

Part 1: market access proposals and Dutch competitiveness
In the first part of this study we aim at providing a detailed perspective on the impact of agricultural market access proposals covering all (8 digit) agricultural tariff lines. The key question is whether Dutch agro-food producers can compete with imported goods if trade barriers are lowered. To answer this question we compare Dutch prices with those of foreign competitors.

Method
For some tariff lines detailed cost estimates are available. For most tariff lines, however, such data are not publicly available and considered as sensitive information. The main aim of this study is to provide a broad assessment of the impact of market access proposals to support policy-makers. We therefore opted for using unit values derived from comprehensive and publicly available trade data as proxies of prices. This allows a broad perspective on the current proposals and permits an assessment of both potential offensive and defensive interests.[1]

The rationale behind the use of trade data to assess the competitiveness of domestic production is that we presume that goods will not be exported or imported below production costs. We then use the minimum price of Dutch exports to get a proxy of the domestic prices at 8 digit level. Similarly, we use the minimum of the price of imports as a proxy of the most competitive import price. Comparing these two prices (with and without tariffs) provides a first approximation of the competitiveness of Dutch producers. To assess the robustness of our conclusions we also compare two alternative price measurements: trade-weighted prices and simple average prices.

[1] Potentially offensive interests if Dutch prices are internationally competitive, defensive interests if Dutch prices are not internationally competitive.

Data limitations that affect the generality of conclusions

The use of trade data to approximate domestic prices has clear limitations. We have to limit the analysis to tariff lines with data on both exports and imports to be able to compare prices. Tariff lines without two-way trade are therefore excluded from the analysis. Of these lines that are excluded from the analysis we cannot tell *a priori* whether there is an offensive or defensive interest. If there is no domestic production and no domestic demand for these goods there is no interest (defensive or offensive) in these lines. If there is no domestic production but there is domestic demand (currently not satisfied because of trade barriers) there is a strong offensive interest. A third possibility is that there is domestic production which is not competitive internationally and therefore exports are absent. In this case there is a defensive interest (at least from a producer perspective). The concentration of excluded lines with live animals (HS 01) and meat (HS 02) suggests that the third option, trade barriers protecting non-competitive producers, would be the most frequent reason for the absence of trade (and thus the absence of these lines from the analysis), since these sectors take a strongly defensive position in discussions on trade liberalisation.

We use the minimum price charged for a product as a measure of the production costs. Lacking detailed information on the production costs we cannot determine the profit margin included in the price. The use of the unit value of trade then underestimates the competitiveness of Dutch producers a well as of their competitors. The presence of profit margins in prices charged will have an even stronger impact when we use average prices, resulting in more defensive conclusions compared to using a minimum price.

By using trade data as registered at the border of the Netherlands we cannot account for transport costs to the countries of destination. These transport costs increase the export price of Dutch producers while lowering the price foreign competitors may charge in their own markets. We furthermore do not take tariffs in third markets into consideration, which also limit the realisation of the offensive potential. Altogether the limitations of the data imply that our price measures may overestimate the offensive strength of Dutch producers. In the analysis we therefore refer to potential offensive interests to highlight the limitations of the data which may prevent the offensive interests to materialise in practice.

There is also a number of limitations related to the data used for the analysis. We use the value of trade flows and the volume measured in tons to compute a unit value. Using the same units across tariff lines allows comparison across tariff lines. Several tariff lines, however, are generally measured in other units than tons, like for example in liters or in numbers. This raises concerns regarding the manner in which conversion to tons is made. A second data concern regards the product variation even with detailed 8 digit data. Differences in unit values across destinations can be very large, indicating that the 8 digit data do not capture different product qualities and/or varieties.

There is a significant number of tariff lines for which we only observe exports from the Netherlands and no imports. By using European data we are able to construct a database of 1128 tariff lines with data on imports and exports. This database covers 97 percent of Dutch exports and all Dutch imports in 2004. Despite the wide coverage there is a number of sectors (live animals (HS 01), meat (HS 02) and dairy (HS03) where up to 28.6 percent of trade is not included in the analysis because of lack of data on imports. General conclusions drawn from the analysis thus do not apply with equal strength to all sectors.

Finally when assessing the impact of tariff reduction proposals the analysis is limited to first order impacts of tariff reductions, *i.e.* reductions in tariffs are set equal to price changes. We thus ignore economy-wide adjustments that may affect production costs as well as autonomous changes in demand or production that may affect domestic prices.

Despite the limitations of using trade data for a study on the impact of tariffs on domestic prices, we feel that the current study makes an important contribution to the assessment of market access proposals by its comprehensive coverage of agricultural tariff lines. This coverage makes it complementary to more detailed studies of specific products and provides a broad and consistent first assessment of the likely impact of market access proposals.

Outcomes

Comparing prices of Dutch and foreign products we find that of the 1128 tariff lines included in the analysis between 522 and 693 are classified as defensive (depending on the price measure taken). Thus for roughly half the tariff lines, prices of foreign competitors are below those of Dutch producers in the absence of tariffs. Note that the presence of trade barriers, like tariffs and sanitary measures, affects the analysis indirectly. For example, the absence from the analysis of large number of tariff lines in the meat sectors is likely to be due to prohibitive trade barriers.

Adding the current tariff protection to the prices of imports reduces the number of tariff lines by about 100. A limited number (between 21 and 15 percent, depending on the price measure) of the tariff lines classified as defensive is thus protected by the current tariff structure to such an extent that prices of Dutch products are below those of imports with tariffs imposed. The implication of this finding is that the market access proposals will have a limited 'bite' in terms of resulting in a switch in the price ratios of Dutch and foreign prices: between 21 and 15 percent of the defensive lines could lose their current protection when tariffs are completely reduced. In terms of spread over sectors we find protection concentrated in three sectors: dairy (HS 04), fruits and nuts (HS 8) and preparations of vegetables and fruits (HS 20). Even after correcting for the large numbers of tariff lines in these chapters they account for a disproportionate share of tariff lines protected by tariffs. One would therefore also expect these sectors to be affected most by reduced tariffs.

The concentration in terms of protection is reflected in the concentrated impact of tariff reductions. For 17 of the 32 sectors included in the analysis the different market access proposals do not change the number of defensive lines. For these sectors either the current protection does not increase import prices above Dutch prices, or tariffs offer such a level of protection that even after reductions the import prices plus tariff remains above the Dutch price.

As expected, the less ambitious linear reduction proposals (G10, EU, G20) have a more limited impact than the more ambitious linearly increasing proposals (Australia, US). In addition the sectors benefiting most from the current protection are affected most by the tariff reductions. Comparing the EU and US proposals in terms of lines turning defensive after tariff reduction we find that the US proposal has about twice the impact of the EU proposal. The measure used for comparing prices matters for the total number of lines affected. Using the minimum price measure, of the 110 lines currently protected 24 lose their protection with the EU proposal and 49 with the US proposal. Using average price meas-

ure, of the 101 lines currently protected 43 lose their protection with the EU proposal and 77 with the US proposal. Given the limited current protection, the lines affected by the US proposal are still only a small proportion of the total number of defensive lines (9 percent with the minimum price and 11 percent with the average price).

Reflection on outcomes

Judging the impact of market access proposals in terms of whether import prices drop below Dutch prices when tariffs are reduced, we find that even the least ambitious proposal (G10) already affects a fifth of the currently protected lines. This indicates that the current protection for most tariff lines only raises the prices of imports slightly above Dutch prices. This fits with the observation that only a small part of the defensive lines is currently protected. This also partly explains the limited additional impact of the US proposal. Based on a comparison of tariff profiles the US proposal was expected to have a dramatic impact compared with the EU proposal. With a limited number of tariff lines initially protected, however, there is no room for dramatic differences between the proposals in terms of number of tariff lines to be affected. In terms of economic impact, however, there will be potentially large differences between the proposals due to the large differences in tariff reductions.

The more limited than expected impact of the US proposal also indicates that there is no clear relationship between the level of tariffs and the defensiveness position of products. Various reasons underlie this finding. First of all, tariffs are established by the EU based on the interests of all EU member states. Interests at EU-level will not fully correspond with the Dutch interests on which our analysis focuses. Secondly, our analysis focuses at tariff line level. We do not take the economic importance of various products into account. Products with strong defensive interests may have limited overall economic importance. One may expect that such considerations are used when determining the tariff structure. Finally, getting a clear view on the competitiveness at tariff line level is a difficult task. We needed to rely on trade data to approximate the competitiveness. The absence of a benchmark to assess demands for protection by a specific sector and to weigh these demands with the interests of other sectors increases the room for interests groups. The tariff structure is therefore likely to reflect the bargaining power of different interests groups, which may not correspond with their economic importance.

Part 2: comparing proposals for sensitive products

All market access proposals increase competitive pressure and therefore generate a lobby of producers for maintaining protection. This pressure is reflected by the option in the 2004 Framework Agreement to select a number of sensitive tariff lines that can be (partly) exempted from a reduction in tariffs. Sensitive tariff lines are one of the main controversial issues in the Doha round.

The rationale of the tariff rate quota (TRQ) expansion is to compensate for the limited increase in market access with a limited tariff reduction for sensitive products. Given economic theory, the price elasticity of import demand (i.e. the response of imports to a price change) and the initial tariffs are key parameters in computing the amount of TRQ expansion. The import elasticity is derived from the changes in domestic consumption and production. Consumption and production have an opposite reaction to a price change. Im-

ports, which are computed as the difference between consumption and production, are therefore much more responsive to price changes than production and consumption. Furthermore, in case of high current tariffs there is a high level of trade distortion. A small decrease in tariffs will then result in a large increase in imports. This is reflected in high empirical values for import elasticities (values of 20 or more), which implies a large TRQ expansion to compensate foregone market access.

The TRQ expansion proposals for sensitive products can be grouped according to the basis on which expansions are computed. The *consumption school* (G20, Australia and US) base the computations on current consumption. The *import school* (G10 and EU) base the computations on current imports. There are no tariff line data on consumption which complicates the application of the consumption-based proposals. The import-based computations are more in line with economic theory for estimating the foregone market access by limiting the tariff reductions for sensitive products. However, in case of products with prohibitive trade barriers imports are (almost) zero while significant increases in import would result from a reduction in tariffs. The import-based approach thus does not suffice for products with high current protection.

Comparing the impact of the different proposals in terms of TRQ expansion we find that when using the import elasticities being circulated in the negotiations the EU proposal leads to a more limited TRQ expansion than the G20, Australian and US proposals. This finding however strongly depends on the parameters used. In the case of significant initial imports and a high import elasticity, expansion based on the EU proposal can exceed that of the other proposals. It can therefore not be *a priori* determined which proposal will result in the largest TQR expansion. Therefore TQR expansions are computed at tariff line level.

Analyzing *ex ante* the economic impact of an expansion of the different TRQ proposals is impossible due to a number of issues. First of all the choice of import elasticites and consumption data determines the relative impact of each proposals. The ranking of the impact of proposals can change with a different set of parameters.

The second hurdle is related to actual implementing the proposals. TRQs are not defined at tariff line level. Selecting a tariff line within a TRQ as sensitive has repercussions for other tariff lines in the TRQ. Tariff lines that implement the full tariff cut in order to avoid an expansion of the TRQ can be confronted by an increase in imports (against the fully reduced tariffs) due to another tariff line within the TRQ that is declared sensitive. Additional complications arise when a tariff line not currently belonging to a TRQ is declared sensitive. Assigning it to an existing TRQ (to avoid creation of a new TRQ) may have repercussions on other tariff lines belonging to that TRQ. Then there are tariff lines belonging to two TRQs in which case it is unclear which TRQ will be expanded and by how much.

The third hurdle for assessing the impact of TRQ expansion is that even if the increase in imports could be established at tariff line level, the economic impact depends on the level of current imports relative to the TRQ. There is no information available on in- and out-of-quota imports which would allow one to address these issues.

In summary the impact of the various TRQ is difficult to establish *ex ante*. The current difficult negotiations on the type of approach to be followed appear only the first of an extensive set of negotiations needed to arrive at an approach which can be implemented in

practice. The (detailed) choices made in each of these steps determine the eventual outcome.

1. Introduction

The Doha negotiations focus on three key issues: agricultural market access in the EU, domestic support in the US and non-agricultural market access in India and Brazil. In this study we focus on the negotiations regarding agricultural market access that are most directly relevant for the position of the EU.

A key (but difficult to answer) question when analysing market access proposals is to assess their impact on the competitiveness of domestic producers. Using applied general equilibrium models, like for example GTAP, one can assess the impact of trade policies on the competitiveness of sectors. The main advantage of these models is their capability to account for general equilibrium effects, like changes in labor costs due to changes in the economic structure, following trade policy changes. A clear disadvantage of these global models is the aggregate representation of sectors, which does not provide much guidance for negotiations taking place at tariff line level.

The current study is formulated following an earlier study on market access based on a limited number of case studies.[1] Despite the limited number of products on which the analysis was based, conclusions from this study tended to get generalised in references to this report. A key requirement for the current study is therefore to develop a comprehensive view on the impact of market access proposals on Dutch agro-food production. The main question arising from the earlier study was the impact of market access proposals on the competitiveness of Dutch producers. From the market access proposals differences in terms of tariff reductions are easily seen, the extent to which these difference result in a different 'bite' of the proposals is unclear. The first part of the study therefore focuses on comparing different market access proposals in terms of the extent to which they result in Dutch prices exceeding those of foreign competitors.[2]

All market access proposals increase competition and therefore generate pressure from producers to maintain protection. This pressure is reflected by the option in the 2004 Framework Agreement to select a number of sensitive tariff lines that can be (partly) exempted from a reduction in tariffs. Sensitive tariff lines are one of the main controversial issues in the Doha round.

In the second part of this study we compare the implications of different proposals regarding sensitive products in terms of expansion of import volumes. We not only identify the key differences between the different proposals, but also highlight a set of problems related to an implementation of the proposals which make it hard to establish *ex ante* the impact of the proposals for sensitive products.

[1] Kelholt, H.J., M.H. Kuiper en F.W. van Tongeren, *Een analyse van de handelsbelemmeringen voor geselecteerde Nederlandse exportproducten.* Rapport 6.05.18. Den Haag, LEI, 2005.

[2] The focus of this study is on assessing the impact of tariff reduction proposals being negotiated in the WTO. Throughout this study we thus refer to non-EU competitors with foreign competitors.

2. Approach to the market access analysis

The challenge we face is to construct a measurement of the competitiveness of Dutch agro-industry vis-à-vis competitors from outside the EU. Ideally one would compare differences in cost prices that would provide the minimum price a producer can charge. Combined with data on tariffs this would give a first assessment of the impact of tariff changes. Cost price data are hard to obtain. Cost prices provide a clear indication of the competitiveness of producers and hence the information is generally considered sensitive. Aiming for a general assessment of the impact of tariff reductions, as opposed to case studies of a limited number of products, we therefore need to establish a proxy for prices based on publicly available data.

The COMEXT database provides data on the external trade of EU member states at 8-digit level. The data contain information on value and quantity traded, allowing computation of the unit value at 8-digit level. Data are provided by EU member states on their exports and imports, both inside and outside the EU. For this study we use the data for 2004 on extra-EU trade for the Netherlands and for the EU as a whole.[1]

The unit values of the export of the Netherlands (or EU) provide a proxy of the f.o.b price of exports, not including any export subsidies. Similarly, the unit values of imports reported by the Netherlands (or EU) provide a proxy of the c.i.f. price, not including any tariffs. By adding tariffs we can obtain a proxy of the price of imports as they enter the domestic market.

The COMEXT data are at the 8-digit level. These are combined with tariff data that in some cases are the 10-digit level. We use bound tariffs of the EU supplied to the WTO for tariff simulations in March 2006. These tariff data include all agricultural tariff lines of the EU, coming to a total of 2,213 lines (see Appendix 1 for the tariff lines covered by the WTO Agreement on Agriculture). When references are made to 10 digit codes in the tariff data these are referring to calendars, *i.e.* seasonal differences in tariffs for the same product. We do not have trade data at 10-digit level and therefore use the same 8 digit unit value for all associated 10 codes. Given that the tariffs refer to the same products, albeit in a different season, this seems a reasonable assumption. For the trade weighted aggregations used in the analysis we need trade data at 10-digit level, which are not available. In these cases we divide the total trade at 8-digit level equally over all associated 10 digit lines.

The analysis is based on a comparison of export and import prices at 8-digit level. For this comparison we require two-way trade, *i.e.* imports and exports with the same trading partner. This requirement limits the number of tariff lines that can be included in the

[1] This was the most recent year for which data were available at the time the study was executed. The drawback of this year is that in May 2004 the new member states joined the EU. We analysed the external trade of EU15 and EU25 and found no significant effect of the new member states. The majority of their trade was with the EU15 and the enlargement thus does not affect the data on external trade for the EU as a whole. We therefore use the 2004 data as provided in COMEXT, referring to the EU15 for January through April and to the EU25 from May onward.

analysis. There are 1,310 agricultural tariff lines where the Netherlands is exporting and/or importing in 2004. Of these 1,310 lines only 204 lines have two-way trade with the same trading partner. In most cases there are data for exports but not for imports. If we then replace unit values of imports (or exports in a few cases) with the same trading partner by EU data (thus assuming that if it enters through another member state, it can enter the Netherlands for the same price) the number of tariff lines with two-way trade increases to 252.

After including EU level data, limiting the analysis to cases in which two-way trade with the same partner is observed limits the number of tariff lines that can be included in the analysis to a fifth of the lines on which trade is occurring. We therefore proceed further with constructing reasonable estimates of the import and export prices. In case no two-way trade is observed for the Netherlands nor the EU, we use the average price observed for other trading partners. We compute a trade-weighted average over all trading partners to get an indication of the effective price of imports or exports. Again if no average price can be computed based on Dutch data we use data at EU level.

The database is thus constructed by subsequently (*i*) replacing missing data on two-way-trade with data from the EU; (*ii*) replacing missing data on two-way-trade with a trade-weighted average price over all other trading partners as reported by the Netherlands, and (*iii*) a trade-weighted average price over all other trading partners as reported by the EU. The database used in the analysis then covers 1,128 tariff lines, amounting to 86 percent of the tariff lines on which Dutch trade is occurring in 2004. The remaining 182 lines are excluded because there are data for Dutch or EU exports but no data for Dutch or EU imports. The constructed database covers 97 percent of Dutch exports and all Dutch imports in 2004.

3. Comparing prices without border protection

In this chapter we compare prices charged for Dutch exports with prices of similar goods imported into the Netherlands. We focus on a comparison of prices without accounting for tariffs to establish a reference point for analysing different agricultural market access proposals in the next chapter. We start by delineating the limits of our study through an analysis of the tariff lines that cannot be included in the numerical analysis because of lack of import data or because there is not trade occurring.

Given that we need to approximate the minimum price against which products can be produced by the imputed prices from trade flows we use a triangulation approach to assess the robustness of our analysis. We thus use three different measures of prices: minimum price (section 3.2), trade-weighted average prices (section 3.3) and simple average prices (section 3.4). Section 3.5 then combines these three assessments to conclude on the competitiveness of Dutch production in the absence of tariffs.

3.1 Analysing tariff lines for which no price comparison can be made

The EU notified 2,213 agricultural tariff lines at 8 (sometimes 10) digit level[1] of which 1,310 have Dutch exports or imports in 2004. The database constructed for this analysis includes 1,128 tariff lines, or 86 percent of lines with Dutch trade and covering 97 percent of exports. Although the database covers almost all trade when assessed in total there could be differences in terms of coverage for different sectors. These differences may bias the findings of the analysis and limit the generality of conclusions. To evaluate this possibility table 3.1 and 1b summarise the number of tariff lines and exports by HS chapter, respectively.

Focusing on the percentage of tariff lines with Dutch trade included in the analysis (table 3.1, column 5) we immediately note the low percentage of lines covered for livestock-related sectors (HS chapters 01, 02 and 16) and dairy (HS chapter 04). In terms of the percentage of exports (table 3.2, column 3) the numbers are less disturbing. For live animals (HS 01), 39 percent of the tariff lines with trade account for 71 percent of exports; for meat (HS 02) 46 percent of the tariff lines with trade account for 89 percent of exports; for preparations of meat (HS 16) 69 percent of the tariff lines with trade account for 92 percent of exports; and for dairy (HS 04) 70 percent of the tariff lines with trade account for 88 percent of exports. Especially in the case of live animals there appears to be a large number of tariff lines with only a small amount of trade. The trade flows in this sector that are excluded from the analysis because of lack of import data are concentrated in exports of live poultry.

[1] These tariff lines (and the associated ad valorem equivalent (AVE) measures of tariffs in Chapter 4) are taken from the data supplied to the WTO in March 2006 for tariff reduction simulations.

Table 3.1 Coverage of tariff lines

HS	Description	No. of tariff lines			Share of analysed tariff lines (%)	
		EU notified	NL exports	two-way data	of EU notified lines	of lines with NL exports
		(1)	(2)	(3)	(4)	(5)
01	Live animals	47	18	7	15	39
02	Meat and edible meat offal	233	102	47	20	46
04	Dairy produce	175	105	74	42	70
05	Products of animal origin	21	13	13	62	100
06	Live trees and other plants	48	32	30	63	94
07	Edible vegetables	122	84	75	61	89
08	Edible fruit and nuts	201	159	149	74	94
09	Coffee, tea, mate and spices	56	30	30	54	100
10	Cereals	55	31	26	47	84
11	Products of the milling industry	83	39	34	41	87
12	Oil seeds and oleaginous fruits	80	48	47	59	98
13	Lacs, gums and resins	19	15	14	74	93
14	Vegetable products	12	6	6	50	100
15	Animal or vegetable fats and oils	127	60	50	39	83
16	Preparations of meat	48	32	22	46	69
17	Sugars and sugar confectionery	47	40	36	77	90
18	Cocoa and cocoa preparations	27	26	25	93	96
19	Preparations of cereals	47	38	38	81	100
20	Preparations of vegetables or fruit	307	154	144	47	94
21	Miscellaneous edible preparations	42	38	37	88	97
22	Beverages, spirits and vinegar	176	102	94	53	92
23	Food residues and animal fodder	66	32	26	39	81
24	Tobacco	30	24	24	80	100
29	Organic chemicals	6	3	3	50	100
33	Essential oils and resinoids	36	28	28	78	100
35	Starches, glues and enzymes	25	18	17	68	94
38	Miscellaneous chemical products	15	13	12	80	92
41	Hides, skins and leather	16	5	5	31	100
43	Furskins and artificial fur	13	1	1	8	100
50	Silk	4	0	0	0	n.a.
51	Wool	16	5	5	31	100
52	Cotton	6	3	3	50	100
53	Other vegetable textile fibres	7	6	6	86	100
	Total	*2,213*	*1,310*	*1,128*	*51*	*86*

Source: EU tariff simulation data submitted to WTO, COMEXT 2004 data, authors' calculations.

Table 3.2 Coverage of export flows by analysis

HS	Description	Exports (m euro)		
		NL exports	exports covered in analysis	share of exports covered (%)
		(1)	(2)	(3)
01	Live animals	35	25	71
02	Meat and edible meat offal	262	233	89
04	Dairy produce	1,110	981	88
05	Products of animal origin	43	43	100
06	Live trees and other plants	563	563	100
07	Edible vegetables	603	603	100
08	Edible fruit and nuts	151	149	99
09	Coffee, tea, mate and spices	45	45	100
10	Cereals	10	10	99
11	Products of the milling industry	143	143	100
12	Oil seeds and oleaginous fruits	238	238	100
13	Lacs, gums and resins	37	37	100
14	Vegetable products	2	2	100
15	Animal or vegetable fats and oils	283	282	100
16	Preparations of meat	43	40	92
17	Sugars and sugar confectionery	119	115	96
18	Cocoa and cocoa preparations	543	536	99
19	Preparations of cereals	361	361	100
20	Preparations of vegetables or fruit	158	157	100
21	Miscellaneous edible preparations	559	559	100
22	Beverages, spirits and vinegar	1,287	1,286	100
23	Food residues and animal fodder	250	247	99
24	Tobacco	150	150	100
29	Organic chemicals	10	10	100
33	Essential oils and resinoids	14	14	100
35	Starches, glues and enzymes	153	153	100
38	Miscellaneous chemical products	35	34	97
41	Hides, skins and leather	3	3	100
43	Furskins and artificial fur	17	17	100
50	Silk	0	0	n.a.
51	Wool	2	2	100
52	Cotton	0	0	100
53	Other vegetable textile fibres	9	9	100
	Total	*7,240*	*7,049*	*97*

Source: COMEXT 2004 data, authors' calculations.

In the case of the other meat (HS 02) and dairy products (HS 04) around 10 percent of trade is excluded from the analysis. These flows are excluded because of the absence of any imports into the EU (in 2004) while Dutch exports are occurring. Apparently the Dutch exports are competitive (at least for some destinations). The absence of any imports can indicate that there are no imports that can compete with European producers, which

signals an offensive interest. Another possibility is that current trade barriers are prohibiting entrance of competitive imports, signalling a defensive interest.

Returning to table 3.1 where the coverage in terms of tariff lines is depicted we note that only half the EU notified lines is covered by the analysis. This is mostly due to a limited number of tariff lines where Dutch trade occurs (about 60 percent of EU notified lines). The 40 percent of EU notified tariff lines without Dutch trade cannot be included in the analysis. Of these lines we cannot tell *a priori* whether there is an offensive or defensive interest. If there is no domestic production and no domestic demand for these goods there is no interest (defensive or offensive) in these lines. If there is no domestic production but there is domestic demand (currently not satisfied because of trade barriers) there is a strong offensive interest. A third possibility is that there is domestic production which is not competitive internationally and therefore exports are absent. In this case there is a defensive interest (at least from a producer perspective). The distribution of the omitted lines over sectors suggests that the third option, trade barriers protecting non-competitive producers, would be the most frequent reason for the absence of trade. Apart from silk (HS 430 and furskins (HS 43) the lowest numbers are found for live animals (HS 01) and meat (HS 02) (table 3.1, column 4), sectors which take a strongly defensive position in discussions on trade liberalisation.

In conclusion we cannot *a priori* classify the tariff lines missing from the analysis as either offensive or defensive. We can therefore not indicate the direction of the bias introduced in the analysis by omitting these trade flows. The analysis of the omitted lines over sectors does suggest that the analysis will exaggerate offensive interests for livestock-related sectors, because tariff lines with non-competitive producers with strong defensive interests are excluded from the analysis. Although we focused on omissions of the data to highlight the limitations and potential biases in the analysis table 3.1 and 1b clearly indicated that overall the constructed database covers Dutch agricultural exports very well. Of the 33 sectors 24 have a coverage of their exports of 99 percent or more, amounting to 97 percent of Dutch agricultural trade being covered by the analysis. The database thus provides a solid base for analysing the overall Dutch position in the current trade negotiations.

3.2 Assessing competitiveness using the minimum of observed prices

The COMEXT data provide information on Dutch exports and imports by trading partner. For Dutch exports we thus have a set of unit values for different destinations. In order to assess the competitiveness of Dutch agro-food exports we need to establish a proxy of the minimum price against which products can be marketed to approximate the costs of production. We use as a proxy the minimum of the observed unit values of exports with different trading partners, thus assuming that the price charged for a product will at least be enough to cover production costs.

After constructing the unit values database as described in the methodology chapter we have 18,439 observations on 1,128 tariff lines. On average there are consequently about 16 trading partners by tariff line, although in practice there is a wide variety in the number of trading partners by tariff line. Table 3.3 presents the minimum price at chapter level. This price is computed by taking the lowest unit value at tariff line level across destina-

tions and determining an average price at chapter level by taking either a simple average or by weighing tariff lines by export volume. The table also includes the minimum of the unit value of imports. This price represents the most competitive price against which imports enter the Netherlands. Again, an average at chapter level is computed by simple and trade weighted averaging (in this case the value of imports serves as the weight).

The ratio of the price of Dutch exports to the price of imports from the rest of the world (ROW) is an important indicator for assessing the competitiveness of Dutch producers. In case this ratio is less than one, Dutch exports are priced lower than imports from third countries and there would thus be a potential offensive interest. Similarly, a ratio of more than one indicates a defensive interest.

Because of the type of data used in the analysis, the ratio of export to import prices works better for assessing defensive than for offensive interests. We use trade data registered at the border of the Netherlands (or the EU). We cannot account for the transport costs to the countries of destination. These transport costs would increase our measure of the export price of Dutch producers while lowering our measure of the price foreign competitors will charge in their own markets. This implies that based on these ratio of prices we overestimate the offensive potential of Dutch exporters. After accounting for transport costs the products may no longer be competitive in third markets. Since the transport costs vary by trading partner, depending on the distance and available infrastructure, we cannot assess their impact in general terms.

A further limitation of the analysis is our reliance on current trade flows that are influenced by current trade barriers. Prohibitive trade barriers may result in absence of imports from a competitive foreign producer, whereas less competitive foreign producers may have access through preferential trade agreements. If trade barriers for competitive foreign producers would be lowered new imports would emerge with which Dutch producers may not be able to compete. We compare Dutch prices only to prices of existing imports. Dutch producers may be able to compete with existing imports (possibly from less competitive producers entering through preferential trade agreements) and therefore assumed to have offensive interests, but not with new trade imports emerging after a lowering of tariff barriers. The absence of trade due to prohibitive trade barriers thus implies that we may overestimate the competitiveness of Dutch production.

The limitations of our data imply that goods that are classified as defensive will always be defensive, while goods that appear offensive may be classified as such because of current protection. We therefore dub these goods as potentially offensive, to indicate the limitations of the analysis that need to be kept in mind.

When comparing unit values of Dutch exports with those of imports from third countries we observe few cases in which the prices are comparable, *i.e.* where the ratio is around one. This holds even stronger in case of trade weighted prices. The presence of significant differences in import and export prices could be caused by the presence of trade barriers. One would expect the difference in prices to be less after accounting for the impact of tariffs on the effective import prices. Another explanation of a difference in prices is that the 8 digit tariff lines do not adequately cover quality differences. For instance, quality differences seem to play an important role for HS 43 (furskins and artificial fur), with an import price of about 22.5 times the Dutch export price. We do not have data detailed enough to explore the impact of quality differences on prices charged.

Table 3.3 Comparison of unit values of Dutch agricultural imports and exports (prices in euro/kg, data for 2004 based on 1,128 tariff lines)

HS	Description	No. of lines	Unweighted average			Trade-weighted average		
			NL	*ROW*	*NL/ROW a)*	*NL*	*ROW*	*NL/ROW a)*
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
01	Live animals	7	5.21	5.62	0.93	11.86	12.38	0.96
02	Meat and edible meat offal	47	1.86	3.87	0.48	0.60	2.11	0.29
04	Dairy produce	74	2.26	3.46	0.65	1.37	1.82	0.76
05	Products of animal origin	13	9.97	3.00	3.33	3.62	1.35	2.68
06	Live trees and other plants	30	0.80	1.19	0.67	0.54	0.61	0.88
07	Edible vegetables	75	0.90	1.04	0.87	0.49	0.41	1.20
08	Edible fruit and nuts	149	1.38	1.12	1.23	1.43	2.36	0.61
09	Coffee, tea, mate and spices	30	2.13	4.45	0.48	0.83	0.92	0.90
10	Cereals	26	1.13	0.93	1.22	0.63	0.44	1.43
11	Products of the milling industry	34	0.68	0.85	0.80	0.26	0.36	0.73
12	Oil seeds and oleaginous fruits	47	2.01	1.79	1.13	0.68	0.86	0.79
13	Lacs, gums and resins	14	6.83	8.48	0.81	3.19	2.71	1.18
14	Vegetable products	6	0.70	0.68	1.04	0.37	0.26	1.45
15	Animal or vegetable fats and oils	50	1.00	1.24	0.80	0.41	0.44	0.93
16	Preparations of meat	22	1.50	4.39	0.34	1.04	2.21	0.47
17	Sugars and sugar confectionery	36	1.28	2.08	0.62	0.71	0.49	1.46
18	Cocoa and cocoa preparations	25	1.64	1.47	1.12	1.31	0.93	1.42
19	Preparations of cereals	38	0.99	1.21	0.82	1.44	1.14	1.26
20	Preparations of vegetables or fruit	144	1.39	1.38	1.01	0.60	0.61	0.99
21	Miscellaneous edible preparations	37	3.65	1.67	2.19	0.63	0.63	1.01
22	Beverages, spirits and vinegar	94	2.33	4.75	0.49	0.55	0.87	0.64
23	Food residues and animal fodder	26	0.52	1.79	0.29	0.75	0.52	1.45
24	Tobacco	24	2.81	5.95	0.47	3.45	4.55	0.76
29	Organic chemicals	3	1.55	11.56	0.13	0.63	0.73	0.86
33	Essential oils and resinoids	28	10.58	15.84	0.67	3.77	5.20	0.73

Table 3.3 Comparison of unit values of Dutch agricultural imports and exports (prices in euro/kg, data for 2004 based on 1,128 tariff lines) (contd.)

HS	Description	No. of lines	Unweighted average			Trade-weighted average		
			NL	*ROW*	*NL/ROW a)*	*NL*	*ROW*	*NL/ROW a)*
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
35	Starches, glues and enzymes	17	20.25	4.48	4.52	2.38	1.32	1.80
38	Miscellaneous chemical products	12	0.77	1.25	0.62	0.38	0.39	0.98
41	Hides, skins and leather	5	1.35	2.38	0.57	0.97	1.53	0.63
43	Furskins and artificial fur	1	88.94	210.92	0.42	88.94	210.92	0.42
51	Wool	5	1.25	0.92	1.35	1.15	1.12	1.02
52	Cotton	3	0.55	0.76	0.73	0.43	0.89	0.49
53	Other vegetable textile fibres	6	0.82	1.99	0.41	1.43	0.47	3.07

a) Ratio of unit value of Dutch exports (NL) to unit value of imports from rest of world (ROW); if the ratio is smaller than one, Dutch exports are less expensive than imports and there is a potential offensive interest, similarly there is a defensive interest if the ratio exceeds one. Source: COMEXT, authors' calculations.

Comparing the ratio of Dutch export prices to the price of imports from the rest of the world provides a first aggregate look at the competitiveness of different sectors. Important to note is that simple averages at sector level (column 4) result in different conclusions than trade-weighted averages (column 7). The characterisation of sectors can thus change when accounting for trade flows. Using simple averages results in 10 defensive and 22 offensive sectors, while with trade-weighted averages we find 13 defensive and 19 offensive sectors. Accounting for the size of the trade flows at 8-digit level thus results in a more defensive picture than simple averages. This more defensive picture however does not arise because of simply adding more sectors with defensive interests. Sectors actually change classification when using trade weights.

There are in fact six sectors that can be characterised as potentially offensive when comparing simple average prices but defensive when looking at trade weighted prices: Edible vegetables (HS 07), Lacs, gums and resins (HS 13), Sugars and sugar confectionery (HS 17), Preparations of cereals (HS 19), Food residues and animal fodder (HS 23) and Other vegetable textile fibres (HS 53). The opposite occurs for three sectors, becoming potentially offensive when assessed in terms of trade weighted prices: Edible fruit and nuts (HS 08), Oil seeds and oleaginous fruits (HS 12) and Preparations of vegetables or fruit (HS 20).

Although table 3.3 gives a first glimpse of the competitiveness of Dutch producers it has clear limitations by presenting aggregate figures at sector level. The different conclusions in terms of offensive and defensive interests, depending on the manner in which tariff lines are weighed, indicate the importance of looking at tariff line level. These data cannot be presented for all 1,128 tariff lines included in the analysis. figure 3.1 therefore presents by chapter the number of tariff lines characterised as potentially offensive and defensive. The figure also includes the number of tariff lines that are excluded from the analysis, because of absence of trade or because of absence of imports. The figure also includes the characterisation at sector level as defensive or offensive, using a trade-weighted average over tariff lines. Variations in trade volumes may result in the trade weighted assessment at sector level to differ from an assessment based on the number of tariff lines.

The most eye-catching feature of figure 3.1 is the comparable share of potentially offensive and defensive tariff lines for each sector. Exceptions are Meat (HS 02) and meat products (HS 16) where of the lines included in the analysis potentially offensive tariff lines clearly dominate. At the same time the first and the second bar indicate the large number of tariff lines not included in the analysis, and which for reasons discussed in Section 3.1 may tend to have defensive interests. Overall we can conclude that there is a wide variety in minimum prices at tariff line level, generally prohibiting conclusions at chapter level. By using the minimum observed price across trade partners a single small trade flow with a low price may determine the assessment of a whole tariff line. To assess the robustness of the analysis we therefore repeat the analysis with two different price measures.

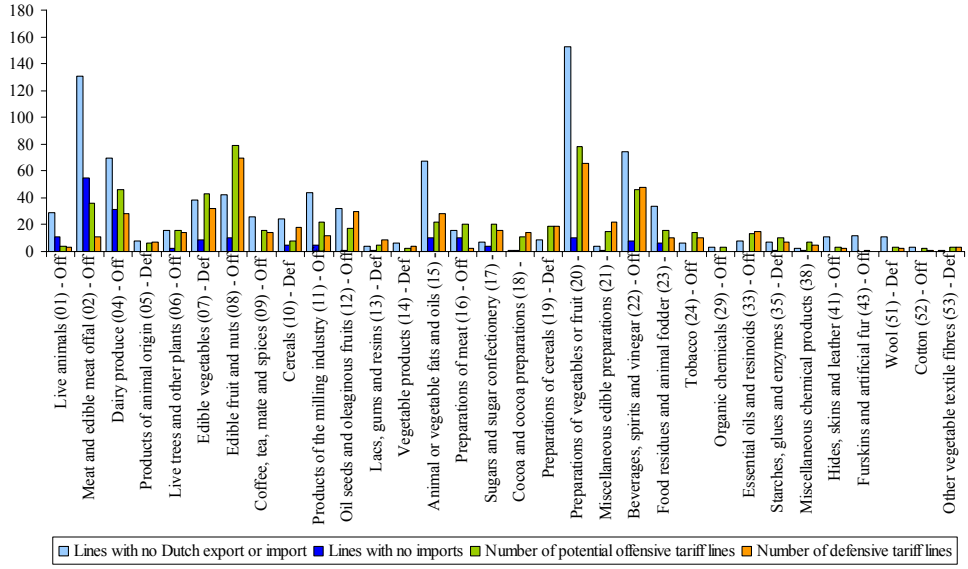

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Figure 3.1 Number of potentially offensive and defensive tariff lines by HS chapter and trade weighted assessment at sector level a)

a) 'Off' at the end of the chapter title indicates potential offensive interest at sector level based on trade weighted prices, 'Def' means defensive interest at sector level using trade weighted prices. Chapters or tariff lines are offensive if the price of Dutch exports is lower than the price of imports from the rest of the world (see also table 3.3 and text for further details). Silk (HS 50) has been omitted from the figure; on none of the 4 tariff lines notified by the EU does Dutch trade occur.

Source: COMEXT data, for 2004, authors' calculations.

Table 3.4 Comparison minimum, trade weighted and simple average prices to asses competitiveness of Dutch producers (prices in euro/kg, data for 2004, based on 1,128 tariff lines)

HS	Description	No. of lines	Minimum price			Trade-weighted average			Simple average		
			NL	*ROW*	*NL/ROW a)*	*NL*	*ROW*	*NL/ROW a)*	*NL*	*ROW*	*NL/ROW a)*
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
01	Live animals	7	5.21	5.62	0.93	16.14	24.42	0.66	53.08	112.37	0.47
02	Meat and edible meat offal	47	1.86	3.87	0.48	3.45	3.95	0.87	2.13	2.42	0.88
04	Dairy produce	74	2.26	3.46	0.65	3.87	4.51	0.86	3.06	3.14	0.98
05	Products of animal origin	13	9.97	3.00	3.33	28.71	62.66	0.46	12.25	27.11	0.45
06	Live trees and other plants	30	0.80	1.19	0.67	9.45	5.51	1.71	8.62	7.05	1.22
07	Edible vegetables	75	0.90	1.04	0.87	2.14	1.77	1.20	1.84	1.34	1.37
08	Edible fruit and nuts	149	1.38	1.12	1.23	2.46	1.55	1.59	1.77	1.18	1.50
09	Coffee, tea, mate and spices	30	2.13	4.45	0.48	7.25	6.18	1.17	4.84	4.37	1.11
10	Cereals	26	1.13	0.93	1.22	1.65	1.32	1.26	1.69	1.18	1.43
11	Products of the milling industry	34	0.68	0.85	0.80	1.38	1.99	0.70	0.91	1.27	0.71
12	Oil seeds and oleaginous fruits	47	2.01	1.79	1.13	18.25	22.66	0.81	30.22	32.07	0.94
13	Lacs, gums and resins	14	6.83	8.48	0.81	195.11	21.15	9.23	39.33	12.55	3.13
14	Vegetable products	6	0.70	0.68	1.04	2.06	1.33	1.54	1.88	1.96	0.96
15	Animal or vegetable fats and oils	50	1.00	1.24	0.80	2.83	2.74	1.03	2.16	3.21	0.67
16	Preparations of meat	22	1.50	4.39	0.34	3.24	5.74	0.57	3.11	4.44	0.70
17	Sugars and sugar confectionery	36	1.28	2.08	0.62	2.65	3.42	0.78	2.52	2.75	0.92
18	Cocoa and cocoa preparations	25	1.64	1.47	1.12	6.38	4.05	1.57	4.77	4.17	1.15
19	Preparations of cereals	38	0.99	1.21	0.82	2.98	3.11	0.96	2.59	3.04	0.85
20	Preparations of vegetables or fruit	144	1.39	1.38	1.01	2.65	2.23	1.19	1.83	2.07	0.88
21	Miscellaneous edible preparations	37	3.65	1.67	2.19	9.54	5.05	1.89	4.43	4.74	0.93
22	Beverages, spirits and vinegar	94	2.33	4.75	0.49	6.05	6.76	0.90	3.69	3.94	0.94
23	Food residues and animal fodder	26	0.52	1.79	0.29	2.75	2.56	1.07	2.57	3.21	0.80
24	Tobacco	24	2.81	5.95	0.47	12.16	9.79	1.24	22.68	16.87	1.34

Table 3.4 Comparing minimum, trade weighted and simple average prices to asses competitiveness of Dutch producers (prices in euro/kg, data for 2004, based on 1,128 tariff lines) (contd.)

HS	Description	No. of Lines	Minimum price			Trade-weighted average			Simple average		
			NL	*ROW*	*NL/ROW a)*	*NL*	*ROW*	*NL/ROW a)*	*NL*	*ROW*	*NL/ROW a)*
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
29	Organic chemicals	3	1.55	11.56	0.13	4.03	11.60	0.35	2.15	2.96	0.73
33	Essential oils and resinoids	28	10.58	15.84	0.67	27.87	30.85	0.90	21.13	24.58	0.86
35	Starches, glues and enzymes	17	20.25	4.48	4.52	22.27	5.27	4.23	3.92	3.04	1.29
38	Miscellaneous chemical products	12	0.77	1.25	0.62	1.61	1.76	0.92	2.19	1.44	1.52
41	Hides, skins and leather	5	1.35	2.38	0.57	50.68	4.86	10.43	17.46	3.72	4.69
43	Furskins and artificial fur	1	88.94	210.92	0.42	116.10	219.59	0.53	152.65	253.23	0.60
51	Wool	5	1.25	0.92	1.35	1.65	1.29	1.28	1.49	1.90	0.78
52	Cotton	3	0.55	0.76	0.73	2.25	1.16	1.93	2.12	1.34	1.58
53	Other vegetable textile fibres	6	0.82	1.99	0.41	1.05	2.30	0.46	1.44	1.82	0.79

Note: prices are aggregated from tariff lines to chapter level as simple averages, ignoring differences in trade flows. a) Ratio of unit value of Dutch exports (NL) to unit value of imports from rest of world (ROW); if ratio is smaller than one Dutch, exports are less expensive than imports and there is an offensive interest, similarly there is an defensive interest if the ratio exceeds one. Source: COMEXT, authors' calculations.

3.3 Assessing competitiveness using the trade-weighted average of observed prices

Instead of using the minimum observed price at tariff line level we could also use the average price over different trade partners. The larger the variation in prices across trade partners, the larger the divergence will be with the analysis based on minimum prices. In this section we analyse Dutch competitiveness based on trade-weighted average prices. We compute Dutch average weighed export prices using the value of Dutch exports to each partner as weights. Similarly, we calculated average weighed import prices using the value of imports from different partners as weights.

Table 3.4 presents the average price at sector level (column 5 through 7) alongside the average minimum prices as they were already reported in table 3.3. Not surprising the trade-weighted average prices are higher than prices based on minimum cost.

The difference between the two sets of prices indicates the extent to which the minimum prices diverge from the majority of the trade flows. In some cases the differences is extreme, like for Lacs, gums and resins (HS 13) with a Dutch trade weighted price of 195.11 versus a minimum price of 6.83 euro/kg. Prices of imports also rise, but less dramatic, from 8.48 minimum to 21.15 euro/kg.

Given the expected increase in prices when high-value streams are accounted for as well, we shift our focus to the ratio of Dutch and third country prices (column 3 and 7). Since both streams are affected by the way in which prices are measured, differences in the ratio are much less pronounced. Exceptions are Lacs, gums and resins (HS 13) and Hides, skins and leather (HS 41) with an almost tenfold increase in the ratio. Measured by average prices Dutch exports are thus less competitive than suggested by minimum prices. Products of animal origin (HS 05) show the opposite movement, with a drop of the price ratio from 3.33 with minimum prices to 0.46 with trade weighted prices. On average Dutch exports of products covered in our analysis are thus more competitive than the minimum price would suggest. These rather extreme changes in price ratio indicate the importance of quality differences not captured by the 8 digit tariff lines.

Comparing the price ratios in terms of defensive and potentially offensive interests the overall balance across sectors shifts from 22 potentially offensive and 10 defensive to 15 potentially offensive and 17 defensive sectors. The overall difference is the net result of eleven sectors changing their classification. Two become offensive when evaluated in terms of trade weighted prices (Products of animal origin (HS 05) and Oils seeds (HS 12)), while nine sectors become defensive (Live trees (HS 06), Edible vegetables (HS 07), Coffee and tea (HS 09), Lacs, gums and resins (HS 13), Fats and oils (HS 15), Food residues (HS 23), Tobacco (HS 24), Hides (HS 41) and Cotton (HS 52)).

The larger number of defensive sectors when using an average price instead of a minimum price measure, indicates that at least part of the Dutch producers earn a profit margin on their exports. This results in an underestimation of the offensive potential.

3.4 Assessing competitiveness using the simple average of observed prices

The trade weighted prices are computed using the value of trade flows as weights. This procedure gives more weight to large trade flows to reflect the total value of trade. A downside of this approach is that for equally large trade flows in terms of quantity, flows with higher prices receive more weight. This may bias the price estimates upward. We therefore repeat the assessment of competitiveness by computing a simple average of prices at tariff line level.

The last three columns in table 3.4 give the results alongside the other two measures (prices are again aggregated to sector level using simple averages). Compared to the minimum price approach 15 sectors change classification. Seven sectors change to potentially offensive: Products of animal origin (HS 05), Oil seeds and (HS 12), Vegetable products (HS 14), Preparations of vegetables (HS 20), Miscellaneous food (HS 21), Wool (HS 21) and Other fibres (HS 53). Another eight sectors change to becoming defensive: Live trees and other plants (HS 06), Edible vegetables (HS 07), Coffee and tea (HS 09), Lacs, gums and resins (HS 13), Tobacco (HS 24), Chemical products (HS 38), Hides (HS 41) and Cotton (HS 52). The overall balance then comes to 20 offensive sectors and 12 defensive sectors.

The impact of the use of simple averaged, trade weighted prices or minimum prices does not come as a surprise given the similar finding when comparing different ways of aggregating minimum prices to sector level in table 3.3. Given the variation across tariff lines it implies we need to address the robustness of our analysis at the tariff line level, as done in the second part of section 3.5.

Table 3.5 Sector classifications with different price measures a)

HS	Description	% lines in analysis b)	Mini-mum price	Trade-weighted average	Simple average	Total c)
		(1)	(2)	(3)	(4)	(5)
01	Live animals	15	PO	PO	PO	PO
02	Meat and edible meat offal	20	PO	PO	PO	PO
04	Dairy produce	42	PO	PO	PO	PO
05	Products of animal origin	62	D	PO	PO	?
06	Live trees and other plants	63	PO	D	D	?
07	Edible vegetables	61	PO	D	D	?
08	Edible fruit and nuts	74	D	D	D	D
09	Coffee, tea, mate and spices	54	PO	D	D	?
10	Cereals	47	D	D	D	D
11	Products of the milling industry	41	PO	PO	PO	PO
12	Oil seeds and oleaginous fruits	59	D	PO	PO	?
13	Lacs, gums and resins	74	PO	D	D	?
14	Vegetable products	50	D	D	PO	?
15	Animal or vegetable fats and oils	39	PO	D	PO	?
16	Preparations of meat	46	PO	PO	PO	PO
17	Sugars and sugar confectionery	77	PO	PO	PO	PO
18	Cocoa and cocoa preparations	93	D	D	D	D
19	Preparations of cereals	81	PO	PO	PO	PO
20	Preparations of vegetables or fruit	47	D	D	PO	?
21	Miscellaneous edible preparations	88	D	D	PO	?
22	Beverages, spirits and vinegar	53	PO	PO	PO	PO
23	Food residues and animal fodder	39	PO	D	PO	?
24	Tobacco	80	PO	D	D	?
29	Organic chemicals	50	PO	PO	PO	PO
33	Essential oils and resinoids	78	PO	PO	PO	PO
35	Starches, glues and enzymes	68	D	D	D	D
38	Miscellaneous chemical products	80	PO	PO	D	?
41	Hides, skins and leather	31	PO	D	D	?
43	Furskins and artificial fur	8	PO	PO	PO	PO
51	Wool	31	D	D	PO	?
52	Cotton	50	PO	D	D	?
53	Other vegetable textile fibres	86	PO	PO	PO	PO

a) 'PO' means potentially offensive, 'D' means defensive; b) The percentage of EU notified agricultural lines included in the analysis (including lines with no trade in 2004); c) Classification of sectors if consistent across price measures.

3.5 Comparing findings with different measures of prices

Given the approximate measure of prices by trade values we employed three different measures of prices to assess the competitiveness of Dutch agro-food products. At sector level the classifications as shown in table 3.5 were obtained. For 16 out of 32 sectors all three measures result in the same classification. Four sectors are consistently classified as

having defensive interests: Edible fruits (HS 08), Cereals (HS 10), Cocoa and cocoa preparations (HS 18) and Starches (HS 35). Given that the classification as defensive is more robust than an offensive classification, the sector level results of these four sectors are the most robust findings.

There are 12 sectors classified as potentially offensive: Live animals (HS 01), Meat (HS 02), Dairy (HS 04), Products of the milling industry (HS 11), Meat preparations (HS 16), Sugars and sugar confectionary (HS 17), Preparations of cereals (HS 19), Beverages (HS 22), Organic chemicals (HS 29), Essential oils (33), Furskins (HS 43) and Vegetable fibres (HS 53). We use the term potentially offensive because of the limitations outlined in Section 3.2. In the light of these limitations there are several sectors where a qualification of the conclusions at sector level is in order.

As discussed in Section 3.1 a large number of tariff lines are not included in the analysis for livestock-related sectors. To underline this limitation of the analysis table 3.5 includes the percentage of EU notified lines included in the analysis (taken from table 1). Only a small percentage (20 percent or less) of the EU notified lines is incorporated in the analysis, especially in the case Live animals (HS 01), Meat (HS 02) and Furskins (HS 43). Presumably the lines not included will have defensive interests in maintaining current high protection for non-competitive lines on which currently no trade occurs. Including these lines in the analysis could change their conclusions at sector level. Yet, the consistent classification of the lines that could be included in the analysis still indicates that also in the livestock-related sectors there are products in which Dutch producers are competitive and would have potential offensive interests.

The qualification of the offensive sector-level classification as potentially offensive also holds for Sugar (HS 17). Current protection leads to a distortion of trade flows barring competitive foreign producers from the EU market. In contrast to the livestock-related sector, the analysis for sugar covers 77 percent of the EU notified lines. The consistent sector-level classification as offensive thus suggests that some products are internationally competitive.

When comparing the conclusions of the three price measures no clear pattern emerges. The diversity at tariff line level depicted in figure 3.1 underlies the sensitivity of the sector level classifications to the price measure used. We therefore turn to analysing the consistency between the three price measures at tariff line level. Figure 3.2 presents by sector the number of tariff lines consistently classified as either defensive or offensive.

The main message from figure 3.2 is again the variety existing at tariff line level. Even for sectors that are consistently classified as defensive, like Cocoa (HS 18), the majority of tariff lines switches classification depending on the price measure used. Given that the sector level classification does not switch by price measure this implies that tariff lines are switching in all directions, *i.e.* the different price measures do not exhibit a bias towards defensive or offensive classifications.

Overall about two-thirds of the tariff lines in each sector have a consistent classification as offensive or defensive. The changing classification of the other third of the tariff lines indicates that these lines exhibit a large variation in price across destinations. In case prices across destinations are identical the minimum, trade weighted and simple average price would be identical as well. This variation in prices could be due to differences in

quality not captured by the different tariff lines. If this is the case one may question the importance of tariffs, since marketing of the products may focus more on quality than prices.

Of the classification used, the defensive classification is most robust. If we then compare the three price measures in terms of the total number of tariff lines classified as defensive we find 522 defensive lines with the minimum price measures, 641 with the trade weighted price and 693 with the simple average price. In terms of defensive lines the minimum price and simple average price thus represent the two extremes of the measures used, with 46 and 61 percent defensive lines, respectively. Given that they present the two extremes we will use these two measures when assessing market access proposals in the next chapter.

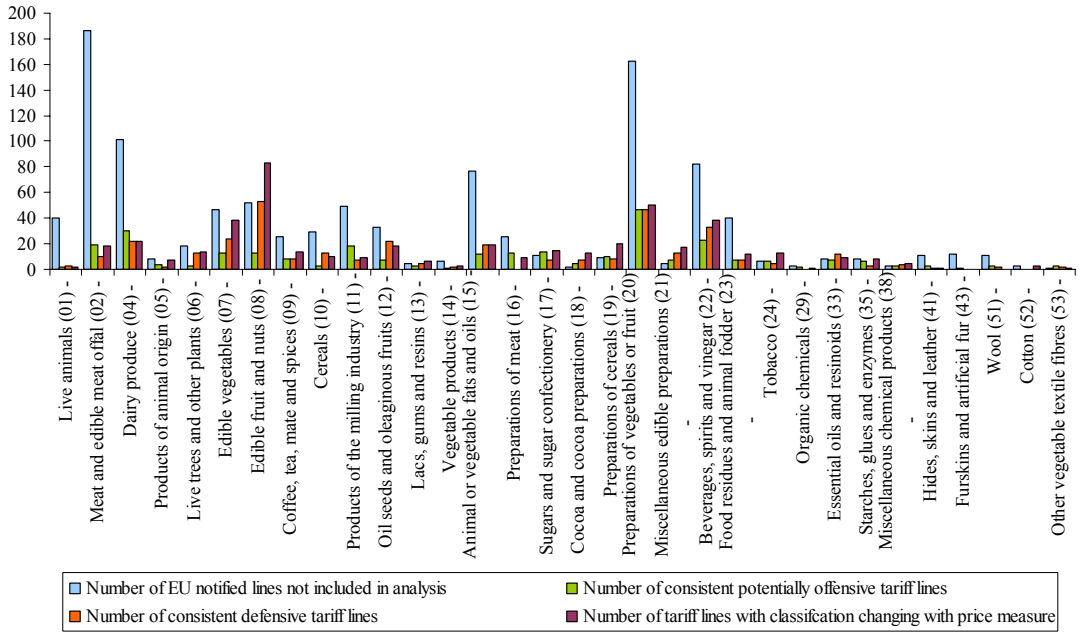

Figure 3.2 Number of tariff lines by sector that are consistently classified as potentially offensive or defensive or that change classification

Note: EU notified lines without any Dutch exports or imports or without any imports to the EU are excluded from the analysis and indicated with the blue bar. This blue bar is the sum of the two blue bars used in figure 3.1.

Source: COMEXT data, for 2004, authors' calculations.

4. Comparing prices with MFN border protection

The previous chapter compared prices without accounting for tariff protection. The analysis in that chapter does not fully reflect a situation of absence of border protection since the trade flows on which the analysis is based are shaped by the current protection structures. In the actual world extensive border protection schemes are in place, aimed at shielding domestic producers from foreign competitors. These protection schemes alter the trade flows as they would occur in the absence of these barriers. We base our analysis of the market access proposals on the trade flows as they occurred in 2004 and therefore do not include the changes in trade flows that occur if tariffs are reduced. The analysis thus does not include new trade flows that currently do not exist because of prohibitive trade barriers.

In this chapter we focus at analysing agricultural market access proposals. As a reference point we use the minimum and simple average prices analysed in chapter 3. Both price measures ignore the variation in prices across trade partners, for each tariff line we use a single (minimum or average) price. Having a single import price we focus on the bound tariffs negotiated in the WTO round, the Most Favoured Nation (MFN) rates. These rates are the maximum protection allowed by the WTO. Preference schemes like 'everything but arms' will allow individual trading partners better access than given by the bound rate. Such a difference between applied and bound rates is not taken up in this chapter.

Given that we continue with the unit values defined in chapter 3 we assume that the prices we compute on the basis of the 2004 data are representative of prices when an eventual Doha agreement is implemented. This amounts to assuming that prices in all regions will develop in the same direction, leaving the ratio of export to import prices untouched.

4.1 Agricultural market access proposals

Various deadlines have been missed with no agreement yet on the modalities for improving agricultural market access. Table 4.1 summarises proposals that have been tabled by the summer of 2006 (when the analysis was done). There is agreement on the use of four tiers, although not on their bounds. The major divergence between the proposals is the type of reduction formula applied within each tier. The G10, EU and G20 proposals use a fixed reduction percentage within each tier, whereas the US and Australia propose an increasing reduction within each tier. The implications of these differences for the tariff profile after reductions is illustrated figure 4.1. A fixed reduction percentage results in discontinuities in the tariff profile. Tariffs that are just above the threshold of a tier are reduced more than those just below the threshold. Using an increasing reduction as proposed by the US and Australia preserves the relative protection of tariff lines. Figure 4.1 also clearly illustrates the different levels of ambition, with the G10 proposing the smallest increase in market access and the US proposing the largest increase in market access.

Table 4.1 Agricultural market access proposals for developed countries

Issue	*US*		*EU*		*G10 a) (linear option)*		*G20*		*Australia*	
Tariff reduction	tiers	cuts	tiers	cuts	tiers	cuts	tiers	cuts	tiers	cuts
	0-20	55-65	0-30	35	0-20	27	0-20	45	0-20	55-65
	20-40	65-75	30-60	45	20-50	31	20-50	55	20-40	65-75
	40-60	75-85	60-90	50	50-70	37	50-75	65	40-60	75-85
	60+	85-90	90+	60	70+	45	75+	75	60+	85
Tariff cap	75		100		no cap		100, min avg cut of 54		75	
Sensitive products										
- Selection	1 percent dutiable tariff lines		8 percent of total tariff lines		15 percent of tariff lines		1 percent of tariff lines		1 percent of tariff lines	
- Tariff cut	Smaller cut than general formula		Between 33-66% of general formula cut		50% deviation from general formula cut		70% of general formula cut		60% of general formula cut	
- TRQ expansion	TRQ increase based on deviation from formula		TRQ increase bases on a sliding scale mechanism (greater deviation from formula the greater TRQ increase)		TRQ increase based on sliding scale, adjusted by a coefficient defined by the % of the UR TRQ to domestic consumption		TRQ expansion based on a sliding scale mechanism		TRQ expansion following cutting tiers (6.5%, 7.5%, 8.5%, 10.5%)	
- TRQ basis	% of domestic consumption		% of imports, not to exceed access provided through general formula tariff cut		% of current TRQ		At least 6% of domestic consumption		% of domestic consumption	

a) The G10 have proposed two options, a linear cut included in the table and a flex option with reductions varying within tiers. The G10 have the least ambitious proposal with cuts below the EU proposal. Presuming that the EU is willing to accept at least its own proposal we focus the analysis on the more ambitious proposals and therefore only include the more simple linear version of the G10 proposal, spending no time on analysing the flex option.

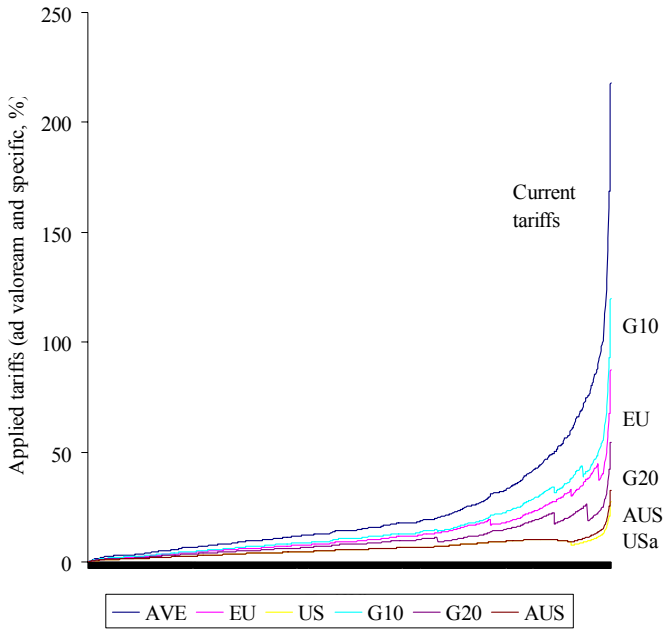

Figure 4.1 Tariff profile for the different market access proposals

a) The US proposal is unclear about the reductions to tariff above 60%. These are to be cut linearly by 85-90%. We used the average of this range (87.5%) and applied it as a linear cut to tariffs above 60 percent (similar to the proposal by Australia, which has a fixed cut of 85% for tariffs above 60%).

The lines in figure 4.1 are based on the 1,128 tariff lines included in the analysis. Of these 1,128 lines there are 197 lines (17 percent) with a zero tariff. We also found that for the remaining 931 lines with nonzero tariffs the proposed tariff caps are not effective; after applying the tariff reductions all tariff are below the proposed caps.

4.2 Protection offered by the current tariff structure

To assess the market access proposals on the protection we analyse their impact in terms of the number of tariff lines with defensive interests (tariff lines where Dutch export prices exceed import prices). We focus on changes in lines with defensive interest since a key concern of lowering tariff barriers is the impact on the competitiveness of Dutch producers in the domestic market. Given that the database only includes data on Dutch trade we cannot address potential offensive interest in third markets.

Given the findings in Chapter 3 we employ two different price measures with the most divergent results: the minimum price (table 4.2) and the simple average price (table 4.3). Column 2 in both tables gives the number of defensive lines in the absence of tariffs, the case analysed in chapter 3. The last row of the table indicates that of a total of 1,128 lines in the analysis, 522 are classified as defensive with a minimum price while 693 are deemed defensive with an average price.

If we add the current AVEs to the minimum import prices the number of defensive lines drops to 412 (table 4.2, column 3). There are thus 110 tariff lines where the current border protection raises the price of imports above the Dutch export prices. The opposite interpretation of these numbers is that there are 412 tariff lines (36 percent of the total number of lines in this study) where the current tariff structure does not completely shield Dutch producers from competitors. Note that in these cases there is still some protection, since the tariffs raise the price of imports as they enter the Dutch market.

A notable finding in table 4.2 is that the protection offered by the current tariff structure is concentrated in three sectors: Dairy (HS 04), Fruits and nuts (HS 08) and Preparations of vegetables and fruits (HS 20). Even when accounting for the large number of tariff lines in these chapters they account for a disproportionate share of the tariff lines protected by the current share. These three chapters account for 72 of the 110 lines (or 65 percent) protected by the tariffs. Given this disproportionate benefit from the current protection one would also expect these sectors to be affected most by the tariff reduction proposals.

Table 4.3 presents the analysis in terms of simple average prices. A similar picture emerges as from the comparison using minimum prices. Under current protection the number of defensive lines drops from 693 to 592 (table 4.3, column 3), implying that 101 lines benefit from the current protection to such an extent that the prices of imports are raised above Dutch prices. Main beneficiaries are again Dairy (HS 04), Fruits and nuts (HS 08) and to a lesser extent Preparations of vegetables and fruits (HS 20).

Table 4.2 Change in the number of tariff lines with defensive interests by market access proposal based on a minimum price measure

HS	Description		Number of defensive tariff lines a)		Change in number of defensive lines (with respect to current AVE protection, column [3])				
		N=	zero tariffs	AVE	G10	EU	G20	AUS	US b)
		(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
01	Live animals	7	3	3	0	0	0	0	0
02	Meat and edible meat offal	47	11	7	0	1	1	2	2
04	Dairy produce	74	28	11	3	3	3	9	10
05	Products of animal origin	13	7	7	0	0	0	0	0
06	Live trees and other plants	30	14	14	0	0	0	0	0
07	Edible vegetables	75	32	26	0	0	0	1	1
08	Edible fruit and nuts	149	70	45	6	6	6	11	11
09	Coffee, tea, mate and spices	30	14	13	0	0	0	0	0
10	Cereals	26	18	14	1	1	1	1	2
11	Products of the milling industry	34	12	6	1	1	2	2	2
12	Oil seeds and oleaginous fruits	47	30	29	0	1	1	1	1
13	Lacs, gums and resins	14	9	8	0	0	0	0	0
14	Vegetable products	6	4	4	0	0	0	0	0
15	Animal or vegetable fats and oils	50	28	27	0	0	0	0	0
16	Preparations of meat	22	2	2	0	0	0	0	0
17	Sugars and sugar confectionery	36	16	10	1	1	3	3	3
18	Cocoa and cocoa preparations	25	14	12	0	0	0	0	0
19	Preparations of cereals	38	19	15	1	1	2	2	2
20	Preparations of vegetables or fruit	144	66	46	5	6	6	9	9
21	Miscellaneous edible preparations	37	22	18	0	1	1	1	1
22	Beverages, spirits and vinegar	94	48	46	0	0	0	0	0
23	Food residues and animal fodder	26	10	9	0	0	1	1	1
24	Tobacco	24	10	7	1	1	1	2	2
29	Organic chemicals	3	0	0	0	0	0	0	0
33	Essential oils and resinoids	28	15	14	1	1	1	1	1
35	Starches, glues and enzymes	17	7	6	0	0	0	1	1
38	Miscellaneous chemical products	12	5	5	0	0	0	0	0
41	Hides, skins and leather	5	2	2	0	0	0	0	0
43	Furskins and artificial fur	1	0	0	0	0	0	0	0
51	Wool	5	2	2	0	0	0	0	0
52	Cotton	3	1	1	0	0	0	0	0
53	Other vegetable textile fibres	6	3	3	0	0	0	0	0
	Total	1,128	522	412	20	24	29	47	49

a) Defensive tariff lines are defined as tariff lines where the Dutch minimum price exceeds the price of the most competitive foreign imports (see also chapter 3); b) The US proposal is unclear about the reductions to tariff above 60%. These are to be cut linearly by 85-90%. We used the average of this range (87.5%) and applied it as a linear cut to tariffs above 60 percent (similar to the proposal by Australia, which has a linear cut of 85% for tariffs above 60%).

Table 4.3 Change in the number of tariff lines with defensive interests by market access proposal based on a simple average price measure (contd.)

HS	Description		Number of defensive tariff lines a)		Change in number of defensive lines (with respect to current AVE protection, column (3))				
		N=	Zero tariffs	AVE	G10	EU	G20	AUS	US b)
		(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*
01	Live animals	7	5	5	0	0	0	0	0
02	Meat and edible meat offal	47	22	16	2	3	3	5	6
04	Dairy produce	74	41	20	5	6	9	13	13
05	Products of animal origin	13	7	7	0	0	0	0	0
06	Live trees and other plants	30	26	24	0	0	1	1	1
07	Edible vegetables	75	59	53	4	4	5	6	6
08	Edible fruit and nuts	149	132	106	15	17	21	25	25
09	Coffee, tea, mate and spices	30	18	16	0	1	1	1	1
10	Cereals	26	19	18	0	0	0	0	0
11	Products of the milling industry	34	13	10	0	1	2	3	3
12	Oil seeds and oleaginous fruits	47	36	36	0	0	0	0	0
13	Lacs, gums and resins	14	8	8	0	0	0	0	0
14	Vegetable products	6	3	3	0	0	0	0	0
15	Animal or vegetable fats and oils	50	29	26	1	1	1	2	2
16	Preparations of meat	22	8	6	1	1	1	2	2
17	Sugars and sugar confectionery	36	14	11	1	1	1	2	2
18	Cocoa and cocoa preparations	25	14	12	1	1	1	1	1
19	Preparations of cereals	38	15	10	0	0	2	2	2
20	Preparations of vegetables or fruit	144	77	68	3	3	4	6	6
21	Miscellaneous edible preparations	37	21	20	0	0	0	1	1
22	Beverages, spirits and vinegar	94	53	51	0	0	1	1	1
23	Food residues and animal fodder	26	16	14	2	2	2	2	2
24	Tobacco	24	16	14	0	0	0	1	1
29	Organic chemicals	3	1	1	0	0	0	0	0
33	Essential oils and resinoids	28	17	17	0	0	0	0	0
35	Starches, glues and enzymes	17	8	6	1	1	1	1	1
38	Miscellaneous chemical products	12	8	7	0	1	1	1	1
41	Hides, skins and leather	5	1	1	0	0	0	0	0
43	Furskins and artificial fur	1	0	0	0	0	0	0	0
51	Wool	5	2	2	0	0	0	0	0
52	Cotton	3	2	2	0	0	0	0	0
53	Other vegetable textile fibres	6	2	2	0	0	0	0	0
	Total	1,128	693	592	36	43	57	76	77

a) Defensive tariff lines are defined as tariff lines where the Dutch average price exceeds the average price of foreign imports (see also chapter 3); b) The US proposal is unclear about the reductions to tariff above 60%. These are to be cut linearly by 85-90%. We used the average of this range (87.5%) and applied it as a linear cut to tariffs above 60 percent (similar to the proposal by Australia, which has a linear cut of 85% for tariffs above 60%).

4.3 Impact of tariff reduction proposals in terms of turning defensive

Although in terms of the protection offered by the current tariffs a similar pattern emerges with minimum and average prices, the impact of tariff reduction proposals does reveal differences between the two price measures. The second part of table 4.2 (column 4 through 8) presents the number of lines shifting from potentially offensive to defensive with the different market access proposals using minimum prices. These columns refer to the number of tariff lines currently protected by tariffs where the market access proposal result in Dutch prices to exceed import prices. The proposals are sorted from the one with the least impact (G10, 20 lines effectively losing protection) to the one with the most impact (US, 49 lines losing protection).

The first thing to note is that for 17 of the 32 chapters the current market access proposals do not change the number of defensive tariff lines (for these sectors column 4 through 8 are all zero). Although a reduction in tariffs lowers protection, for the majority of sectors either the current protection does not increase import prices above Dutch prices, or tariffs offer such a level of protection that even after reductions the import prices plus tariff remains above the Dutch price.

The total number of tariff lines affected by the proposal clearly reflects the differential impact of the linear reduction proposals (G10, EU, G20) versus the linearly-increasing reductions of the Australian and the US proposals. As also observed in figure 4.1, the high reduction percentages proposed by Australia and the US result in more lines becoming defensive (47 and 49 lines). As expected, the sectors benefiting most from the current protection are affected most by the proposed reductions. In terms of the total number of defensives lines (522) the maximum number of lines becoming additionally defensive (49 lines or 9 percent with the US proposal) seems limited. Based on the large difference in tariff profiles in figure 4.1 we expected a much larger impact of the US proposal.

The limited impact of the US proposal appears related to using minimum prices as a measure of competitiveness. Assessing the impact in terms of average prices (table 4.3, column 4 through 8) shows a more significant impact of all reduction proposals. The overall pattern remains the same with the three sectors protected most by the current tariffs being affected most (HS 04, HS 08 and HS 20). There are some remarkable differences with the analysis based on minimum prices. Where protection for Fruits and nuts (HS 08) is about completely eliminated under the US proposal (of the 26 protected lines 25 lose their protection), preparations of vegetables and fruits is affected less compared to using minimum prices (6 instead of 9 lines losing protection). With the exception of Cereals (HS 10) and Essential oils (HS 33), using average prices yields a stronger impact of all market access proposals. These two exceptions arise because using average prices these sectors are already protected less by the current tariffs. In other words, the tariff lines losing protection with minimum prices are not protected using average prices.

Although the impact of the market access proposals is stronger with average prices, the pattern across different proposals remains the same: proposals have a (strong) impact or no impact at all. The difference between the fixed reduction proposals (G10, EU, G20) and increasing cuts (US, Australia) appears less pronounced with the average prices. As an illustration consider Fruits and nuts (HS 08) where the G20 proposal already raises the number of defensive lines with 21 compared to 17 with the EU proposal. Using average

prices the G20 thus assumes more of an intermediate role in between the EU and Australian proposal.

When analysing the impact of market access proposals in terms of changes in the number of defensive lines (*i.e.* the number of lines where Dutch prices exceed foreign prices after reducing protection), we find a stronger impact when using average prices compared to using minimum prices. If we take the minimum price as measuring the minimum cost against which products can be sold and the average price measuring the average price currently charged, these findings indicate that although profit margins will be reduced in most cases Dutch producers will remain competitive.

A surprising finding with both price measures is the US proposal not having the bite one would suspect based on figure 4.1. Despite the much more ambitious tariff cuts proposed by the US, it only about doubles the number of additional defensive lines compared to the least ambitious G10 proposal (from 20 to 49 with minimum prices and from 36 to 77 with average prices). Although the number of lines with a switch in the price ratio when tariffs are reduced is modest compared to the total number of defensive lines, it does account for the major part of the lines currently shielded (110 with minimum prices, 101 with average prices).

The more limited than expected impact of the US proposal also indicates that there is no clear relationship between the level of tariffs and the defensiveness position of products. Various reasons underlie this finding. First of all, tariffs are established by the EU based on the interests of all EU member states. Interests at EU-level will not fully correspond with the Dutch interests on which our analysis focuses. Secondly, our analysis focuses at tariff line level. We do not take the economic importance of various products into account. Products with strong defensive interests may have limited overall economic importance. One may expect that such considerations are used when determining the tariff structure. Finally, getting a clear view on the competitiveness at tariff line level is a difficult task. We needed to rely on trade data to obtain an approximation. The absence of a benchmark to assess demands for protection by a specific sector and to weigh these demands with the interests of other sectors increases the room for interests groups. The tariff structure is therefore likely to reflect the bargaining power of different interests groups, which may not correspond with their economic importance.

5. Proposals for sensitive products

In the current WTO negotiations sensitive products are one of the main areas of contention where exporters seek for improved market access and importers fear an increased competition on markets which are declared as sensitive.

According to the 2004 Framework Agreement countries can self select an appropriate number of sensitive tariff lines. For products selected as sensitive expanded TRQ will compensate for reduced tariff cuts. As outlined in the Framework Agreement the 'specific rules (are) to be negotiated … taking into account deviations from the tariff formula standards'. In the current negotiations countries or groups of countries proposed different formulas describing how the TRQ should be expanded in the case of sensitive products.

In this chapter we briefly discuss the economic theory underlying the TRQ expansion to compensate for a limited tariff reduction. We then turn to analysing the impact of different proposals in terms of market access. The last part of this chapter outlines a number of caveats when implementing the proposals for sensitive products.

Before delving into the details of the proposals for sensitive products we explore the link with the analysis based on a comparison of prices. Tariff lines with TRQs are generally considered as being defensive therefore warranting the use of TRQs as opposed to using tariffs. Of the tariff lines belonging to a TRQ more than half were omitted from the price analysis due to a lack of trade flows (table 5.1). The association with a TRQ suggests that these omitted lines could be classified as defensive.

Table 5.1 Overlap between the two parts of the analysis

Type of tariff lines	Number of lines in TRQ	% of lines in TRQ
Excluded from price analysis due to lack of data	177	54
Tariff lines with defensive interests:		
defensive according to all three price measures	42	13
defensive according to two price measures	49	15
defensive according to one price measure	24	7
Potentially offensive	34	10
Total	326	100

Of the other tariff lines associated with a TRQ 10 percent are classified as potentially offensive using the price data. These lines could be defensive from a European point of view (in which case Dutch producers are more competitive than other producers in Europe). Or the classification as potentially offensive may result from distortions in the current trade flow. An example of these lines is sugar. Under preferential trade agreements less competitive imports are entering the EU, whereas imports from competitive producers (like Brazil) are hindered. Comparing the price of the less competitive preferential trade flows with Dutch export prices then results in a classification as offensive, whereas a com-

parison with prices of more competitive producers currently barred from trading would indicate a defensive interest.

The remaining tariff lines are classified as defensive by at least one price measure. In most cases however the lines are classified as defensive by at least two price measures. Taking the tariff lines associated with a TRQ but omitted from the price analysis because of lack of trade flows as defensive, 90 percent of the tariff lines associated with a TRQ would be considered defensive according to the first part of the analysis in this study. This is in line with the expected defensive character of TRQs.

5.1 Economics of TRQ expansion in the case of sensitive products

The proposals for sensitive products are based on two different approaches. The U.S., the Australian and the G20 proposal calculate the TRQ expansion on the current consumption level. In contrast, the EU and G10 proposal calculate the TRQ expansion on the current level of imports. Both approaches bear some problems:

- *TRQ expansion based on consumption data*
  Sensitive products are defined at tariff line level while consumption data are not available at that level. In general consumption statistics are not based on tariff definitions but based on household survey data using a definition of commodities unrelated to the definitions used in trade statistics;
- *TRQ expansion based on import data*
  This approach faces the problem that current level of imports for those products with high import tariffs are low or - in the case of prohibitive tariffs - at zero level. Here the TRQ expansion has to be calculated on the potential increase in imports in the case of a full tariff cut.

The following graph illustrates the calculation of TRQ expansion based on import data (the EU approach). The left hand graph illustrates the effect on market taking into account the effects of trade policies on supply q^S and demand q^D. The right hand graph illustrates the import demand (m) of this country. In the case of an open economy the country will import the quantity m_{FT} in the case of free trade at word price level p_w (this is the amount with which the demand (q^D) exceeds the supply (q^S) at the price p_w). We can plot this amount of imports m_{FT} in the right hand side to depict the amount of imports at price p_w.

If this country[1] imposes a tariff t_0 imports will decline to m_{t0}. Again this can be derived by establishing the difference between the demand (q^D) and supply (q^S) in the left-hand side of the graph, which can then be plotted in the right hand side to establish the imports with the tariff t_0 imposed. The amount of imports declines since the increased domestic price will result in consumers demanding less and producers producing more. This results in less scope for imports.

[1] It is assumed that this country is a small country where trade policy measures do not affect the level of world prices, *i.e*. no terms of trade effect can be observed.

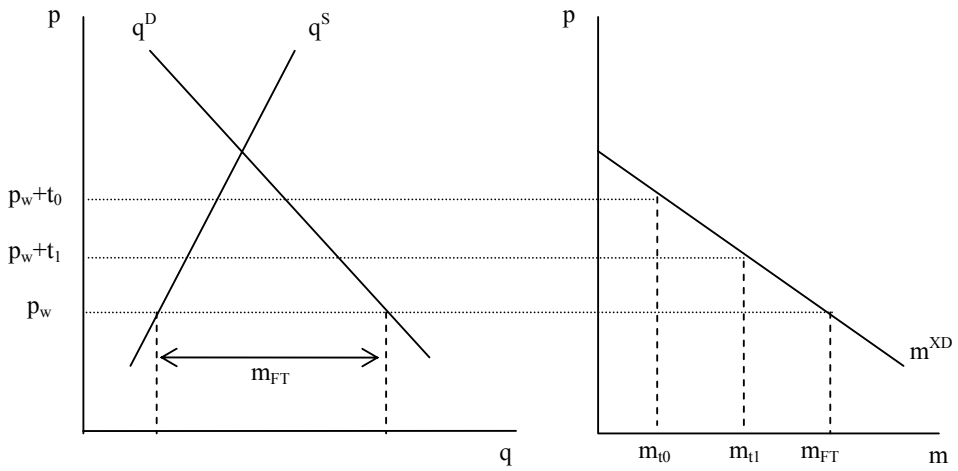

Figure 5.1 Deriving import demand with different tariffs

In case of a 50% tariff cut (from t_0 to t_1) imports will increase to m_{t1}. The change in import is determined by the slope of the import demand curve m^{XD}. This curve is derived from the supply and demand curves in the left-hand side of the figure. The slope of the import demand curve is thus depending upon the response of supply and demand to changes in prices.

Without discussing the details of the derivation of the import demand curve, it should be evident that the response of imports to changes in prices (the price elasticity of import demand) is higher than the price response of supply and demand. The intuition behind this result is that imports are the difference between consumption and production, while consumption and production have opposite responses to price changes. For example, in case of a tariff cut consumption increases and production decreases. Imports being the net result of both consumption and production thus respond stronger to price changes than consumption or production individually. Therefore, the price elasticity of imports is higher than the level of price elasticity of demand or supply. This can be seen in figure 5.1 by the import demand curve at the right hand side being less steep than the consumption and production curves at the left hand side. Being less steep implies that for the same amount of price changes imports change more than production or consumption. This relatively high price elasticity of import demand is important since it strongly affects the amount of quota expansion needed to compensate a reduced tariff cut.

If the product *q* is declared as sensitive the tariff cut will be less, in the case of the EU proposal only half of the cut for a non-sensitive product. In this case imports will increase less than under the full cut and according to the framework agreement partners will be compensated by an expansion of the tariff rate quota. The volume of the TRQ expansion depends on two factors. Firstly, the slope of the import demand curve (which can be expressed in the level of the import demand elasticity) and secondly, the level of the initial tariff. The higher the initial tariff the larger the expected increase in imports with a tariff

reduction. The intuition behind this reasoning is that in case of high tariffs trade flows are distorted more and therefore the trade response to the tariff cut will be stronger.

A general problem is the case of prohibitive or almost prohibitive tariffs where due to high initial tariffs no (or almost no) imports are shipped to markets. In this case where the TRQ expansion is expressed as a relative change of the initial import volume, the extended TRQ would improve market access only to a limited extend. At the same time the prohibitive tariffs strongly affect trade flows, therefore a strong increase in trade flows could be expected when tariffs are cut and thus a strong increase in TRQ is needed to compensate a more limited tariff cut resulting from declaring a product sensitive. In the case of (almost) prohibitive trade barriers a TRQ expansion based on imports does not work.

The eventual impact of a TRQ expansion depends on the extent to which the TRQ is utilised. Appendix 3 discusses the technical details of different TRQ regimes and the impact of a TRQ expansion in each. Lacking data on imports inside and outside of the quota, we base our calculations on the actual imports thus ignoring the different quota regimes which will affect the eventual impact of a TRQ expansion. Furthermore, due to the fact that no new TRQ should be created under the envisaged DDA agreement, the calculation of the TRQ expansion in this study is considered only for those tariff lines which fall under an existing TRQ.

5.2 TRQ expansion proposals

Before discussing the results of the TRQ expansion the various proposals will be described briefly. As already mentioned there are two different approached on the table, first the G20, Australian and the US proposal, which are all based on the level of current consumption. Second the EU proposal which outlines a method where the TRQ expansion is calculated on the current level of imports. Details of all proposals are discussed in Annex 4.

The consumption school

The G-20 proposes a straight rule for calculate the TRQ expansion, saying that in the case of sensitive products the TRQ should be increased at least to 6 percent of current consumption level. This proposal, therefore, does not consider the level of initial protection.

The Australian proposal follows a tiered approach. According to the tiers the TRQ should increase by 7.5 percent of consumption for tier 1 covering those tariff lines at lowest tariffs. In three steps this expansion of TRQ will increase in increments of 1 percentage point until an increase of TRQ of 10.5 percent of consumption is reached for those tariff lines which fall in the category of the highest tariffs.

As the third proposal belonging to the consumption school, the US proposal describes a kind of 'entry price' rule. This proposal takes two elements into account: a base increase of consumption and an element which is determined by the tariff cut in different tiers. The lower current market access in terms of shares of imports in consumption, the higher the base element. For the second part: The larger the deviation between full and reduced tariff cut, the larger the expansion in TRQ (for further details see the appendix).

The import school

The G10 and the EU proposal follow a different approach where the calculation of TRQ expansion is not based on the level of consumption but on the level of current imports. While the G10 proposes an undefined growth rate of existing TRQ the EU proposal follows an approach described in the previous graph where the expansion of TRQ is calculated on the relative increase in imports after tariff cuts. For details see appendix 4.

These different proposals would result in different amount of TRQ expansion and the following graph illustrates these differences. The example is based on a product with an import share of 4%, an initial AVE of 80% and an import volume of 6,000 t in the reference period. For this example an import elasticity of -4.0 is assumed.

Given the numbers of initial import quantities and the initial level of protection prices will strongly decline under the full cut of tariff which is 60% here. As a consequence of lower prices import demand will increase by 6,400 t or 107%.

Under the EU proposal the TRQ expansion will be smaller than the increase in imports under the full cut. This lower rate of TRQ expansion under the EU proposal is due to the fact this proposal foresees only a partial compensation in case of a sensitive product compared to the case under the full cut.

The change in market access under the different proposals through tariff cuts differ to the fact that the difference between the reduced rate and the general cut differs between the proposals. The G20 proposal foresees a difference between general and reduced cut of 30 percent only, while the Australian and the US include a difference of 40 percent. The EU proposes a 50 percent difference between the reduced and the general cut.

In applying the other three proposals the calculation is based on current consumption. Under the G20 the TRQ will be around 13,000 t while this number increases under the US proposal to more than 23,000 t.

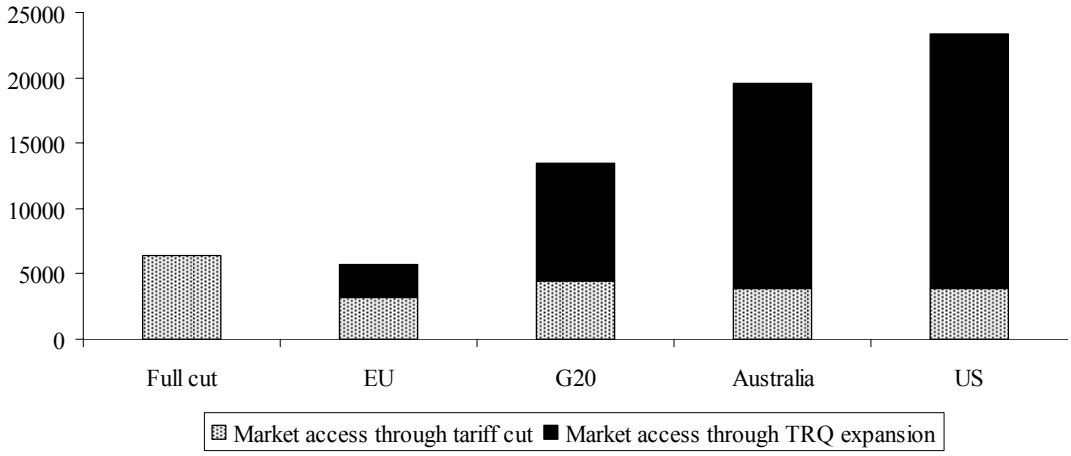

Figure 5.2 An illustration of the expansion of TRQ under different proposals (1000 t)

This example illustrates the differences between the two different 'schools' of proposals for expanding tariff rate quotas in the case of sensitive products. The ranking of expansions in figure 5.2 is however depending on the parameters being used.

Figure 5.3 illustrates the impact of the proposals for different combinations of import shares and import elasticities. Combining high and low import shares with high and low import elasticities results in four different outcomes. In the case of low import shares (graphs in the top row) the EU proposal (based on the current import shares) always results in a lower expansion. This even holds if the import elasticity would be increased further to 20 (a number which is justified on empirical grounds for a product with almost no imports). Given that one would expect a strong response to a tariff reduction for products with limited or no imports the EU proposal does not appear acceptable in this case. The alternative of basing the expansion on consumption will result in significant increases, as is illustrated by the large columns for the G20, Australian and US proposal.

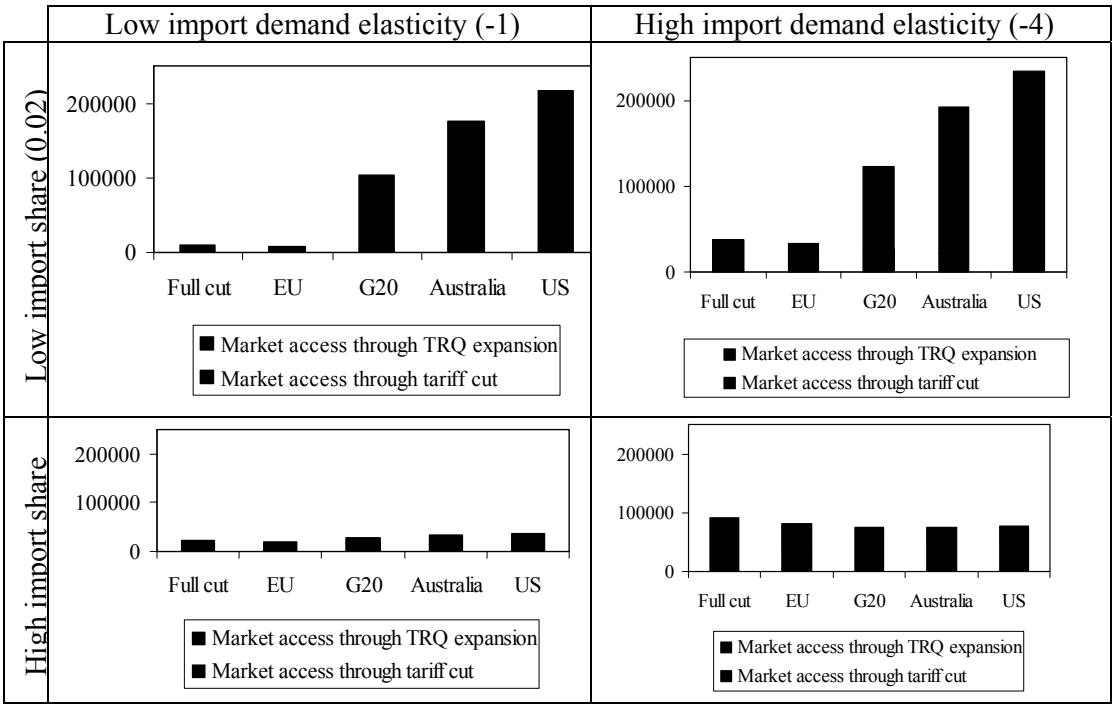

Figure 5.3 Ranking of expansion of TRQ under different proposals depends on imports shares and import demand elasticities

In the case of products with significant initial import shares (graphs in the bottom row), differences between the two schools of proposals are much less pronounced. Combining a high import share with a high import elasticity (although still justifiable on empirical grounds) the EU proposal leads to a stronger expansion than the consumption-based approaches. The impact of the different proposals on the TRQ expansion thus de-

pends on the import shares and import elasticities, therefore limited general conclusions on the impact of the TRQ proposals can be drawn.

5.3 Tariff line level results of the TRQ expansion proposals

Table 5.2 presents the results of applying the proposals at the tariff line level. The computations are based on import levels at tariff line level since no data are available on imports in and out of quota. Data for imports and consumption are taken from AMAD[1], which also provides the data for the tariff lines in each of the TRQs of the EU. The analysis is based on the average trade and consumption quantities for the period of 2002-2004. On AMAD there is no data for 2002-2004 available. The TRQ quantities applied for this analysis are those for the implementation period 1995/2000.

The difference between import and consumption based approaches is largest in case there are limited imports but a large domestic consumption. In that case the EU import-based proposal would result in a limited expansion, whereas the US consumption based proposal would lead to a large expansion. Theoretically there would also be a large difference the other way around (with the EU resulting in a larger expansion) if there would be large imports but a limited consumption. This does not occur since imports arise to satisfy demand, thus large imports coincide with large consumption. Given this pattern in imports and consumption the consumption-based approaches will tend to result in larger expansions that the import based approaches.

Although as a rule of thumb the import-based approach results in smaller TRQ expansions, this result hinges on the elasticities used to determine the response of imports to price changes. The computations in table 5.2 are based on a maximum elasticity of -4.5 (see appendix 4). As has been discussed above with figure 5.1, imports are much more responsive to price changes than domestic supply and demand. The elasticities used in the computations are derived from the numbers used in the negotiations. If the elasticities are based on empirical estimates of import price response the numbers would be much larger. If these larger elasticities are used TRQ expansions based on imports can result in larger expansions than obtained from a consumption based approach (see also the discussion with figure 5.3).

[1] The Agricultural Market Access Database (AMAD), is a cooperative effort among: Agriculture and Agri-Food Canada, EU Commission, DG Agriculture, OECD Directorate for Food, Agriculture and Fisheries, UNCTAD, TRAINS Database unit, UNFAO, Commodities and Trade Division, and USDA, Economic Research Service. Website: www.amad.org

Table 5.2 Indication of tariff line level results of TRQ expansion proposals

Category	Description	HS Code	Import volume (in 1,000t)	TRQ Expansion EU/G10	G20	Australia	US
Livestock	Heifers and cows	01029005	8,527.7	1,149.7	4,000.5	7,000.8	7,867.6
	Heifers and cows	01029029	15,060.7	1,788.2	7,065.2	11,186.6	11,539.9
	Heifers and cows	01029049	33,962.7	4,707.1	15,932.5	27,881.8	31,333.8
	Heifers and cows	01029059	685.7	115.3	321.7	562.9	632.6
	Heifers and cows	01029069	594.3	114.0	278.8	487.9	548.3
	Heifers and cows	01029079	1,842.3	296.4	864.3	1,512.4	1,699.7
	Live sheep and goats	01041030	1,327,842.7	4,516.4	33,587.7	47,582.6	47,022.8
	Live sheep and goats	01041080	22,332.3	227.8	848.2	1484.4	1,753.0
	Live sheep and goats	01042090	4,040.7	29.6	704.1	1114.9	1,290.9
Meat	Meat of bovine animals	02011000	5,378.8	948.5	2,950.0	5,162.5	5,801.6
	Meat of bovine animals	02012090	42.7	8.5	23.4	41.0	46.1
	Meat of bovine animals	02013000	128,506.3	21,284.0	52,955.9	92,672.8	104,146.6
	Meat of bovine animals	02021000	14.3	2.6	2.4	4.2	4.4
	Meat of bovine animals	02022010	2.2	0.4	0.4	0.6	0.7
	Meat of bovine animals	02022030	4.7	0.8	0.8	1.4	1.5
	Meat of bovine animals	02022050	5.3	1.1	0.9	1.5	1.6
	Meat of bovine animals	02022090	124.3	24.8	20.6	36.1	38.5
	Boneless 'high quality' meat	02023000	2,783.0	535.9	461.9	808.3	862.2
	Meat of bovine animals, f.,c. or f.	02023010	3,346.6	642.5	555.5	972.0	1,036.8
	Meat of bovine animals, f.,c. or f.	02023050	10,822.6	2,085.9	1,796.3	3,143.5	3,353.1
	Meat of bovine animals, f.,c. or f.	02023090	104,878.2	22,140.2	17,407.2	30,462.5	32,493.4
	Carcasses of swine	02031110	12.2	1.1	8.1	11.4	11.3
	Cuts of swine, fresh	02031211	32.4	3.9	21.5	34.0	37.2
	Cuts of swine, fresh	02031219	14.3	1.7	9.5	15.0	16.4
	Cuts of swine, fresh	02031911	7.7	0.8	1.0	1.4	1.2
	Cuts of swine, fresh	02031913	9.9	0.5	1.2	1.8	1.5
	Cuts of swine, fresh	02031915	0.0	0.0	0.0	0.0	0.0
	Cuts of swine, fresh	02031955	3,088.5	112.6	387.4	548.9	464.9
	Cuts of swine, fresh	02031959	17.2	2.0	2.2	3.4	3.3
	Carcasses of swine	02032110	47.1	5.7	27.7	43.9	45.3
	Cuts of swine, fresh	02032211	1,464.8	255.1	862.5	1,509.4	1,696.2

Table 5.2 Indication of tariff line level results of TRQ expansion proposals

Category	Description	HS Code	Import volume (in 1,000t)	TRQ Expansion EU/G10	G20	Australia	US
	Cuts of swine, fresh	02032219	13.1	1.6	7.7	12.2	12.6
	Cuts of swine, fresh	02032911	12.0	1.4	7.1	11.2	11.5
	Cuts of swine, fresh	02032913	63.9	6.4	37.6	53.3	48.9
	Cuts of swine, fresh	02032915	442.3	11.6	260.4	325.5	251.8
	Boneless loins and hams of swine	02032955	6,366.5	239.3	3,748.7	5,310.6	4,873.3
	Cuts of swine, fresh	02032956	0.0	0.0	0.0	0.0	0.0
	Cuts of swine, fresh	02032959	81.7	8.0	48.1	68.2	62.5
	Meat of sheep or goats, f.,c. or f.	02041000	10,077.6	1,626.7	1,902.6	3,012.5	2,917.4
	Meat of sheep or goats, f.,c. or f.	02042100	200.0	44.1	37.8	66.1	70.5
	Meat of sheep or goats, f.,c. or f.	02042210	1,027.5	169.8	194.0	339.5	362.1
	Meat of sheep or goats, f.,c. or f.	02042230	4,508.8	492.4	851.3	1,205.9	1,021.5
	Meat of sheep or goats, f.,c. or f.	02042270	0.0	0.0	0.0	0.0	0.0
	Meat of sheep or goats, f.,c. or f.	02042300	4,666.3	701.9	881.0	1,394.9	1,350.8
	Meat of sheep or goats, f.,c. or f.	02043000	12,876.4	2,353.6	2,431.0	4,254.3	4,537.9
	Meat of sheep or goats, f.,c. or f.	02044100	153.8	37.8	29.0	50.8	54.2
	Meat of sheep or goats, f.,c. or f.	02044210	8,021.1	1,336.1	1,514.4	2,650.1	2,826.8
	Meat of sheep or goats, f.,c. or f.	02044230	12,604.7	2,210.9	2,379.7	4,164.5	4,442.2
	Meat of sheep or goats, f.,c. or f.	02044270	0.0	0.0	0.0	0.0	0.0
	Meat of sheep or goats, f.,c. or f.	02044300	0.0	0.0	0.0	0.0	0.0
	Meat of sheep or goats, f.,c. or f.	02045011	472.7	100.7	495.0	866.2	1,022.9
	Meat of sheep or goats, f.,c. or f.	02045013	0.0	0.0	0.0	0.0	0.0
	Meat of sheep or goats, f.,c. or f.	02045015	0.0	0.0	0.0	0.0	0.0
	Meat of sheep or goats, f.,c. or f.	02045019	0.0	0.0	0.0	0.0	0.0
	Meat of sheep or goats, f.,c. or f.	02045031	3.2	0.8	3.4	5.9	6.9
	Meat of sheep or goats, f.,c. or f.	02045039	2.3	0.3	2.4	3.8	4.2
	Meat of sheep or goats, f.,c. or f.	02045051	478.7	73.9	501.3	793.7	868.8
	Meat of sheep or goats, f.,c. or f.	02045053	26.0	3.1	27.2	43.1	47.2
	Meat of sheep or goats, f.,c. or f.	02045055	0.7	0.1	0.7	1.3	1.5

Table 5.2 Indication of tariff line level results of TRQ expansion proposals

Category	Description	HS Code	Import volume (in 1,000t)	TRQ Expansion EU/G10	G20	Australia	US
	Meat of sheep or goats, f.,c. or f.	02045059	1.5	0.3	1.6	2.7	3.2
	Meat of sheep or goats, f.,c. or f.	02045071	321.7	68.2	336.9	589.5	696.2
	Meat of sheep or goats, f.,c. or f.	02045079	53.5	13.1	56.0	98.0	115.8
	Meat of bovine animals, f.,c. or f.	02061095	63.5	18.4	26.3	46.0	51.6
	Meat of bovine animals, f.,c. or f.	02062991	1,071.8	261.4	443.2	775.6	871.6
	Chicken carcasses, f.,c. or f.	02071110	6.3	0.2	2.7	3.4	2.6
	Chicken carcasses, f.,c. or f.	02071130	0.0	0.0	0.0	0.0	0.0
	Chicken carcasses, f.,c. or f.	02071190	54.3	3.2	17.8	25.2	21.4
	Chicken carcasses, f.,c. or f.	02071210	725.7	41.9	276.1	391.2	331.3
	Chicken carcasses, f.,c. or f.	02071290	6,853.4	470.4	525.0	743.8	630.0
	Chicken cuts, f.,c. or f.	02071310	184.7	14.1	36.5	63.8	68.1
	Chicken cuts, f.,c. or f.	02071320	11.1	0.4	2.2	3.1	2.6
	Chicken cuts, f.,c. or f.	02071330	1.6	0.1	0.3	0.4	0.4
	Chicken cuts, f.,c. or f.	02071340	0.0	0.0	0.0	0.0	0.0
	Chicken cuts, f.,c. or f.	02071350	630.7	33.1	124.6	197.2	191.0
	Chicken cuts, f.,c. or f.	02071360	8.8	0.4	1.7	2.5	2.1
	Chicken cuts, f.,c. or f.	02071370	119.5	9.4	23.6	41.3	44.1
	Cuts of fowls of the species Gallus	02071410	148,118.7	14,965.8	29,253.2	51,193.1	54,606.0
	Chicken cuts, f.,c. or f.	02071420	7,587.4	520.4	1,498.5	2,372.6	2,297.7
	Chicken cuts, f.,c. or f.	02071430	1,827.9	62.7	361.0	511.4	433.2
	Chicken cuts, f.,c. or f.	02071440	336.8	7.8	66.5	83.1	57.6
	Cuts of fowls of the species Gallus	02071450	2,910.2	1,74.1	574.8	910.0	881.3
	Chicken cuts, f.,c. or f.	02071460	12,152.2	669.7	2,400.0	3,800.1	3,680.1
	Cuts of fowls of the species Gallus	02071470	3,565.8	372.9	704.2	1,232.4	1,314.6
	Turkey meat, f.,c. or f.	02072410	2.1	0.0	0.4	0.5	0.4
	Turkey meat, f.,c. or f.	02072490	0.0	0.0	0.0	0.0	0.0
	Turkey meat, f.,c. or f.	02072510	1,890.4	95.6	373.4	528.9	448.0
	Turkey meat, f.,c. or f.	02072590	44.6	2.3	8.8	13.9	13.5

Table 5.2 Indication of tariff line level results of TRQ expansion proposals

Category	Description	HS Code	Import volume (in 1,000t)	TRQ Expansion EU/G10	G20	Australia	US
	Turkey meat, f.,c. or f.	02072610	123.9	6.4	24.5	38.7	37.5
	Turkey meat, f.,c. or f.	02072620	0.0	0.0	0.0	0.0	0.0
	Turkey meat, f.,c. or f.	02072630	0.0	0.0	0.0	0.0	0.0
	Turkey meat, f.,c. or f.	02072640	0.0	0.0	0.0	0.0	0.0
	Turkey meat, f.,c. or f.	02072650	2.5	0.1	0.5	0.7	0.6
	Turkey meat, f.,c. or f.	02072660	0.0	0.0	0.0	0.0	0.0
	Turkey meat, f.,c. or f.	02072670	6.5	0.2	1.3	1.8	1.5
	Turkey meat, f.,c. or f.	02072680	0.0	0.0	0.0	0.0	0.0
	Cuts of turkeys, frozen	02072710	6,241.1	505.8	1,232.6	2,157.1	2,300.9
	Cuts of turkeys, frozen	02072720	37.8	2.1	7.5	11.8	11.4
	Turkey meat, f.,c. or f.	02072730	0.4	0.0	0.1	0.1	0.1
	Turkey meat, f.,c. or f.	02072740	21.1	1.0	4.2	5.9	5.0
	Turkey meat, f.,c. or f.	02072750	105.6	7.6	20.9	33.0	32.0
	Turkey meat, f.,c. or f.	02072760	39.8	1.4	7.9	11.1	9.4
	Turkey meat, f.,c. or f.	02072770	108.8	5.7	21.5	34.0	32.9
	Cuts of turkeys, frozen	02072780	35.4	3.5	7.0	12.2	13.1
Processed meat	Sausages	16010091	32,585.3	15,670.2	88,466.9	154,817.0	191,678.2
	other	16010099	207.5	22.5	30.9	54.2	57.8
	Preserved meat of swine	16024110	80,603.9	8,235.9	12,021.5	21,037.6	22,440.1
	Preserved meat of swine	16024210	4,597.3	449.9	685.7	1,199.9	1,279.9
	Preserved meat of swine	16024911	29.3	3.5	4.4	7.6	8.2
	Preserved meat of swine	16024913	36.3	4.5	5.4	9.5	10.1
	Preserved meat of swine	16024915	618.5	72.0	92.2	161.4	172.2
	Preserved meat of swine	16024919	52.5	6.3	7.8	13.7	14.6
	Preserved meat of swine	16024930	7,025.2	2,764.5	1,047.8	1,833.6	1,955.8
	Preserved meat of swine	16024950	74.8	40.3	10.2	17.9	19.1
Dairy	Skimmed milk powder	04021019	104.7	41.2	3,141.0	5,496.8	6,805.5
	Butter	04051011	3,401.5	366.4	3,139.8	4,448.1	4,395.8

Table 5.2 Indication of tariff line level results of TRQ expansion proposals

Category	Description	HS Code	Import volume (in 1,000t)	TRQ Expansion EU/G10	G20	Australia	US
	Butter	04051019	807.3	176.4	137.6	195.0	165.2
	Butter	04051030	106.6	23.2	18.2	25.7	21.8
	Butter	04051050	55.2	16.3	9.4	14.9	14.4
	Butter	04051090	9.3	1.4	1.6	2.2	1.9
	Butter	04059010	102.3	29.4	17.4	27.6	26.7
	Butter	04059090	2.5	0.7	0.4	0.7	0.7
	Pizza cheese, frozen	04061020	9,674.0	904.3	1,649.4	2,886.5	3,079.0
	Pizza cheese, frozen	04061080	0.0	0.0	0.0	0.0	0.0
	Other grated or powdered cheese	04062090	0.0	0.0	0.0	0.0	0.0
	Processed Emmentaler	04063010	0.0	0.0	0.0	0.0	0.0
	Other processed cheese	04063031	1,048.1	297.2	178.7	282.9	274.0
	Other processed cheese	04063039	36,404.8	2,488.6	6,207.1	9,828.0	9,517.6
	Other processed cheese	04063090	1,137.4	423.4	193.9	339.4	362.0
	Blue veined cheese	04064010	425.4	125.5	72.5	114.8	111.2
	Blue veined cheese	04064050	0.6	0.2	0.1	0.2	0.2
	Blue veined cheese	04064090	162.9	47.4	27.8	44.0	42.6
	Cheese for processing	04069001	65.4	18.9	11.2	17.7	17.1
	Emmentaler	04069013	475.5	236.6	81.1	141.9	151.3
	Gruyere, Sbrinz	04069015	23.9	6.3	4.1	6.5	6.2
	Bergkäse and Appenzell	04069017	0.0	0.0	0.0	0.0	0.0
	Fromage fribourgeois	04069018	1,979.6	476.1	337.5	478.2	405.0
	Whole Cheddar cheeses	04069021	1,090.0	284.6	185.8	294.3	285.0
	Edam	04069023	12.3	4.5	2.1	3.3	3.2
	Tilsit	04069025	11.2	4.1	1.9	3.0	2.9
	Butterkäse	04069027	420.9	150.2	71.8	113.6	110.0
	Kashkaval	04069029	9.4	2.7	1.6	2.5	2.5
	Feta	04069031	45.1	12.4	7.7	12.2	11.8
	Feta	04069033	5.4	2.7	0.9	1.6	1.7

Table 5.2 Indication of tariff line level results of TRQ expansion proposals

Category	Description	HS Code	Import volume (in 1,000t)	TRQ Expansion EU/G10	G20	Australia	US
	Kefalotyri	04069035	2,442.2	935.2	416.4	728.7	777.3
	Kefalotyri	04069037	1.3	0.4	0.2	0.4	0.3
	Jarlsberg	04069039	5,226.5	2,102.6	891.1	1,559.5	1,663.4
	Cheese of sheep's milk	04069050	110.3	31.6	18.8	29.8	28.8
	Grana Padano, Parmigiano Reggiano	04069061	1.6	0.4	0.3	0.4	0.3
	Fiore Sardo, Pecorino	04069063	0.3	0.1	0.1	0.1	0.1
	Other	04069069	3,124.8	1,106.0	532.8	843.6	816.9
	Provolone	04069073	4,905.9	1,753.6	836.5	1,324.4	1,282.6
	Asiago, …	04069075	440.4	108.3	75.1	106.4	90.1
	Danbo, Fontal, Fontina, Fynbo,…	04069076	66.7	22.6	11.4	18.0	17.4
	Gouda	04069078	430.9	179.8	73.5	128.6	137.1
	Esrom, Italico, Kernhem,…	04069079	0.0	0.0	0.0	0.0	0.0
	Cantal, Cheshire,…	04069081	998.1	66.1	147.6	233.7	226.3
	Camenbert	04069082	2.0	0.1	0.2	0.3	0.2
	Brie	04069084	16.2	1.3	2.0	3.5	3.7
	Kefalograviera, Kasseri	04069085	1,630.1	87.5	200.3	317.1	307.1
	Exceeding 47% but not exceeding 52%	04069086	60.4	2.8	7.4	10.5	8.9
	Exceeding 52% but not exceeding 62%	04069087	482,216.9	6,842.6	73,211.1	91,513.8	63,449.6
	Exceeding 62% but not exceeding 72%	04069088	12,032.2	233.4	1,714.4	2,143.0	1,485.8
	Exceeding 72%	04069093	19,572.7	9,335.9	1,957,270.0	3,425,222.5	4,240,751.7
	Other	04069099	121,746.9	1,324.7	1,7347.0	21,683.7	15,034.1
Eggs & proc.	Poultry eggs	04070030	29,935.0	550.3	4,265.3	5,331.6	3,696.6
	Eggs yolks	04081180	65.4	2.7	3.9	5.6	4.7
	Eggs yolks	04081981	14,224.3	939.4	853.5	1,351.3	1,308.6
	Eggs yolks	04081989	1,805,188.9	211,809.7	108,311.3	189,544.8	202,181.2
	Birds' eggs, not in shell	04089180	256.1	3.1	15.4	19.2	13.3
	Birds' eggs, not in shell	04089980	18,217.6	293.9	1,093.1	1,366.3	947.3
	Egg albumin	35021190	945.4	13.5	56.7	70.9	49.2

Table 5.2 Indication of tariff line level results of TRQ expansion proposals

Category	Description	HS Code	Import volume (in 1,000t)	TRQ Expansion EU/G10	G20	Australia	US
	Egg albumin	35021990	2,764.2	23.7	223.0	278.7	193.2
Vegetables	Potatoes	07019051	158,629.2	869.0	12,796.1	15,995.1	11,090.0
	Carrots and turnips	07061000	3,871,395.3	451,114.4	232,283.7	406,496.5	433,596.3
	Cucumbers, fresh or chilled	07070005	21,620.8	938.8	2,586.2	3,663.8	3,103.5
	Other vegetables, sweet peppers	07096010	662,631.8	28,557.5	79,262.2	112,288.1	95,114.6
	Dried onions	07122000	97,900.0	4,239.6	11,710.5	16,589.9	14,052.6
	Manioc	07141010	300,737.7	12,929.6	35,973.4	50,962.3	43,168.1
	Manioc	07141091	0.0	0.0	0.0	0.0	0.0
	Manioc	07141099	428,411.2	15,000.4	29,819.8	42,244.7	35,783.8
	Sweet potatoes	07142090	28,534.1	1,469.0	2,279.1	3,608.5	3,494.6
	Arrowroot	07149011	106,764.2	5,597.7	8,527.5	13,501.9	13,075.5
	Arrowroot	07149019	670,963.1	33,647.9	53,591.3	75,921.0	64,309.6
	Almonds	08021190	313,029.4	16,896.1	25,002.3	39,587.1	38,336.9
	Almonds	08021290	11,040.1	520.9	1,066.3	1,510.6	1,279.6
	Mushrooms	20031020	37,679.5	1,229.4	3,639.4	5,155.8	4,367.2
	Mushrooms	20031030	1,522,091.5	246,764.1	386,481.1	676,342.0	721,431.4
Fruits	Fresh bananas	08030019	6,988,265.2	859,009.3	1,774,422.0	2,809,501.5	2720,780.4
	High quality oranges	08051010	4,678.5	847.2	4,702.0	8,228.5	9,717.5
	High quality oranges	08051030	3,507,671.9	489,095.1	840,160.9	1,470,281.6	1,568,300.4
	High quality oranges	08051050	163,193.2	30,610.5	187,219.7	296,431.2	324,514.2
	Minneolas	08052090	702,725.0	14,952.1	74,877.5	93,596.8	64,893.8
	Lemons	08053010	163,457.7	29,385.3	187,523.2	296,911.7	325,040.2
	Table grapes, fresh (21.7 to 31.10)	08061010	528,956.2	53,270.0	67,425.9	117,995.3	125,861.7
	Apples, fresh (1.4 to 31.7)	08081020	73,527.1	2,838.3	4,470.6	6,333.4	5,364.8
	Apples, fresh (1.4 to 31.7)	08081050	2,267.0	774.7	4,147.0	6,566.0	7,602.7
	Apples, fresh (1.4 to 31.7)	08081090	18,887.2	2,920.5	9,342.4	16,349.2	18,373.4
	Pears, fresh	08082050	246.2	16.6	24.7	39.0	37.8

Table 5.2 Indication of tariff line level results of TRQ expansion proposals

Category	Description	HS Code	Import volume (in 1,000t)	TRQ Expansion EU/G10	G20	Australia	US
	Apricots, fresh	08091000	682.7	38.4	68.4	108.3	104.9
	Cherries	08092095	31.6	1.6	2.9	4.2	3.5
Arable Crops & proc.	Durum wheat	10011000	0.0	0.0	0.0	0.0	0.0
	Quality wheat	10019099	31.4	2.2	2.9	4.6	4.5
	Oats	10040000	0.1	0.0	0.0	0.0	0.0
	Maize	10059000	1.2	0.1	0.1	0.2	0.2
	Husked (brown) rice	1006	122.7	4.4	11.4	16.1	13.7
	Semi-milled or wholly milled rice	100630	260.3	9.3	24.2	34.3	29.0
	Broken rice	10064000	34.6	0.9	3.2	4.0	2.8
	Grain sorghum	10070090	0.0	0.0	0.0	0.0	0.0
	Millet	10082000	1,619,479.0	329,881.0	610,740.0	1,068,795.1	1,140,048.1
	Worked oats, other than kibbled	11042298	97,808.8	21,724.4	36,885.8	64,550.1	68,853.5
	Manioc starch	11081400	1,223.4	210.4	461.4	807.4	861.2
Sugar	Raw cane sugar, for refining	1701	1,023.0	195.4	385.8	675.1	720.2
	Cane or beet sugar	17011110	387.9	95.7	146.3	256.0	273.1
	Cane or beet sugar	17011190	496,376.0	112,189.2	187,194.0	327,589.4	349,428.7
	Cane or beet sugar	17011210	74,937.9	7,433.3	10,818.8	18,932.8	20,195.0
	Cane or beet sugar	17011290	2,104.8	274.9	299.9	524.8	559.8
	Cane or beet sugar	17019100	49,039.0	7,255.3	6,987.3	12,227.7	13,042.9
	Cane or beet sugar	17019950	82,224.0	5,858.5	50,136.6	62,670.7	53,479.0
	Chemically pure fructose	17025000	0.0	0.0	0.0	0.0	0.0
Beverages	Frozen concentrated orange juice	20091199	0.0	0.0	0.0	0.0	0.0
	Grape juice	20096011	0.0	0.0	0.0	0.0	0.0
	Grape juice	20096019	0.0	0.0	0.0	0.0	0.0
	Concentrated grape juice	20096051	2,188.5	45.5	637.1	796.4	552.2
	Other	20096090	11,306.6	0.0	3,291.6	0.0	0.0
	Rhum and Taffia	22084011	6,040.5	208.3	1,758.5	2,198.1	1,524.0

Table 5.2 Indication of tariff line level results of TRQ expansion proposals

Category	Description	HS Code	Import volume (in 1,000t)	TRQ Expansion EU/G10	G20	Australia	US
	Rhum and Taffia	22084031	7,223.3	189.6	2,102.9	2,628.6	1,822.5
	Rhum and Taffia	22084039	28,492.9	0.0	8,294.9	0.0	0.0
	Rhum and Taffia	22084051	29,876.0	1,772.4	8,697.5	12,321.5	10,437.0
	Rhum and Taffia	22084091	40,681.9	6,420.5	31,824.2	50,388.3	55,161.9
	Rhum and Taffia	22084099	15,518.6	4,450.5	12,139.7	21,244.5	25,088.7
Other	Bran, sharps and other residues	23023010	185.5	4.9	145.1	181.4	154.8
	Bran, sharps and other residues	23023090	1,392.8	42.2	1,089.5	1,361.9	1,162.2
	Bran, sharps and other residues	23024010	1,530,249.9	13,013.1	1,197,066.4	1,496,333.0	1,276,870.8
	Bran, sharps and other residues	23024090	3,982.8	178.3	3,115.6	3,894.5	3,323.3
	Preparation consisting of a mixture of mlat	23099031	535.3	28.9	184.5	261.3	221.4
	Preparation used in animal feeding	23099051	51.0	2.0	17.6	22.0	15.2

Note: f.,c. or f. = fresh, chilled or frozen.

5.4 Caveats with implementing TRQ proposals

The current negotiations focus on the approach to be used for computing the TRQ expansion for product declared as sensitive, i.e. focus on the different proposals from the EU, G20 and US. For the actual implementation and effect of the proposals there are various issues of concern: choice of elasticity, choice of consumption data, current TRQ definitions and the current TRQ regime.

Choice of elasticities has been discussed above. The elasticities currently proposed by the EU are lower than the empirically derived elasticities. If larger elasticities are used than currently proposed, the TRQ expansion granted by an import based approach may exceed the expansion derived from a consumption-based approach.

Similar to the importance of the choice of import price elasticities for the expansion derived from the import-based approaches, the *choice of consumption data* is crucial for the results from the consumption-based approaches. In contrast to imports there are no tariff line level databases for consumption. Consumption data are generally collected through household survey data that use a commodity definition unrelated to the definitions used in trade statistics. Consumption data are available at a more aggregate level than trade statistics. For example, data may be available on the amount of hog meat consumed by households without any detail on the type of hog meat being consumed. In order to compute TRQ expansions at tariff line level the consumption data need to be allocated to underlying tariff lines. In the computations in table 5.2 we allocated consumption data to tariff lines using the shares of different tariff lines in the aggregate level at which consumption data are available. This is a rather rough approximation since there is no direct relationship between the composition of trade flows and the consumption pattern. The choice of consumption data and the way the data are 'translated' to tariff line level have a profound impact on the TRQ expansion that results from consumption based approaches.

In terms of negotiations the choice of approach (import or consumption based) can not be separated from the discussion on the choice of parameters (most notably import demand elasticities and consumption data at tariff line level). The combination of approach and data determines the TRQ expansion for sensitive products and thus which of the approaches yields more market access.

Unfortunately choice of elasticities and consumption data are only the first hurdle in implementing TRQ expansions for sensitive products. The way in which TRQs are defined adds an additional layer of complexity. TRQs are not defined at tariff line level but at a higher level of aggregation. To complicate matters further TRQs may overlap, i.e. a single tariff line may belong to more than one TRQ. We will discuss issues following from this definition of TRQs using the illustration in figure 5.4.

The first issue relates to tariff lines that are not currently part of a TRQ (top part of figure 5.4). Since there appears general agreement that no new TRQs will be created in the current round of negotiations the only option appears to assign a tariff line to an existing TRQ, i.e. expand the coverage of an existing TRQ to avoid the need for creating a new TRQ. The choice of TRQ that will be expanded will determine the impact on other tariff lines, as discussed with the second issue. In the computations of table 5.2 we restricted the tariff lines included in the analysis to those currently belonging to a TRQ.

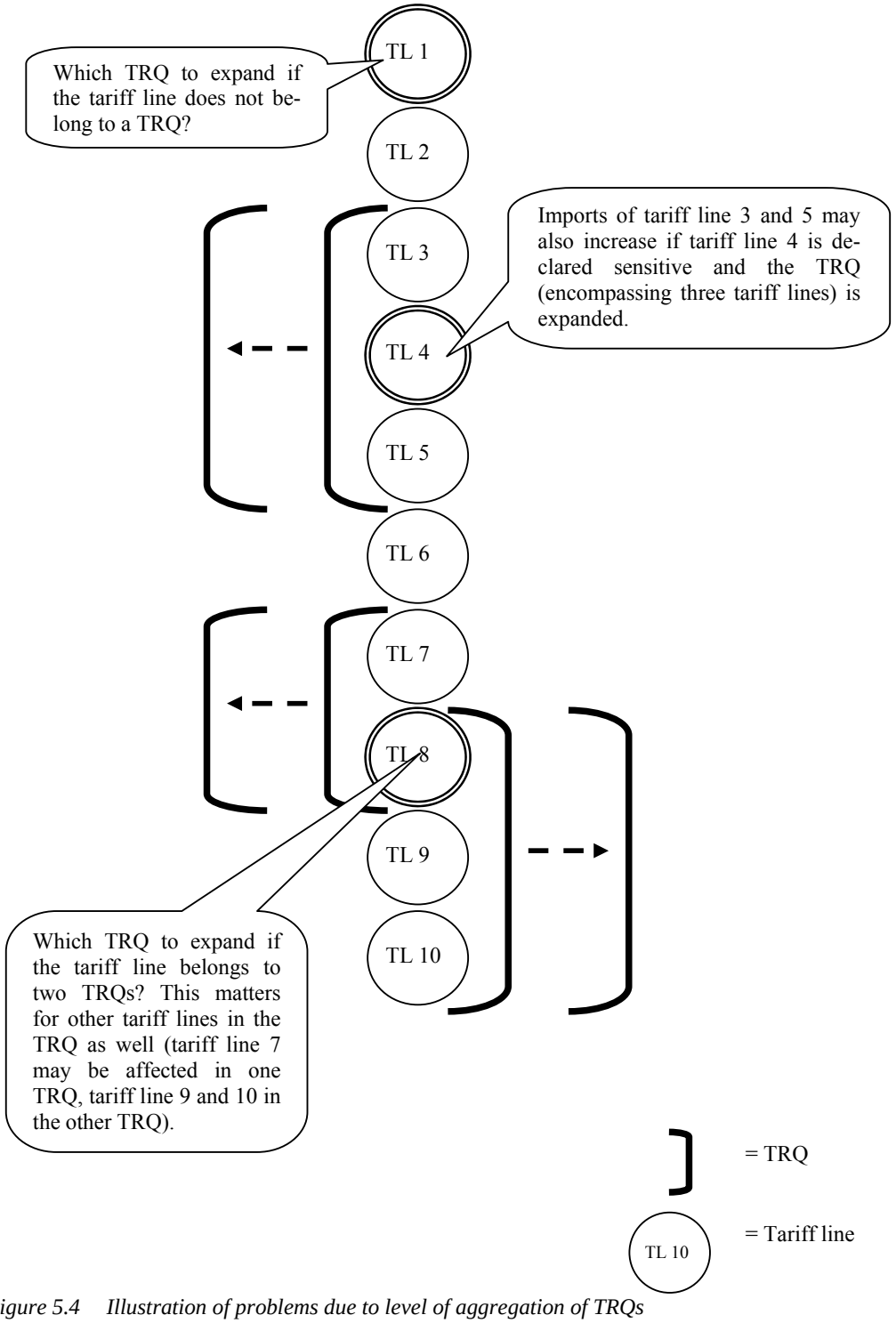

Figure 5.4 Illustration of problems due to level of aggregation of TRQs

The second issue relates to indirect effects on other tariff lines that belong to the same TRQ (middle part of figure 5.4). If the fourth tariff line is declared sensitive this implies that its tariffs will be reduced less while the TRQ will be expanded. Since there is no TRQ at tariff line level this implies that the TRQ encompassing tariff line three through five will be expanded. In other words, the total amount of in-quota imports of tariff line three through five is increased when tariff line four is declared sensitive.

Tariff line three and five, however, are not declared sensitive and are therefore subjected to the full tariff cut. Given the increase in the overall TRQ to which they belong, in-quota imports of tariff line three and five can increase with an in-quota tariff which has been subjected to the full tariff cut (neither of these two lines has been declared sensitive). These two lines would then be subjected to full tariff cut *and* have an increased in-quota imports. Since the overall increase in in-quota imports is limited, such an occurrence would imply that the fourth tariff line has only a limited tariff cut (being declared sensitive) and a limited or no increase in imports (which would (partly) occur with the other two tariff lines). The fact that TRQs are defined at a higher level of aggregation thus creates interdependencies between tariff lines which makes the impact of declaring a tariff line as sensitive unpredictable. In the computations in table 5.2 we ignored this phenomenon by computing expansions at tariff line level and ignoring the actual TRQs. This problem could be circumvented if all tariff lines in a TRQ are declared sensitive. Given the bounds on the total number of tariff lines that can be declared sensitive this would greatly restrict the possibility to select sensitive products.

The third issue depicted in figure 5.4 is the case of overlapping TRQs. There are instances of tariff lines belonging to two TRQs at the same time. In this case, illustrated by tariff line number eight in figure 5.4, the expansion computed at tariff line level needs to be allocated to one or both TRQs. The choice made determines the indirect effects on other tariff lines, as discussed above. Again, by computing expansions at tariff line level without reference to TRQs we did not deal with this complexity in table 5.2.

The discussion of the impact of TRQ expansion so far has ignored whether the current levels of imports are within or outside the quota. The computations in table 5.2 are based on the actual level of imports, due to the lack of data on in- and out-of-quota imports. The economic impact of a TRQ expansion depends on whether the current imports are within, at or exceed the quota bounds (see appendix 3 for a discussion of the effects of a quota enlargement in each of these three cases). Thus after negotiating an expansion approach and its parameters, and the way in which tariff line level expansions are implemented, the economic impacts need to be determined in relation to whether the quota is binding or not.

A final consideration when assessing the economic impact of a TRQ expansion is the allocation of the rent (see appendix 3 for a discussion of the rent earned on a TRQ). The allocation of this rent to either the exporter or importer determines the eventual economic impact of the TRQ expansion and is therefore a key negotiation issue.

6. Conclusions

The objective of this study was to provide a consistent and broad perspective on the impact of WTO agricultural market access proposals on the competitiveness of Dutch agro-food producers. Lacking detailed cost price estimates across all sectors we relied upon trade data. These data allowed us to estimate prices of Dutch producers relative to those from foreign competitors at the 8-digit level, the level of detail of tariff negotiations. By adding EU tariffs to the prices at which imports enter the domestic market we analysed current tariff protection, as well as changes in tariff protection under different market access proposals. When constructing the database import data provided to be the limiting factor necessitating the exclusion of a number of lines with exports but no imports to neither the Netherlands nor the EU. Despite this limitation the database covers 97 percent of Dutch agricultural export flows, thus providing a comprehensive look at the impact of agricultural market access proposals.

The analysis in this study has a number of clear limitations that need to be kept in mind when interpreting the results from this study. These limitations can be grouped under three headings: current trade data, partial and static analysis and MFN analysis.

Current trade data

The use of trade data to approximate domestic prices has clear limitations. We have to limit the analysis to tariff lines with data on both exports and imports to be able to compare prices. Tariff lines without two-way trade are therefore excluded from the analysis. Of these lines that are excluded from the analysis we cannot tell *a priori* whether there is an offensive or defensive interest. If there is no domestic production and no domestic demand for these goods there is no interest (defensive or offensive) in these lines. If there is no domestic production but there is domestic demand (currently not satisfied because of trade barriers) there is a strong offensive interest. A third possibility is that there is domestic production which is not competitive internationally and therefore exports are absent. In this case there is a defensive interest (at least from a producer perspective). The concentration of excluded lines with live animals (HS 01) and meat (HS 02) suggests that the third option, trade barriers protecting non-competitive producers, would be the most frequent reason for the absence of trade (and thus the absence of these lines from the analysis), since these sectors take a strongly defensive position in discussions on trade liberalisation.

A second major limitation of using current trade data is that these reflect current trade barriers. Potentially competitive imports may be barred by current trade barriers, whereas less competitive producers may have access through preferential trade agreements. This would result in Dutch producers appearing to be more competitive than they really are.

Partial and static analysis

By simply adding tariffs to import prices to analyse the impact of market access proposals we ignore the general equilibrium and dynamic effects of trade barriers. Trade barriers dis-

tort relative prices thus changing the production structures. It may well be that producers currently less able to compete because of relatively high costs of domestic inputs due to protection of these sectors will be competitive once domestic prices are lowered. Furthermore, defensive and offensive interests in this study are defined from a producer perspective. It may well be that from a consumer perspective increased imports of cheaper goods is preferred. The analysis thus clearly does not account for the economy-wide impact of the trade barriers nor the changes in production that will occur if trade barriers are lowered.

MFN analysis

We focused the analysis on a general assessment of the bound tariffs as they are negotiated in the WTO. In the case of the EU these bound tariffs are equal to the most favoured nation (MFN) tariffs. These MFN tariffs allowed us to work with a single import price. It implies that we ignore differences in trade barriers by trade partner. In practice many countries enjoy better access than the MFN tariffs because of preferential trade agreements. In terms of the market access proposals the reductions in protection will be less than portrayed in this report since many countries already enjoy lower tariffs. By working with MFN tariffs this study may overestimate both the protection offered by the current tariffs as well as the impact of tariff reductions.

With the above limitations in mind we view this study as complementary to detailed case studies of specific products as well as general equilibrium analyses to assess economy-wide impacts. In this context this study contributes to existing analyses by providing a broad perspective on the competitiveness of agro-food products in the face of the current agricultural market access proposals. From this analysis a number of conclusions can be drawn.

Tariff line level variety prohibits generalisations

As clearly depicted in figure 3.1 there is a large variety at tariff line level. This variety makes generalisations at sector level of limited use. In about all sectors there is a similar share of potentially offensive and defensive tariff lines. This variety also implies that conclusions from detailed case-studies that are necessarily limited in scope cannot be generalised.

Measure of prices matters (to some extent)

There is not only variation at tariff line, *i.e.* across tariff lines, but also across trading partners within a single tariff line. This variety causes a divergence between different price measures. To test the robustness of our analysis we compared minimum prices, trade-weighted average prices and simple average prices. We found that for about a third of tariff lines within a sector the price measure affects the classification of the tariff line as defensive or offensive. This indicates that for a third of the tariff lines there is a considerable variety in the prices across trading partners. This variety is not biased in one direction. Over all tariff lines roughly half can be classified as having offensive interests with both minimum and simple average prices.

Tariff reductions matter more on average than at the margin

We used both minimum and average prices to assess the impact of market access proposals. Measured in average prices there are more defensive lines (although it also includes high priced exports) and the impact of the market access proposals is larger. Whichever measure is used, potential impacts are concentrated in sectors with higher current protection: edible fruits and nuts (HS 08), dairy (HS 04), edible vegetables (HS 07) and preparations of vegetables and fruits (HS 20). The difference between the two price measures in number of affected lines indicates that although profit margins will be reduced (as indicated by the average prices) Dutch producers remain competitive (as indicated by the minimum prices). Again it should be noted that we focused on analysing the ratio between Dutch and foreign prices, not on the size of the difference between Dutch and foreign prices. Tariff reductions will of course increase competition by lowering import prices.

The US proposal has a less extreme impact than expected

The objective of the first part of this study is to analyse the 'bite' of different market access proposals, i.e. the extent to which they make Dutch prices exceeding those of foreign competitors by reducing tariffs. Based on the changes in tariff profile one would expect that the US (and Australian) proposal lead to major increases in the number of defensive tariff lines. Assessing the number of tariff lines that become defensive (the Dutch price exceeds the import price plus tariff) the differences across the market access proposals are much more modest than expected from the changes in tariff profile. We found only a limited number of tariff lines (at most 21 percent of the defensive lines and 9 percent of the 1,128 tariff lines in this study) protected by the current tariffs in the sense that Dutch prices are less than import prices plus tariffs. This limited initial protection implies that none of the proposals can have a dramatic impact in the sense of the number of tariff lines for which import prices drop below Dutch prices. It is clear that the differences in tariff cuts do result in differences in terms of the extent to which competition is increased and profit margins are reduced. The US proposal will clearly lead to a stronger increase in competition due to its much larger reduction in tariffs. In terms of economic impact, however, there will be potentially large differences between the proposals due to the large differences in tariff reductions.

Despite the more ambitious tariff cuts proposed by the US, it only doubles the number of defensive lines compared to the least ambitious G10 proposal (from 20 to 49 using a minimum price measure; from 36 to 77 with an average price measure). Although the number of lines with a switch in the price ratio when tariffs are reduced is modest compared to the total number of defensive lines, it does account for the major part of the lines currently shielded (110 with minimum prices, 101 with average prices). The relatively small differences between the proposals indicate that the level of current protection is low, a small reduction in prices already results in prices of imports to drop below Dutch prices. This explains that the effects of the EU and G20 proposal in terms of 'bite' are closer together than one would expect based on the impact on tariff profiles. Again the differences in tariff cuts will have an impact on the extent to which producers are exposed to competition.

The more limited than expected impact of the US proposal indicates that there is no clear relationship between the level of tariffs and the defensiveness position of products.

Various reasons underlie this finding. First of all, tariffs are established by the EU based on the interests of all EU member states. Interests at EU level will not fully correspond with the Dutch interests on which our analysis focuses. Secondly, our analysis focuses at tariff line level. We did not take the economic importance of various products into account. Products with strong defensive interests may have limited overall economic importance. One may expect that such considerations are used when determining the tariff structure. Finally, getting a clear view on the competitiveness at tariff line level is a difficult task. We needed to rely on trade data to obtain an approximation. The absence of a benchmark to assess demands for protection by a specific sector and to weigh these demands with the interests of other sectors increases the room for interests groups. The tariff structure is therefore likely to reflect the bargaining power of different interests groups, which may not correspond with their economic importance.

All market access proposals increase competitive pressure and therefore generate a lobby of producers for maintaining protection. This pressure is reflected by the option in the 2004 Framework Agreement to select a number of sensitive tariff lines that can be (partly) exempted from a reduction in tariffs. Sensitive tariff lines are one of the main controversial issues in the Doha round. The second part of the study compared different proposals sensitive tariff lines.

It has been agreed that limited tariff reductions for sensitive products will be partly compensated by increased TRQs. The TRQ expansion proposals for sensitive products can be grouped according to the basis on which expansions are computed. The *consumption school* (G20, Australia and US) base the computations on the current consumption. The *import school* (G10 and EU) base the computations on current imports. There are no tariff line data on consumption which complicates the application of the consumption-based proposals. The import-based computations are more in line with economic theory for estimating the foregone market access by limiting the tariff reductions for sensitive products. However, in case of products with prohibitive trade barriers imports are (almost) zero while significant increases in import would result from a reduction in tariffs. The import-based approach thus does not suffice for products with high current protection.

Comparing the impact of the different proposals in terms of TRQ expansion we find that when using the import elasticities being circulated in the negotiations the EU proposal leads to a more limited TRQ expansion than the G20, Australian and US proposals. This finding however strongly depends on the parameters used. In case of significant initial imports and a higher elasticity (in line with empirical estimates), expansion in the EU proposal can exceed that of the other proposals. It can therefore not be *a priori* determined which proposal will result the largest TQR expansion. Therefore TQR expansions are computed at tariff line level.

Analysing *ex ante* the economic impact of an expansion of the different TRQ proposals is impossible due to a number of issues. First of all the choice of import elasticity and consumption data determines the relative impact of each proposals. The ranking of the impact of proposals can change with a different set of parameters.

The second hurdle is related to actual implementing the proposals. TRQs are not defined at tariff line level. Selecting a tariff line within a TRQ as sensitive has repercussions for other tariff lines in the TRQ. Tariff lines that implement the full tariff cut in order to avoid an expansion of the TRQ can be confronted by an increase in imports (against the

fully reduced tariffs) due to another tariff line within the TRQ that is declared sensitive. Additional complications arise when a tariff line not currently belonging to a TRQ is declared sensitive. Assigning it to an existing TRQ (to avoid creation of a new TRQ) may have repercussions on other tariff lines belonging to that TRQ. Then there are tariff lines belonging to two TRQs in which case it is unclear which TRQ will be expanded and by how much.

The third hurdle for assessing the impact of TRQ expansion is that even if the increase in imports could be established at tariff line level, the economic impact depends on the level of current imports relative to the TRQ. There is no information available on in- and out-of-quota imports which would allow one to address these issues.

In summary the impact of the various TRQ is difficult to establish *ex ante*. The current difficult negotiations on the type of approach to be followed appear only the first of an extensive set of negotiations needed to arrive at an approach which can be implemented in practice. The (detailed) choices made in each of these steps determine the eventual outcome.

Appendix 1. Product coverage of WTO agreement on Agriculture

The WTO agreement on Agriculture covers the HS chapters 1 through 24 (less fish and fish products [HS Chapter 3]) plus a number of agro-food products covered under the manufactured HS chapters. Table A1.1 provides an overview of the coverage of the agreement in terms of tariff lines based on the EU tariff simulation schedule. This overview includes a number of 10 digit codes referring to seasonal differences in tariffs.

Table A1.1 EU tariff lines covered by the WTO agreement on agriculture

	Description	*No. of lines*
01	Live animals	47
02	Meat and edible meat offal	233
04	Dairy produce; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included	175
05	Products of animal origin not elsewhere specified or included	21
06	Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage	48
07	Edible vegetables and certain roots and tubers	122
08	Edible fruit and nuts; peel of citrus fruits or melons	201
09	Coffee, tea, mate and spices	56
10	Cereals	55
11	Products of the milling industry; malt; starches; inulin; wheat gluten	83
12	Oil seeds and oleaginous fruits; miscellaneous grains, seeds and fruit; industrial or medical plants; straw and fodder	80
13	Lacs; gums, resins and other vegetable saps and extracts	19
14	Vegetable plaiting materials; vegetable products not elsewhere specified or included	12
15	Animal or vegetable fats and oils and their cleavage products; prepared edible fats; animal or vegetable waxes	127
16	Preparations of meat, fish or crustaceans, molluscs or other aquatic invertebrates	48
17	Sugars and sugar confectionery	47
18	Cocoa and cocoa preparations	27
19	Preparations of cereals, flour, starch or milk; pastrycooks' products	47
20	Preparations of vegetables, fruit, nuts or other parts of plants	307
21	Miscellaneous edible preparations	42
22	Beverages, spirits and vinegar	176
23	Residues and waste from the food industries; prepared animal fodder	66
24	Tobacco and manufactured tobacco substitutes	30
29 a)	Organic chemicals	6
33 a)	Essential oils and resinoids; perfumery, cosmetic or toilet preparations	36
35 a)	Albuminous substances; modified starches; glues; enzymes	25
38 a)	Miscellaneous chemical products	15
41 a)	Hides and skins (other than furskins) and leather	16
43 a)	Furskins and artificial fur; articles thereof	13
50 a)	Silk	4
51 a)	Wool, fine and coarse animal hair; yarn and fabrics of horsehair	16
52 a)	Cotton	6
53 a)	Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn	7
	Total number of tariff lines	2213

a) Of these chapters only a few lines referring to processed agricultural products are covered.

Appendix 2. Tariff lines omitted for lack of data on import flows

The following table provide an overview of the 8 digit tariff lines in which the Netherlands exports but for which no data are available on imports, neither for the Netherlands nor for the EU. See for discussion section 3.1.

Table A2.1 8 digit tariff lines excluded from the analysis because of absence of import data

HS	8 digit code	Description	Number of trading partners	Total trade (1,000 euro)
01	01029071	Live domestic bovines of a weight of > 300 kg, for slaughter (excl. heifers and cows)	1	11
	01039110	Domestic swine, weighing < 50 kg (excl. pure-bred for breeding)	2	1,140
	01039190	Live non-domestic swine, weighing < 50 kg	2	60
	01039219	Live domestic swine, weighing >= 50 kg (excl. sows having farrowed at least once and weighing >= 160 kg, and those pure-bred for breeding)	4	1,944
	01041080	Live sheep (excl. lambs and pure-bred breeding animals)	1	1
	01042010	Pure-bred breeding goats	1	55
	01051111	Grandparent and parent female chicks of 'poultry' laying stocks of a weight of <= 185 g	24	3,944
	01051191	Live laying stocks 'poultry' of a weight of <= 185 g (excl. grandparent and parent female chicks)	15	1,500
	01051199	Live hens 'poultry' of a weight of <= 185 g (excl. turkeys, guinea fowls, grandparent and parent female chicks and laying stocks)	19	1,257
	01059910	Live domestic ducks, weighing > 185 g	1	17
	01059920	Live domestic geese, weighing > 185 g	1	5
02	02011000	Carcasses or half-carcasses of bovine animals, fresh of chilled	2	31
	02012090	Unboned bovine cuts, fresh or chilled (excl. carcasses and 1/2 carcases, 'compensated quarters', forequarters and hindquarters)	4	267
	02022030	Frozen unseparated or separated bovine forequarters, unboned	1	390
	02031219	Fresh or chilled unboned, domestic swine shoulders and cuts thereof	4	266
	02031290	Fresh or chilled, unboned hams, shoulders and cuts thereof of non-domestic swine	4	166
	02031911	Fresh or chilled fore-ends and cuts thereof of domestic swine	4	355
	02031959	Fresh or chilled unboned meat of domestic swine (excl. carcasses and 1/2 carcasses, hams, shoulders and cuts thereof, and fore-ends, loins, bellies and cuts thereof)	5	93
	02032211	Frozen unboned hams and cuts thereof of domestic swine	27	6,076
	02032219	Frozen unboned shoulders and cuts thereof of domestic swine	27	5,786

Table A2.1 8 digit tariff lines excluded from the analysis because of absence of import data (continued)

HS	8 digit code	Description	Number of trading partners	Total trade (1,000 euro)
	02032913	Frozen loins and cuts thereof of domestic swine	35	3,091
	02042250	Fresh or chilled sheep legs	1	6
	02043000	Frozen lamb carcases and 1/2 carcases	2	18
	02044100	Frozen sheep carcases and 1/2 carcases (excl. lambs)	8	163
	02044230	Frozen sheep chines and/or best ends	1	29
	02044310	Meat of lambs, boneless, frozen	8	297
	02045051	Frozen goat carcases and 1/2 carcases	7	77
	02062991	Frozen edible bovine thick and thin skirt (excl. for manufacture of pharmaceutical products)	1	39
	02071110	Fresh or chilled, plucked and gutted fowls of species gallus domesticus, with heads and feet, called'83 % chickens' (excl. turkeys and guinea fowls)	3	240
	02071130	Fresh or chilled, plucked and drawn fowls of species gallus domesticus, without heads and feet but with necks, hearts, livers and gizzards, called '70 % chickens' (excl. turkeys and guinea fowls)	1	4
	02071210	Frozen fowls of species gallus domesticus, plucked and drawn, without heads and feet but with necks, hearts, livers and gizzards, called '70 % chickens' (excl. turkeys and guinea fowls)	13	821
	02071320	Fresh or chilled halves and quarters of fowls of the species gallus domesticus	1	22
	02071330	Fresh or chilled whole wings, with or without tips, of fowls of the species gallus domesticus	1	158
	02071340	Fresh or chilled backs, necks, backs with necks attached, rumps and wing tips of fowls of the species gallus domesticus	2	68
	02071399	Fresh or chilled edible offal of fowls of the species gallus domesticus	1	4
	02071450	Frozen unboned breasts and cuts thereof of fowls of the species gallus domesticus	2	9
	02072510	Frozen turkeys of the species domesticus, plucked and drawn, without heads and feet but with necks, hearts, livers and gizzards, called '80 % turkeys'	9	92
	02072630	Fresh or chilled whole wings, with or without tips, of turkeys of the species domesticus	3	57
	02072680	Fresh or chilled unboned cuts of turkeys of the species domesticus (excl. halves or quarters, whole wings, with or without tips, backs, necks, backs with necks attached, rumps and wing tips, breasts, legs and cuts thereof)	1	677
	02072720	Frozen halves and quarters of turkeys of the species domesticus	1	25
	02072730	Frozen whole wings, with or without tips, of turkeys of the species domesticus	14	1,076
	02072740	Frozen backs, necks, backs with necks attached, rumps and wing tips of turkeys of the species domesticus	12	1,748
	02072760	Frozen unboned drumsticks and cuts thereof of turkeys of the species domesticus	9	298

Table A2.1 8 digit tariff lines excluded from the analysis because of absence of import data (continued)

HS	8 digit code	Description	Number of trading partners	Total trade (1,000 euro)
	02072770	Frozen unboned thighs and cuts thereof of turkeys of the species domesticus	5	64
	02072780	Frozen unboned cuts of turkeys of the species domesticus (excl. halves or quarters, whole wings, with or without tips, backs, necks, backs with necks attached, rumps and wing tips, breasts, legs and cuts thereof)	8	447
	02072791	Frozen edible livers of turkeys of the species domesticus	3	111
	02073319	Frozen ducks of the species domesticus, plucked and drawn, without heads, feet, necks, hearts, livers and gizzards, called '63% ducks', and other forms of ducks, not cut in pieces (excl. '70 % ducks')	3	21
	02073390	Frozen guinea fowls, not cut into pieces	1	5
	02073515	Fresh or chilled boneless cuts of ducks and guinea fowls of the species domesticus	1	3
	02073611	Frozen boneless cuts of geese of the species domesticus	1	25
	02073631	Frozen whole wings, with or without tips, of ducks, geese and guinea fowls of the species domesticus	2	37
	02073641	Frozen backs, necks, backs with necks attached, rumps and wing tips of ducks, geese and guinea fowls of the species domesticus	2	29
	02081011	Meat and edible meat offal of domestic rabbits, fresh or chilled	2	96
	02081090	Fresh, chilled or frozen meat and edible offal of non-domestic rabbits and hares	3	47
	02082000	Fresh, chilled or frozen frogs' legs	3	43
	02090030	Pig fat, not rendered	9	1,194
	02090090	Poultry fat, not rendered	3	1,104
	02101111	Unboned domestic swine hams and cuts thereof, salted or in brine	7	80
	02101119	Unboned domestic swine shoulders and cuts thereof, salted or in brine	4	1,139
	02101211	Bellies and cuts thereof of domestic swine, salted or in brine	21	415
	02101219	Bellies and cuts thereof of domestic swine, dried or smoked	22	266
	02101940	Loins and cuts thereof of domestic swine, salted or in brine	1	5
	02101951	Boneless meat of domestic swine, salted or in brine (excl. bellies and cuts thereof)	19	719
	02101989	Unboned, dried or smoked domestic swine meat (excl. hams, shoulders and cuts thereof, bellies and cuts thereof, and fore-ends, loins and cuts thereof)	1	2
04	04011010	Milk and cream of a fat content by weight of =< 1 %, in immediate packings of =< 2 l, not concentrated nor containing added sugar or other sweetening matter	14	89
	04011090	Milk and cream of a fat content by weight of =< 1 % in immediate packings of > 2 l, not concentrated nor containing added sugar or other sweetening matter	1	30
	04013091	Milk and cream of a fat content by weight of > 45 %, in immediate packings of =< 2 l, not concentrated nor containing added sugar or other sweetening matter	1	32

Table A2.1 8 digit tariff lines excluded from the analysis because of absence of import data (continued)

HS	8 digit code	Description	Number of trading partners	Total trade (1,000 euro)
	04013099	Milk and cream of a fat content by weight of > 45 %, in immediate packings of > 2 l, not concentrated nor containing added sugar or other sweetening matter	1	4
	04022117	Milk and cream in solid forms, of a fat content by weight of =< 11 % but > 1.5 %, unsweetened, in immediate packings of > 2.5 kg	1	19
	04029131	Milk and cream, concentrated, of a fat content by weight of > 8 % but =< 10 %, unsweetened, in immediate packings of =< 2.5 kg (excl. in solid forms)	61	115,928
	04029931	Milk and cream, concentrated, of a fat content by weight of > 9.5 % but =< 45 %, sweetened, in immediate packings of =< 2.5 kg (excl. in solid forms)	5	152
	04029939	Milk and cream, concentrated, of a fat content by weight of > 9.5 % but =< 45 %, sweetened, in immediate packings of > 2.5 kg (excl. in solid forms)	2	50
	04029991	Milk and cream, concentrated, of a fat content by weight of > 45 %, sweetened, in immediate packings of =< 2.5 kg (excl. in solid forms)	1	3
	04029999	Milk and cream, concentrated, of a fat content by weight of > 45 %, sweetened, in immediate packings of > 2.5 kg (excl. in solid forms)	6	58
	04031059	Yogurt, whether or not concentrated, flavoured or with added fruit, nuts or cocoa, sweetened, in solid forms, of a milkfat content by weight of > 27 %	1	2
	04039013	Buttermilk, curdled milk and cream, kephir and other fermented or acidified milk and cream in solid forms, unsweetened, with a fat content by weight of > 1.5% but =< 27 % (excl. yogurt, flavoured or with added fruit, nuts or cocoa)	16	7,964
	04039053	Buttermilk, curdled milk and cream, kephir and other fermented or acidified milk and cream, whether or not concentrated, unsweetened, with a fat content by weight of > 3 % but =< 6 % (excl. in solid forms, yogurt, flavoured or with added f	6	116
	04039079	Buttermilk, curdled milk and cream, kephir and other fermented or acidified milk and cream, whether or not concentrated, flavoured or with added fruit, nuts or cocoa, whether or not sweetened, in solid forms, with a fat content by weight o	1	12
	04039093	Buttermilk, curdled milk and cream, kephir and other fermented or acidified milk and cream, whether or not concentrated, flavoured or with added fruit, nuts or cocoa, whether or not sweetened, with a fat content by weight of > 3 % but =< 6	5	30
	04041026	Whey and modified whey, in powder, granules or other solid forms, with added sugar or other sweetening matter, of a protein content 'nitrogen content x 6.38' of <= 15% by weight and a fat content, by weight, of <= 1.5%	1	44
	04041032	Whey and modified whey, in powder, granules or other solid forms, with added sugar or other sweetening matter, of a protein content 'nitrogen content x 6.38' of <= 15% by weight and a fat content, by weight, of > 27%	2	101

Table A2.1 8 digit tariff lines excluded from the analysis because of absence of import data (continued)

HS	8 digit code	Description	Number of trading partners	Total trade (1,000 euro)
	04041036	Whey and modified whey, in powder, granules or other solid forms, with added sugar or other sweetening matter, of a protein content 'nitrogen content x 6.38' of > 15% by weight and a fat content, by weight, of > 1.5% and <= 27%	2	38
	04041084	Whey and modified whey, whether or not concentrated, but not in powder, granules or other solid forms, containing added sugar or other sweetening matter, of a protein content 'nitrogen content x 6.38', by weight of >= 15% and of a fat cont	1	12
	04049023	Products consisting of natural milk constituents, not containing added sugar or other sweetening matter, of a fat content, by weight, of > 1.5% but <= 27%, n.e.s.	8	2,262
	04064010	Roquefort	2	32
	04069003	Emmentaler, gruyere, sbrinz, bergkase and appenzell, of a fat content not less than 45% by weight in the dry matter, matured for three months or more, whole cheeses of a type specified in additional note 2 to Chapter 4, with a free-at-fron	1	50
	04069018	Fromage fribourgeois, vacherin mont d'or and tete de moine (excl. grated or powdered and for processing)	1	981
	04069035	Kefalotyri (excl. grated or powdered and for processing)	5	61
	04069063	Fiore sardo, pecorino, of a fat content by weight of =< 40 % and a water content, by weight, of non-fatty matter of =< 47 % (excl. grated or powdered and for processing)	4	28
	04069073	Provolone of a fat content by weight of =< 40 % and a water content, by weight, of non-fatty matter of > 47 % but =< 72% (excl. grated or powdered and for processing)	4	43
	04069085	Kefalograviera and kasseri (excl. grated or powdered and for processing)	2	21
	04081989	Egg yolks (other than liquid), frozen or otherwise preserved, suitable for human consumption, whether or not containing added sugar or other sweetening matter (excl. dried)	3	773
	04089120	Dried birds' eggs, not in shell, whether or not containing added sugar or other sweetening matter, not suitable for human consumption (excl. egg yolks)	1	38
06	06012010	Chicory plants and roots (excl. chicory roots of the variety cichorium intybus sativum)	1	37
	06029020	Pineapple plants	2	14
07	07070090	Fresh or chilled gherkins	3	17
	07099040	Fresh or chilled capers	1	6
	07113000	Capers provisionally preserved, but unsuitable in that state for immediate consumption	2	9
	07114000	Cucumbers and gherkins provisionally preserved, but unsuitable in that state for immediate consumption	2	35
	07129011	Dried sweetcorn, hybrid, for sowing	12	344
	07141091	Fresh and whole or without skin and frozen manioc, whether or not sliced, for human consumption, in packings =< 28 kg	3	180
	07141099	Fresh or dried whole or sliced manioc (excl. 0714.10-10 and 0714.10-91)	1	26

Table A2.1 8 digit tariff lines excluded from the analysis because of absence of import data (continued)

HS	8 digit code	Description	Number of trading partners	Total trade (1,000 euro)
	07142090	Sweet potatoes, dried	4	82
	07149090	Roots and tubers with high starch or inulin content (excl. 0714.10-10 to 0714.90-10)	1	2
08	08012100	Fresh or dried brazil nuts, in shell	3	75
	08012200	Fresh or dried brazil nuts, shelled	5	242
	08013100	Fresh or dried cashew nuts, in shell	4	151
	08062011	Currants, in immediate containers of net capacity of =< 2 kg	2	8
	08103030	Fresh red currants	4	460
	08103090	Fresh white currants and gooseberries	8	247
	08112019	Raspberries, blackberries, mulberries, loganberries, black, white or red currants and gooseberries, uncooked or cooked by steaming or boiling in water, sweetened, with sugar content of =< 13 %, frozen	1	65
	08134070	Dried cashew apples, lychees, jackfruit, sapodillo plums, passion fruit, carambola and pitahaya	1	7
	08135031	Mixtures exclusively of coconuts, cashew nuts, brazil nuts, areca 'betel' nuts, cola nuts and macadamia nuts	5	69
10	10020000	Rye	2	3
	10061092	Round grain rice in husk, (excl. parboiled and that for sowing)	3	27
	10061098	Long grain rice in husk, length/width ratio >=3, (excl. parboiled and that for sowing)	2	6
	10070090	Grain sorghum (excl. hybrid for sowing)	2	9
	10083000	Canary seed	5	39
11	11041210	Rolled oat grains	1	6
	11041950	Rolled or flaked maize grains	2	23
	11042220	Oat grains, shelled or husked (excl. clipped)	4	27
	11042951	Cereal grains of wheat, not otherwise worked than kibbled	1	5
	11071011	Wheat malt in flour form (excl. roasted)	1	34
12	12071010	Palm nuts and kernels for sowing	1	8
13	13021100	Opium	1	35
15	15010011	Lard and other pig fat, rendered, whether or not pressed or solvent-extracted, for industrial uses (excl. for the production of foodstuffs)	1	58
	15030090	Tallow oil, oleo-oil and lard oil (excl. emulsified, mixed or otherwise prepared, and tallow oil for industrial uses)	3	322
	15111010	Crude palm oil, for industrial uses (excl. for manufacture of foodstuffs)	1	13
	15121110	Crude sunflower-seed or safflower oil, for industrial uses (excl. for manufacture of foodstuffs)	2	156
	15131191	Crude coconut oil, in immediate packings of=< 1 kg (excl. for industrial uses)	1	4
	15131919	Solid coconut oil fractions, whether or not refined, but not chemically modified, in immediate packings of > 1 kg	3	14
	15131991	Coconut oil and its liquid fractions, whether or not refined, but not chemically modified, in immediate packings of =< 1 kg (excl. for industrial uses and crude)	1	4

Table A2.1 8 digit tariff lines excluded from the analysis because of absence of import data (continued)

HS	8 digit code	Description	Number of trading partners	Total trade (1,000 euro)
	15132919	Solid palm kernel and babassu oil fractions, whether or not refined, but not chemically modified, in immediate packings of > 1 kg	3	114
	15171010	Margarine containing > 10 % but =< 15 % milkfats (excl. liquid)	1	43
	15180010	Linoxyn	4	23
	16022019	Preparations of goose or duck liver (excl. those containing >= 75% by weight of fatty livers, sausages and similar products and homogenised preparations in subheading 1602.10-00)	1	81
	16024190	Hams and cuts thereof, of swine, prepared or preserved (excl. domestic)	2	350
	16024210	Prepared or preserved shoulders and cuts thereof, of domestic swine	24	936
	16024911	Prepared or preserved domestic swine loins and parts thereof, incl. mixtures of loins or hams (excl. collars)	10	51
	16025031	Corned beef, in airtight containers	4	22
	16029010	Preparations of blood of any animal (excl. sausages and similar products)	1	2
	16029031	Prepared or preserved meat or offal of game or rabbit (excl. of wild boar, sausages and similar products, homogenised preparations of subheading 1602 10 00, preparations of liver and meat extracts and juices)	1	6
	16029072	Prepared or preserved meat or offal of sheep, uncooked, incl. mixtures of cooked and uncooked meat or offal (excl. sausages and similar products and preparations of liver)	2	7
	16029098	Prepared or preserved meat or meat offal (excl. of poultry, swine, bovine animals, reindeer, game or rabbit, sheep or goats, sausages and similar products, homogenised preparations of subheading no 1602 10 00, preparations of liver and meat	3	481
17	17023010	Isoglucose in the solid form, not containing fructose or containing, in the dry state, < 20% by weight of fructose	1	2
	17024010	Isoglucose in solid form, containing, in the dry state, >= 20% and< 50% by weight of fructose	1	28
	17026080	Inulin syrup, obtained directly by hydrolysis of inulin or oligofructoses, containing, in the dry state, > 50% by weight of fructose in free form or as sucrose	11	4,348
	17029080	Inulin syrup, obtained directly by hydrolosis of inulin or oligofructose, containing in the dry state 10 - 50% by weight of fructose, uncombined or in the form of sucrose	2	64
18	18062070	Chocolate milk crumb preparations, in packings of > 2 kg	1	7,247
20	20079955	Apple puree, obtained by cooking, with a sugar content of > 13% by weight (excl. homogenised preparations of subheading 2007.10-10)	18	167
	20082071	Pineapples, prepared or preserved, containing added sugar but no added spirit, with sugar content of > 19 %, in packings of =< 1 kg	1	2
	20085079	Apricots, prepared or preserved, containing no spirit but with added sugar, with sugar content of =< 15 %, in packings of =< 1 kg	3	8
	20086071	Sour cherries, prepared or preserved, in packings of >= 4.5 kg (excl. added spirit or sugar)	4	34

Table A2.1 8 digit tariff lines excluded from the analysis because of absence of import data (continued)

HS	8 digit code	Description	Number of trading partners	Total trade (1,000 euro)
	20088019	Strawberries, prepared or preserved, containing added spirit, with sugar content of > 9 % and actual alcoholic strength of > 11.85 % mass	1	2
	20089212	Mixtures of guavas, mangoes, mangosteens, papaws 'papayas', tamarinds, cashew apples, lychees, jackfruit, sapodillo plums, passion fruit, carambola and pitahaya, incl. mixtures containing 50% or more by weight of tropical fruit and tropica	1	29
	20089293	Mixtures of fruit or other edible parts of plants, prepared or preserved, not containing added spirit or added sugar, in immediate packings of a net content of not less than 5 kg (excl. mixtures of nuts, tropical fruit of a type specified	2	147
	20098095	Juice of fruit of the species vaccinium macrocarpum, density of =< 1.33 at 20.c (excl. containing added sugar or spirit, and fermented)	4	166
	20099021	Mixtures of fruit juices, incl. grape must, and vegetable juices, density of > 1.33 g/ccm at 20.c, value of =< 30 ecu per 100 kg, whether or not containing added sugar or other sweetening matter (excl. fermented or containing spirit and mi	3	65
21	21039030	Aromatic bitters of an alcoholic strength by volume of >= 44.2% and <= 49.2% vol containing >= 1.5% and <= 6% by weight of gentian, spices and various ingredients and >= 4% and <= 10% of sugar, in containers holding <= 0.5 l.	1	4
22	22042132	Quality white wines of the 'vinho verde' category, in containers holding =< 2 l and of an actual alcoholic strength by volume of =< 13% vol	1	3
	22042196	Madeira, sherry and moscatel de setubal, in containers holding =< 2 l and of an actual alcoholic strength by volume of > 18% vol to 22% vol	1	3
	22042910	Wine of fresh grapes, incl. fortified wines, in bottles holding > 2 l with mushroom stoppers; wine otherwise put up with an excess pressure due to carbon dioxide in solution of >= 1 bar but < 3 bar measured at 20.c, in containers holding >	1	7
	22042992	Sherry, in containers holding > 2 l and of an actual alcoholic strength by volume of > 15% vol to 18% vol	1	2
	22082014	Armagnac, in containers holding =< 2 l	1	22
	22085099	Geneva in containers holding > 2 l	2	27
	22089011	Arrack in containers holding =< 2 l	1	9
	22089041	Ouzo, in containers holding =< 2 l	3	45
23	23024010	Bran, sharps and other residues, in the form of pellets or not, derived from the sifting, milling or other working of cereals, with a starch content <= 28% by weight, and of which <= 10 % by weight passes through a sieve with an aperture o	1	5
	23031011	Residues from the manufacture of starch from maize, of a protein content, calculated on the dry product, of > 40% by weight (excl. concentrated steeping liquors)	2	2,505

Table A2.1 8 digit tariff lines excluded from the analysis because of absence of import data (continued)

HS	8 digit code	Description	Number of trading partners	Total trade (1,000 euro)
	23091070	Dog or cat food put up for retail sale, with no starch, glucose, malto-dextrine or their syrups, but containing milk products	4	13
	23099053	Preparations for animal food, containing > 30 % starch, containing glucose, glucose syrup, maltodextrine and its syrup, and with >= 10 % but < 50 % milk product content (excl. dog or cat food put up for retail sale)	4	171
	23099059	Preparations for animal food, containing > 30 % starch, containing glucose, glucose syrup, maltodextrine and its syrup, and with >= 50 % milk product content (excl. dog or cat food put up for retail sale)	3	72
35	35022010	Milk albumin 'lactalbumin', incl. concentrates of two or more whey proteins, containing by weight > 80% whey proteins, calculated on the dry matter, unfit, or to be rendered unfit, for human consumption	1	19
38	38091050	Finishing agents, dye carriers to accelerate the dyeing or fixing of dyes and other products and preparations such as dressings and mordants of a kind used in the textile, paper, leather or like industries n.e.s., based on starch or derivatives	15	1,083

Appendix 3. A technical note on the economics of tariff rate quota

A tariff-rate quota is a quota for a volume of imports at a lower tariff. In principle tariff-rate quotas (TRQs) are two-level tariffs which have been adopted during the Uruguay Round as a method for providing greater access to markets with high tariffs. A limited volume of imports is allowed at the lower tariff, and all subsequent imports which are greater than the volume allowed by the TRQ are charged at a higher tariff. Therefore, TRQs as a trade policy instruments consists of three components:

- a quota that defines the maximum volume of imports charged the in-quota tariff;
- a tariff on all quantities which are imported with in the tariff quota. This in-quota tariff is sometimes even defined at zero level;
- an over-quota tariff which is applied for those imports which are traded above the tariff rate quota volume.

The following graph illustrates the functioning of TRQs. The consequence of the two-level tariff is a stepped import supply function. Imports within the quota are charged the lower tariff (t_1); over-quota imports are charged the higher tariff (t_2). This results in a vertical step when the quota volume is filled.

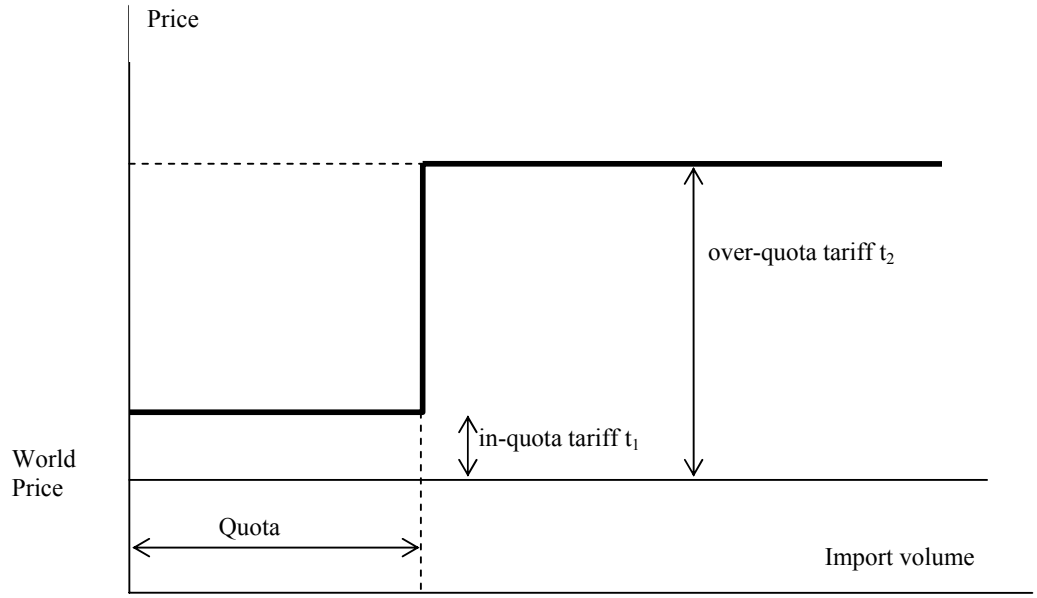

Figure A3.1 Base Principles of a Tariff-rate Quota

The effect of the TRQ on trade depends on the demand of imports:

- If import demand quantity is at M_1 which is less than the volume of the quota then the TRQ is not binding and price is exactly at the level of the world price plus the in-quota tariff t_1. The tariff revenues are equal to the grey area in the graph below. The case of a non-binding quota is illustrated in figure A3.2.

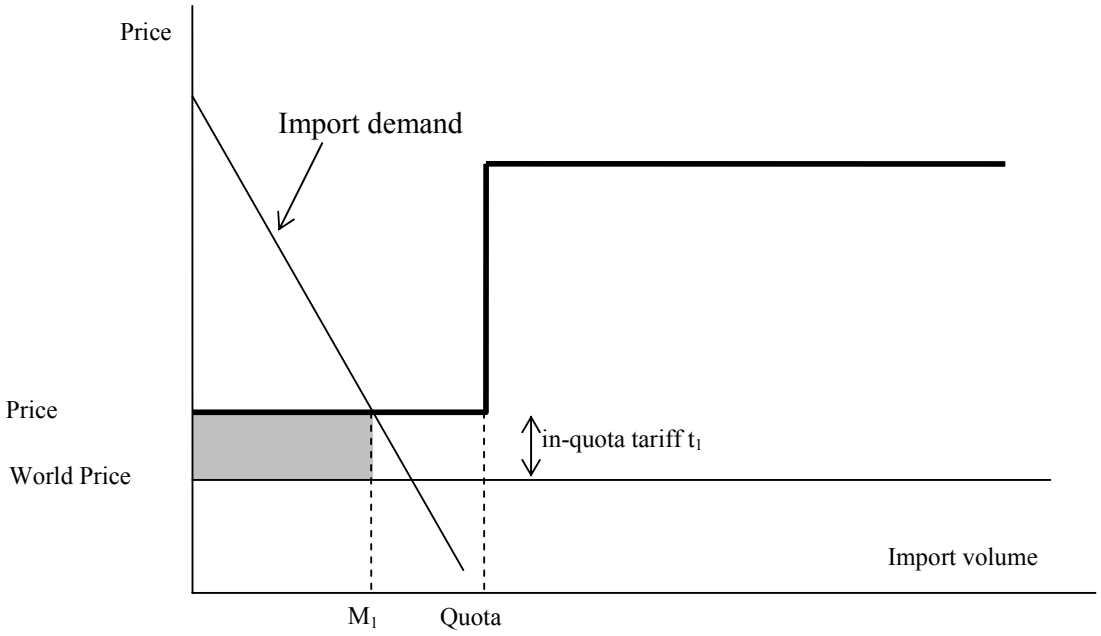

Figure A3.2 The case of a non-binding quota

- The case of a so-called binding quota without over-quota imports is illustrated in figure A3.3. In this situation import M_2 is equal to the TRQ where demand is sufficient to import the full quota volume at the in-quota tariff, but the over-quota tariff is prohibitive. That is, the price is below the price of imports with the over-quota tariff, thus there is no incentive to import beyond the quota. The administration of TRQ involves distributing the rights to import at the in-quota tariff. The owner of this right can make a risk-free profit of the difference between the price, and the world price inclusive of the in-quota tariff. The light grey area labeled 'rent' in the figure represents the value of these profitable opportunities. Rents indicate that the demand to trade within the quota is greater than the supply of quota; thus the necessity to ration or administer the TRQ. Like in the case of a non-binding quota tariff revenues will be collected. The total amount of tariff revenues is equal to the dark grey area.

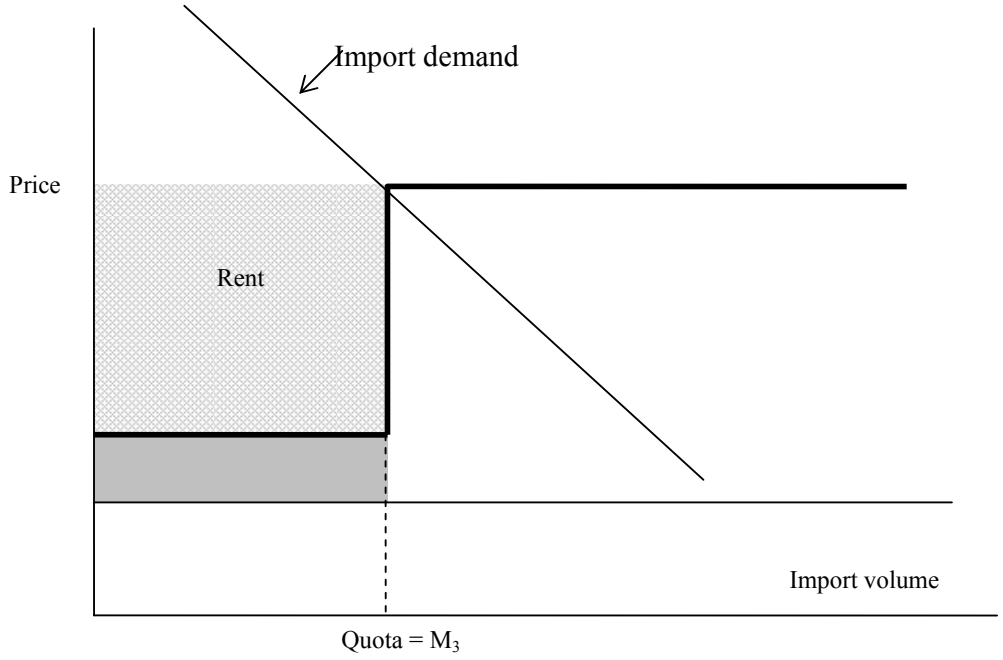

Figure A3.3 The case of a binding quota without over-quota imports

- If import demand exceeds the volume of the quota then the over-quota tariff t_2 is applied and price is at the higher level, world price plus over-quota tariff t_2. In this situation the rent of the TRQ is the difference between domestic and world price, times the volume of the quota. Total tariff revenues are equal to the grey area in the graph below.

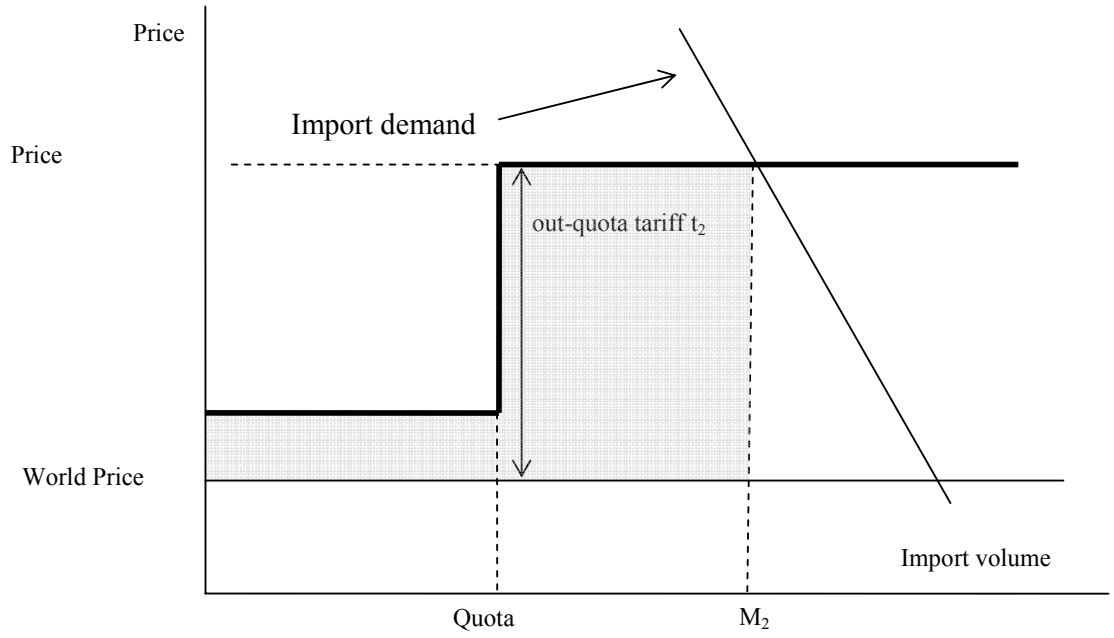

Figure A3.4 The case of a binding quota with over-quota imports

Impact of Trade Liberalisation and TRQs

There are two ways how the volume of imports will be affected under trade liberalisation. One element is the reduction of the level of the in-quota and out-quota tariff. In the example where imports take place even at the high out-quota tariff t_2 a cut in the out-quota tariff (to t_2')will lower the price to price' and consequently will lead to an increase in imports to M_2', see following graph. In this case the quota rent will decline by the difference between *Price* and *Price'* times the quota volume. The amount of tariff revenues is also affected by the decline of tariffs.

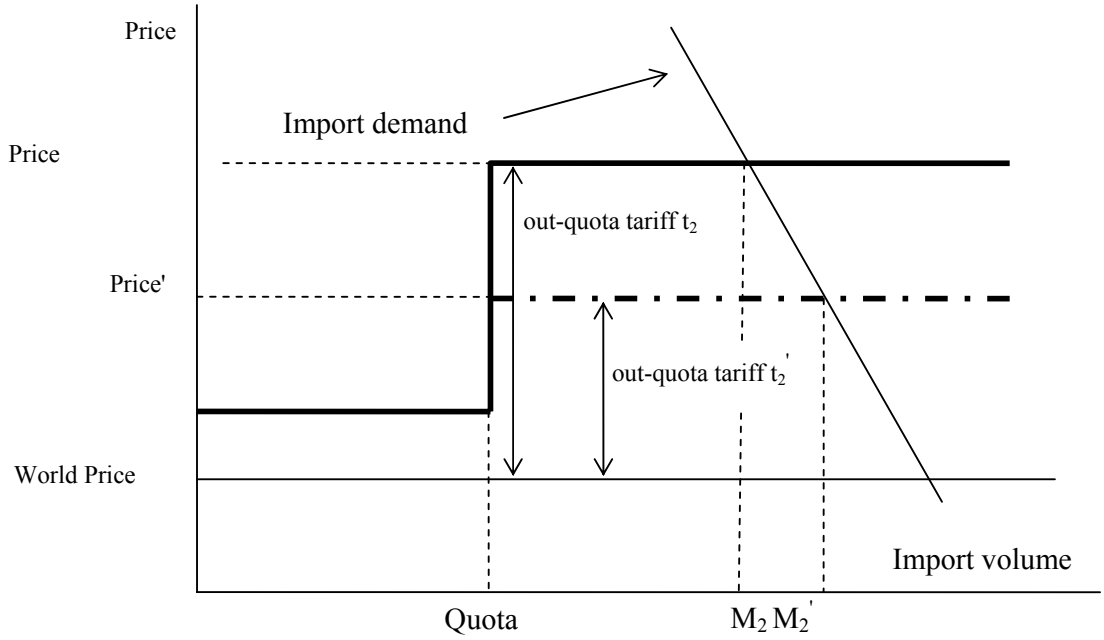

Figure A3.5 Tariff reduction with over-quota imports

In the case of a non-binding tariff quota a similar effect will occur. Here the reduction of the in-quota tariff will lower price and increase imports, however only until the total TRQ is filled. In the case of a binding quota a reduction of the in-quota tariff will lead to no increase in import volume. There is only a shift from the tariff revenue which will be lower after the tariff cut towards the quota rent which will expand. The price will remain unchanged.

In the case of existing tariff rate quotas improved market access will be granted by an expansion of the TRQ. The expansion of the TRQ will also lead to an increase in import volume, however, only if the TRQ was binding in the initial situation. In the first example of a non-binding quota the expansion of the TRQ will not lead to any additional imports. The following graph illustrates the effect of a TRQ expansion (from Quota^0 to Quota') in case of a binding quota in the initial situation. For reasons of clarity we assume that the increase of the TRQ does not coincide with a reduction of the in-quota or out-quota tariff.

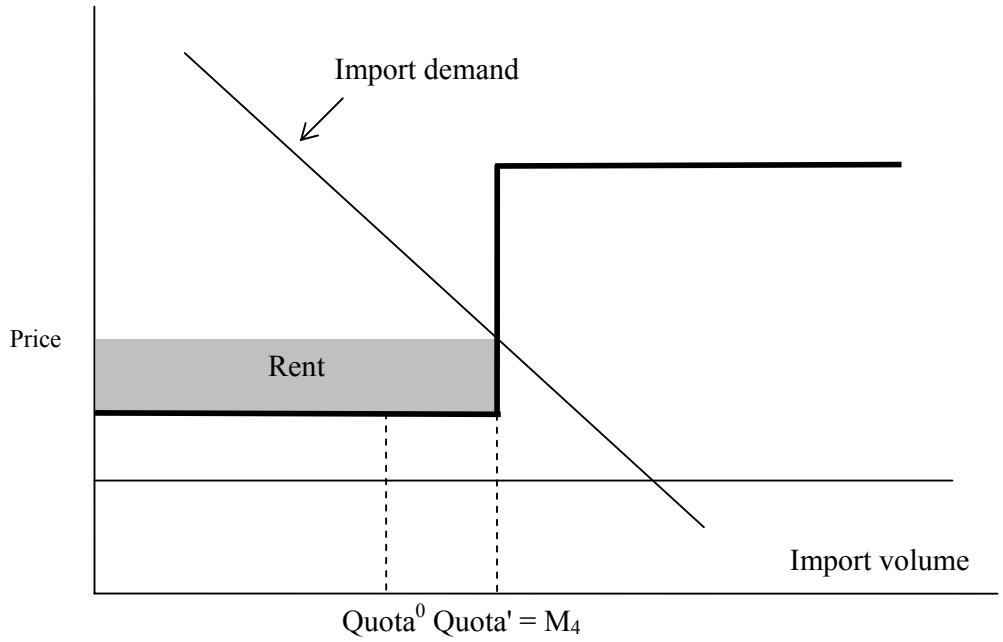

Figure A3.6 Tariff reduction with a binding quota

Whether the owner of the import license is better off under the new situation depends on the expansion of the TRQ and the decline in the quota rent. The increase in quotas will lead to an increase in revenues from higher imports to markets. The increase in TRQ will on the other hand reduce the rent and the net effect of increasing market revenues and decreasing quota rent will determine the final net effect of the increase in the TRQ to the owner of the quota.

Domestic producers, however, will face lower prices due to the expansion of the TRQ with a negative consequence on market shares of all produced products on markets.

Appendix 4. Detailed description of the TRQ expansion proposals

EU and G10 Proposal:
The general formula to calculate the TRQ expansion is outlined in the following equation. This hybrid TRQ expansion formula is based on the total current imports and given by the following:

$$\text{TRQ increase (\% of imports)} = (\alpha \cdot \varepsilon_1) \cdot \frac{\%\ \text{Final AVE}_{\text{Full Cut}} - \%\ \text{Final AVE}_{\text{Reduced Cut}}}{(100\% + \%\ \text{Initial AVE})}$$

Where α is a damping factor which is less than 1. For this study α is set to 0.8. The import demand elasticity is decreasing with the level of import penetration. In case of imports lower than 5% of domestic consumption, an import trigger threshold is set at 5% of domestic consumption (shadow imports).

For this study we only calculate TRQ expansion for existing TRQ at tariff line level. Therefore, products are currently not subject to a TRQ and chosen as sensitive product, are not covered here. While for the calculation of the tariff cut in the general form a capping of the initial AVE at 200% is applied, in case of sensitive products no capping is implemented. According to the above mentioned import trigger three groups are distinguished:

- imports which are below import trigger of 5% of domestic consumption;
- imports which are between 5% and 10% of domestic consumption and with essentially in-quota imports only;
- imports which are between 5% and 10% of domestic consumption where quotas are filled and out-quota imports can be observed.

To calculate the TRQ expansion for these three groups the following formula are applied for this study.

A. Imports are below the import trigger (= 5% of domestic consumption)

$$\text{TRQ increase (\% of import trigger)} = (\alpha \cdot \varepsilon_1) \cdot \frac{\%\ \text{Final AVE}_{\text{Full Cut}} - \%\ \text{Final AVE}_{\text{Reduced Cut}}}{(100\% + \%\ \text{Initial AVE})}$$

B. Imports between 5% and 10% of domestic consumption: essentially in-quota imports

$$\text{TRQ increase (\% of imports)} = (\alpha \cdot \varepsilon_2) \cdot \frac{\%\ \text{Final AVE}_{\text{Full Cut}} - \%\ \text{Final AVE}_{\text{Reduced Cut}}}{(100\% + \%\ \text{Initial AVE})}$$

C. Imports between 5% and 10% of domestic consumption: include out-quota imports

$$\text{TRQ increase (\% of imports)} = (\alpha \cdot \varepsilon_3) \cdot \frac{\text{\% Final AVE}_{\text{Full Cut}} - \text{\% Final AVE}_{\text{Reduced Cut}}}{(100\% + \text{\% Initial AVE})}$$

In general the levels of elasticities were chosen the $\varepsilon_1 > \varepsilon_2 > \varepsilon_3$. For this study ε_1 is equal to -4.5, ε_2 is set equal to -3.0 and ε_3 is set equal to -2.0.

For group B (essentially in-quota without out-quota imports) there is an additional extension applied. In case imports exceed 10% of domestic consumption, the TRQ increase under B above is multiplied by an adjustment coefficient as follows:

Imports	Adjustment coefficient
10%-30%	0.5
>30%	0.3

The following examples should illustrate the formula of the EU/G10 proposal for the three different groups:

Example: Initial AVE: 80%, Full Cut -50%, Reduced Cut: -25%,

1) Imports equal to 3.5% of domestic consumption (Group A)

TRQ increase = 0.8 · -4.5 · (80% · (1-0.50) - 80% · (1-0.25)) / (100% + 80%)
= -3.6 · (40% - 60%) / (180%)
= 40.0%

2a) Imports equal to 7.5% of domestic consumption with no out-quota trade (Group B)

TRQ increase = 0.8 · -3.0 · (80% · (1-0.50) - 80% · (1-0.25)) / (100% + 80%)
= -2.4 · (40% - 60%) / (180%)
= 26.67%

2b) Imports equal to 15% of domestic consumption with no out-quota trade (Group B)

TRQ increase = 0.8 · 0.5 · -3.0 · (80% · (1-0.50) - 80% · (1-0.25)) / (100% + 80%)
= -1.2 · (40% - 60%) / (180%)
= 13.33%

3) Import equal to 7.5% with out-quota trade (Group C)

TRQ increase = 0.8 · -2.0 · (80% · (1-0.50) - 80% · (1-0.25)) / (100% + 80%)
= -1.6 · (40% - 60%) / (180%)
= 17.78%

The following list presents those commodities (in HS8 code) which fall under the different groups mentioned above:

Group A: 04021019, 04061020, 07070005, 11042298

Group B (5-10%): 04070030, 1006, 10064000, 20091199, 23099031

Group B (10-30%): 01029005, 02011000, 02012090, 02013000, 02071110, 10011000, 10059000, 11081400, 17011110, 22084011, 35021190

Group B (above 30%): 02022010, 02022030, 02023090, 02031913, 02031955, 02071310, 02071410, 02072410, 02072710, 04051011, 04051011, 04061020, 04069001, 04069021, 04069021, 04081180, 07019051, 07061000, 07096010, 07122000, 07141010, 07141091, 07142090, 08021190, 08030019, 08051010, 08052090, 08053010, 08061010, 08081020, 08082050, 08091000, 08092095, 100630, 10070090, 10082000, 16010091, 16024110, 17025000, 20031020

Group C: 01041030, 02031110, 02031211, 02041000, 02062991, 04063010, 10040000, 20096011, 23023010

U.S. Proposal:
The main difference in calculation of the TRQ expansion according to the U.S. proposal compared to the EU proposal is the expression of the expansion as a percentage of total current consumption instead of current imports. The formula is the following:

$$\text{TRQ expansion in \%} = (3\% \cdot A) + (\%\ \text{deviation} \cdot 0.1 \cdot B)$$

The formula has two main elements: a base element and an element which depends on the tariff level. The base element is the same for all products declared as sensitive. According to the U.S. proposal this base element should be 3% of domestic consumption multiplied with an element A as a correction factor with respect to current market access. In the case of limited market access where current imports are small relative to consumption A is at level 1, while with higher shares A will become smaller to the level 0.4.

The second element takes the deviation between the level of final tariff if this product is a sensitive product and the tariff level in case of the general tariff cut into account. According to the U.S. proposal the following tiers should be applied:

Initial AVE	Full Tariff Cut in %	Reduced Tariff Cut in %
0-20	55-65	33-39
20-40	65-75	39-45
40-60	75-85	45-51
60+higher	85-90	51-54

Remark: The tariff cut for a commodity which has an initial AVE between the upper and lower bound of a tier is a function of the distance to the upper or lower bound, respectively; e.g. if the initial AVE is 30%, which is exactly half way between the lower and upper bound, the full cut will be 70%.

If a product with a high initial AVE is declared as sensitive the difference between the final sensitive tariff and the general tariff becomes also high. Consequently the TRQ expansion will be the highest for products with an initial AVE of 60% (or higher). The proposed value of the slope parameter in the formula above is 0.1 and the 'tier'-correction factor B increases along the tier with a value of 1 for the lowest tier and the value 2.5 for the highest tier.

The following example should illustrate the formula of the U.S. proposal:

Initial AVE: 80%, Full Cut -90%, Reduced Cut: -54%

TRQ increase = 3% · 1.0 + (90% - 54%) / 90% · 0.1 · 2.5
= 3% + .4 · 0.1 · 2.5
= 3% + 10% = 13%

G20 Proposal:
The G20 proposal of the calculation of the TRQ is very similar to the U.S. proposal. The TRQ expansion is calculated as a percentage of total current consumption of at least 6% of domestic consumption.

Australian Proposal
The Australian proposal follows the proposal of the G20 and the U.S., however with a graduate increase along the four tiers. The TRQ expansion is calculated as a percentage of total current consumption:

- 7.5% of consumption for Tier 1 (lowest) tariffs;
- 8.5% of consumption for Tier 2;
- 9.5% of consumption for Tier 3;
- 10.5% of consumption for Tier 4 (highest) tariffs.