[684] Paper

The Norwegian import regime for agriculture

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The Norwegian import regime for agriculture

Arne Melchior

Abstract] Norway maintains one of the highest levels of protection for agriculture in the OECD, but the tariff structure is not so transparent due to the extensive use of specific tariffs, i.e. tariffs expressed in NOK/kg or the like. In this paper, we use world market prices and Norwegian import prices to calculate ad valorem equivalents of specific tariffs. This shows that 28% of the tariff lines in agriculture are above 100%, and 10% are above 300%. The average of MFN applied tariffs is in the range 73-103%, depending on the calculation method. Protection is somewhat lower (54-74%) for goods exported by developing countries. While the Least Developed Countries have zero tariffs, other developing countries obtain 10-15% tariff reductions under the GSP system of tariff preferences. Tariff rate quotas provide some increase in market access. Protection of grains and feedstuff raises the forage costs in agriculture, and especially feedstuffs are important in the exports of developing countries.

The GSP project

This is a paper from a project on the Norwegian GSP system, undertaken by the Norwegian Institute of International Affairs for the Ministry of Foreign Affairs in 2004-2005. In addition, the following papers are available:

* Melchior, A., The future of Norway's GSP system (main report from the project, NUPI Paper No. 680b or Norwegian version in NUPI Paper No. 680a).
* Maurseth, P.B., Trade and development – a selective review, NUPI Paper No. 681.
* Maurseth, P.B., Norway's trade with developing countries, NUPI Paper No. 682.
* Melchior, A., GSP in the "spaghetti bowl" of trade preferences, NUPI Paper No. 683.
* Melchior, A., Trade policy differentiation between developing countries under GSP schemes, NUPI Paper No. 685.

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1. Introduction[1]

It is well known that for agriculture, Norway maintains one of the highest levels of protection in the OECD; together with Iceland, Korea, Japan and Switzerland. The overall support level at 72% in 2002[2] was the second highest in the OECD. Import protection is one of the pillars of this policy. Due to the high incidence of so-called specific tariffs, it is not easy to measure the overall level of border protection. This paper contributes to this effect by presenting new estimates of *ad valorem* equivalents of the specific tariffs; that we use for examining the regime.

Being quite liberal for many items not produced in Norway, the import regime for agriculture is otherwise restrictive. For fruit and vegetables, restrictions are partly seasonal; with high tariffs limited to periods following domestic harvesting. More than half of the MFN applied tariff lines are *specific*; i.e. fixed as some value amount per quantity unit. In order to obtain an overview of the tariff structure and the rate of protection, we need to compare specific tariffs with market prices. This also enables us to characterise some aspects of the regime more compactly.

Due to the Uruguay Round, former quantitative restrictions were converted into tariffs, with a bound reduction of 36% over six years (1995-2001). In St.prp. nr. 59, 1994-95 the Government[3] stated "The tariffs for agricultural goods, as bound in the WTO, provide for most goods a strong protection against imports. The import price plus the tariff will in most cases be substantially above the Norwegian price." The extensive use of specific tariffs was also a deliberate step in order to provide protection.

In recent years, the Norwegian Government has carried out considerable autonomous liberalisation for manufactured goods. For example, in 2002, tariffs were eliminated for 500 tariff lines[4]. A more limited autonomous liberalisation has also occurred for agriculture: 130 tariffs were eliminated on 1 January 2003, and 40 more in 2004.[5]

Due to the Uruguay Round, Norway had to provide some minimum access to its market. For this purpose, multilateral tariff quotas have been implemented. Additional tariff quotas have also been installed due to free trade agreements as well as the GSP system. We shall revert to these, as well as administrative tariff exemptions that play some role in the Norwegian system.

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[1] Some of this material was presented at the workshop on the WTO Agreement in Agriculture in Bergen 2 June 2005. I thank the participants for useful comments. I also thank Arild Vatn, Norman Aanesland, Ole Gjølberg and staff at the Norwegian Agricultural Authority who supplied useful background information. The standard disclaimer applies.

[2] Measured in Producer Subsidy Equivalents (PSE), see http://www.oecd.org/dataoecd/34/0/32361131.xls

[3] Proposition to the Storting from the Ministry of Finance, dated 19 May 1995.

[4] See St.prp. nr. 1, 2001-2002, Skatte-, avgifts- og tollvedtak, Chapter 4 and Appendix.

[5] St.prp. nr. 1, 2002-2003, Skatte-, avgifts- og tollvedtak; and the corresponding publication for the Storting 2003-2004.

2. Earlier attempts to quantify the Norwegian border protection

In the so-called "Development Friendliness Index" presented by Birdsall and Roodman (2003), Norway dropped several places down in the ranking due to high agricultural protection. This was based on Cline (2002), who again used estimated tariff equivalents for "EFTA except Switzerland" from the GTAP (Global Trade Analysis Project) (Dimaran and McDougall 2002, Dimaran 2002). Based on this and weighting by world production of the different goods, Cline obtained a high tariff average for Norwegian agriculture at 273%! The GTAP estimates were however based on bound tariffs, which are – as we shall see – considerably above the applied rates.

An alternative estimate is presented by Bouët et al. (2004), who calculate averages of *ad valorem* and specific tariffs for agriculture for several countries. These results are (for some selected countries):

Table 1: Average of *ad valorem* and *non-ad valorem* tariffs in agriculture

	Applied including all preferences		MFN applied	
	Ad valorem	*Non-ad valorem*	*Ad valorem*	*Non-ad valorem*
EU-15	4.9	12.9	6.5	17.0
Norway	8.7	63.2	4.0	79.3
USA	1.8	3.3	3.3	5.0
Canada	13.6	1.2	27.9	1.0
Japan	8.7	26.4	10.2	45.1
Switzerland	0	43.1	0	81.1
Korea	53.5	0	69.9	0
India	58.7	0.3	58.8	0.3

Source: Bouët et al (2004, 29), calculations from MAcMap database.

Hence for Norway, the average for agriculture must be between 4.0 and 79.3%, which are the averages for *ad valorem* and specific tariffs, respectively. Using the respective number of tariff lines (based on 2005 tariffs), this would give an arithmetic average at 47%. The averages in Table 1 are however not arithmetic (simple), but trade-weighted. [6]

A third estimate of tariff protection for agriculture in Norway is provided in the recent WTO Trade Policy Review of Norway (WTO, 2004). Here, a simple average of 38.2% for agriculture is presented, based on AVEs supplied by Norwegian authorities. While the methods are not fully explained, it seems as if 2003 Norwegian import prices have been used as reference prices. Since imports are zero for many items, AVEs are also missing and these are not included in the calculations. According to the WTO definition, agriculture should include 1354 tariff

[6] The authors use a particular form of weighting; the imports of a reference group of countries is used to weight the various products. In order to calculate the AVEs, the authors use the "median unit value of world-wide exports originating from the reference group the exporter belongs to" (Bouët et al. 2004). These methodological choices may explain the differences between this study and our results.

lines, but only 1190 lines are included in WTOs calculations. Since imports are more likely missing for high-tariff products, it is likely that this leads to underestimation of the tariff average.

Hence we have three different estimates of Norway's tariff protection in agriculture: At 273, 47 and 38%. Which of these are correct? In the following, we shall make another attempt to shed light on the issue.

3. Methodology for tariff calculations

As noted above, a core challenge is to calculate AVEs for the specific tariffs. The importance of specific tariffs is evident from Table 2, which shows the tariff types used for agriculture in the 2005 Norwegian customs tariff: [7]

Table 2: Tariff types for Norwegian agriculture

(a) Number of tariff lines

	Bound	MFN applied	EU	GSP	Botswana Namibia	LDCs
Zero	254	458	625	685	1076	1284
Ad valorem>0	88	94	68	66	0	0
Specific	228	729	590	531	208	0
Either/or	714	0	0	0	0	0
Compound	0	3	1	2	0	0
Total	1284	1284	1284	1284	1284	1284
MX		42	0	3	0	0

(b) Percentage distribution

	Bound	MFN applied	EU	GSP	Botswana Namibia	LDCs
Zero	19.8	35.7	48.7	53.4	83.8	100
Ad valorem>0	6.8	7.3	5.3	5.1	0	0
Specific	17.7	56.7	45.9	41.3	16.2	0
Either/or	55.6	0	0	0	0	0
Compound	0	0.2	0.1	0.2	0	0
Total	100	100	100	100	100	100

Note: In the analysis, we use tariffs applying as of 10 January 2005; files provided by Norwegian Customs and Excise. Some tariffs are changed throughout the year.

All tariffs are bound, and for 56% there are *ad valorem* as well as specific bound rates, and the highest one applies in each case. For 255 lines, tariffs are bound at zero. The number of lines with zero tariffs increases as we move to MFN applied tariffs (36% zero lines) to LDCs

[7] In this context, we define agriculture as Chapters 1, 2, 4-24 and 35 in the Harmonised System (HS), with the exception of fish products. WTO normally uses a wider definition including leather, fur, silk, wool, cotton and some other chemicals. Using this definition, we would add 70 tariff lines for which MFN applied tariffs in Norway are zero. Averages using the WTO definition would therefore be lower. We shall comment on this issue when appropriate.

(100%). At the same time, the number of specific tariffs falls; from a maximum of 729 (57%) for MFN applied tariffs.

The high incidence of specific tariffs complicates analysis of the import regime. In order to quantify the overall rate of protection, we need import prices to which the specific tariffs may be compared. Many of the specific tariffs are however high and more or less prohibitive, so there are no Norwegian imports. And where imports exist, it is likely that the specific tariff affects the quality of the goods imported and thereby the average price. Empirical trade research confirms that international trade prices vary considerably for similar products, and that quality differences constitute a major explanation for this. In the presence of a specific tariff, it is also more likely that high-price items are imported (see e.g. Hummels and Skiba 2004). Hence the use of Norwegian import prices may lead to under-estimation of the AVE.

For these reasons; i.e. missing imports and endogenous import prices, we do not base the study primarily on import data. Instead, we follow Gibson et al. (2001) by using the *world average import price* for the product in question as a main approach. We also show a second set of AVE calculations where we use *Norwegian import prices for all products where imports in 2003 were larger than 250 000 NOK* (approximately 40 000 USD), and world average import prices for the rest. Since we expect import prices to be more erratic when imports are very small, we do not include Norwegian import prices based on even smaller import values. For the 1284 categories covered here, we have import data for 2002 and 2003 for approximately 800, but almost half of these drop out due to the threshold. For the 729 specific MFN applied tariffs, we use Norwegian import prices for around half in this third set of calculations. [8]

When using world market prices, we also face the problem that these are available only at the internationally standardised 6-digit level of classification (630 products), while tariffs are set at the more detailed 8-digit level of Norwegian classification (1284 products). Hence we have to use a common world market price for all 8-digit products that belong to the same 6-digit sub-heading. Since we do not know the price difference or the value shares for the 8-digit groups in the world market, this produces some inaccuracy. One might think that it would be better to use Norwegian import data on this to the maximum extent, even when import values are low. But when AVEs are several hundred percentage points, import prices as well as quantities may be heavily affected. We therefore believe that world market data are more reliable in spite of the inaccuracy caused by different aggregation levels. It implies, however, that results for individual tariff lines are less reliable than the averages we present.

Table 3 sums up the prices we use to calculate the AVEs:

[8] Exchanges used are 7.9702 (2002) and 7.0824 (2003) NOK/USD, from Bank of Norway.

Table 3: Prices used to calculate AVEs – alternative calculations presented			
Alter-native	Tariffs	Prices used to calculate AVEs	Source of trade data
(W)	2005 Norwegian tariffs at HS 8-digit classification	Average world import prices at HS 6-digit classification	COMTRADE
(N+W)		As (1), but replaced with Norwegian 8-digit import prices when available (390-394 cases for MFN applied tariffs)	COMTRADE + Statistics Norway
Note: Developing countries are defined as ODA (Official Development Assistance) beneficiaries according to DAC recipient list as of 1 January 2003, see web page http://www.oecd.org/dataoecd/35/9/2488552.pdf			

We expect that prices are highest for (N+W).[9] While we consider (W) to be the main alternative, it is important to recall that there is in fact no objective or unique AVE. In fact, the essence of a specific tariff is exactly that the AVE varies with the import price, and since import prices vary, the AVEs also do. Tariff averages of the kind we provide here are for illustrative purposes, and do not change the fact that tariffs are indeed specific. With respect to tariffs for imports from developing countries, we might also plausibly have suggested using world prices for imports *from developing countries* rather than from all countries. Since it is likely that poor countries have lower prices, this might have produced even higher AVEs. Such calculations are however not included here.

Having found the AVEs for each tariff line, a next issue is how to calculate averages. Using imports as weights is implausible for the reasons noted above: If tariffs are high enough, there are no imports and the weights are zero. Since there is also here no unique "truth", we use the following alternative calculations:

Table 4: Alternative aggregation methods	
(a)	Simple average at the 8-digit HS level
(b)	Simple average at the 6-digit HS level
(c)	Average at the 6-digit HS level, weighted by world imports
(d)	Average at the 6-digit HS level, weighted by world imports from developing countries.

The simple average (a) is affected by the number of Norwegian tariff lines. This is corrected for in (b) where we first aggregate to the 6-digit

[9] Bouët et al. (2004) use median prices for the exports of a reference group of countries for calulating AVEs. This has some advantages, but for trade between countries at different price/ income levels it may imply underestimation of tariffs facing low-price suppliers, and an over-estimation of tariffs facing high-price suppliers. Since imports from developing countries are important in our context, we choose world import prices that are more "neutral", and hopefully also more reliable due to the larger volume traded.

level (using a simple average if there are more 8-digit tariff lines for a 6-digit sub-heading), and then calculate simple averages of the 6-digit sub-headings. In (c) and (d) we use world trade data as weights. Norway has low tariffs for e.g. tropical fruit and some other products of particular interest for developing countries. If this dominates, we expect the averages (c) to be higher than the averages (d). As we shall see, this is indeed the case.

With two price data options and four aggregation methods, we obtain 8 different AVE tariff averages. We undertake the calculations using trade data for 2002 and 2003. Since world trade data are not yet available for 2004, we use these years also for Norwegian import data (we combine data in USD and NOK and these must be from the same time period).

Hence for each tariff aggregate (bound, MFN applied, EU, GSP etc.) we have 16 different estimates for the AVE average. In the calculations, we include the following tariffs:

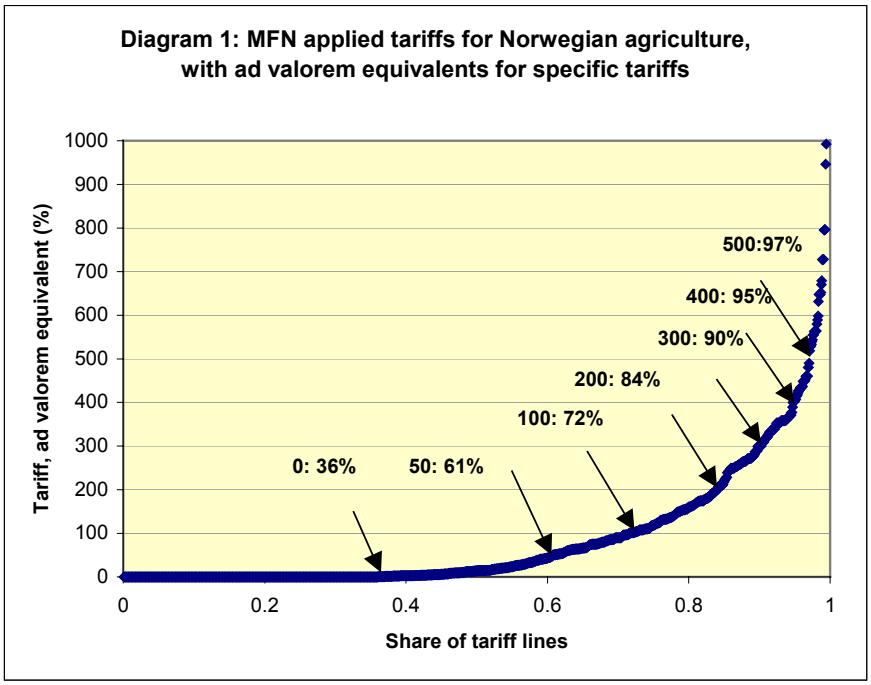
- Bound tariffs.
- MFN applied tariffs.
- EU tariffs (these are mostly identical to EEA tariffs).
- GSP tariffs,
- Tariffs for Botswana/ Namibia, which receive special preferences in Norway for manufacturing as well as agriculture.

Tariffs for LDCs are not included, for the simple reason that they are all zero. For more explanation about the difference between various regimes, see also Melchior (2005). These differences will become evident from the results as well.

4. Results

With five missing price observations, we end up with 1279 tariff lines. Diagram 1 shows the distribution of MFN applied tariffs, using world import prices (option W).[10]

[10] A detailed table with AVE tariffs for each tariff line is available upon request (see also www.nupi.no) As noted, the use of 6-digit world prices to determine 8-digit AVEs implies that results for individual items are less reliable than the averages. Hence tariffs for individual items should be treated with some caution, and it should preferably be checked that there is no aggregation problem (6 versus 8 digits) with respect to prices. The bias for individual tariff lines may go either way.



As also shown in Table 2, 459 tariff lines or 36% are zero. If we had used the WTO definition of agriculture, we could have added another 70 lines with zero tariffs, so the share would be even higher.

After 36%, however, the free trade story is gone and there is no end to the height of tariffs. When we pass the 100% tariff level, 28% of the tariff lines remain. Surpassing 300%, there are still 10% or more than 100 tariff lines left.

In Table 5, we show the 16 alternative averages for the five tariff regimes mentioned above.

Table 5: Norwegian tariff averages for agriculture						
Which tariff:	Prices used for calcula-ting AVE	Year	Simple HS8	Simple HS6	Weighted by world imports	Weigthed by imp. from dev. countries
			(a)	(b)	(c)	(d)
MFN applied tariffs	N+W	2002	77.4	81.0	76.9	57.3
	W		96.5	101.7	103.0	74.0
	N+W	2003	75.5	79.0	73.4	54.2
	W		95.8	101.0	100.4	73.2
Bound tariffs	N+W	2002	156.1	162.0	153.9	105.4
	W		167.5	173.6	170.4	117.8
	N+W	2003	152.5	156.8	150.7	103.1
	W		164.1	168.2	166.1	115.7
EU tariffs	N+W	2002	73.7	78.5	74.1	55.4
	W		92.1	98.7	99.7	71.6
	N+W	2003	72.3	77.2	70.6	52.3
	W		91.8	98.7	96.9	70.7
GSP tariffs	N+W	2002	63.7	68.0	66.9	48.8
	W		78.2	85.3	89.7	62.7
	N+W	2003	62.2	66.9	63.8	46.2
	W		78.1	85.5	87.2	62.2
Tariffs for Botswana and Namibia	N+W	2002	15.5	18.1	14.9	13.1
	W		17.8	22.2	17.2	13.9
	N+W	2003	14.4	16.8	14.9	14.5
	W		17.4	22.0	17.6	15.9
Number of observations			1283	630	630	630
Note: W = world import prices, N+W = Norwegian import prices + world import prices, as explained in text.						

The ranking of the regimes is as we would expect, with bound tariffs as the highest, followed by MFN applied tariffs and the preferential regimes. Observe that GSP tariff are lower than tariffs for the EU. Botswana and Namibia have tariffs considerably below all the others; but not zero as for the LDCs.

Considering the different averages in each case, we find that:

- As expected; tariff averages are higher if we use only world market prices (results with prices W > results with prices N+W in all cases). Hence Norwegian import prices under the current regime are generally higher than world averages. The difference between averages calculated with the two alternative price data is generally quite large; around 20% for MFN applied tariffs.
- The difference between 6-digit and 8-digit aggregation is modest, but nevertheless with systematically higher averages at the 6-digit level (b>a).
- Weighting by world trade leads to small changes in the estimates, but a slight reduction in the majority of cases (c<b, comparison has to be undertaken at 6-digit level of aggregation).

- Weighting by imports from developing countries, however, changes the results considerably (d<a,b,c): MFN applied tariffs are 20-30% lower if weighted with developing country trade instead of world trade. This shows that the tariff regime is more liberal versus developing countries, and that protection is higher for products exported from industrial countries.
- Estimates are mostly lower when 2003 data are used, compared to 2002. This may be due to exchange rate or import price fluctuation, and illustrates that in general, the *ad valorem* impact of specific tariffs may change over time.

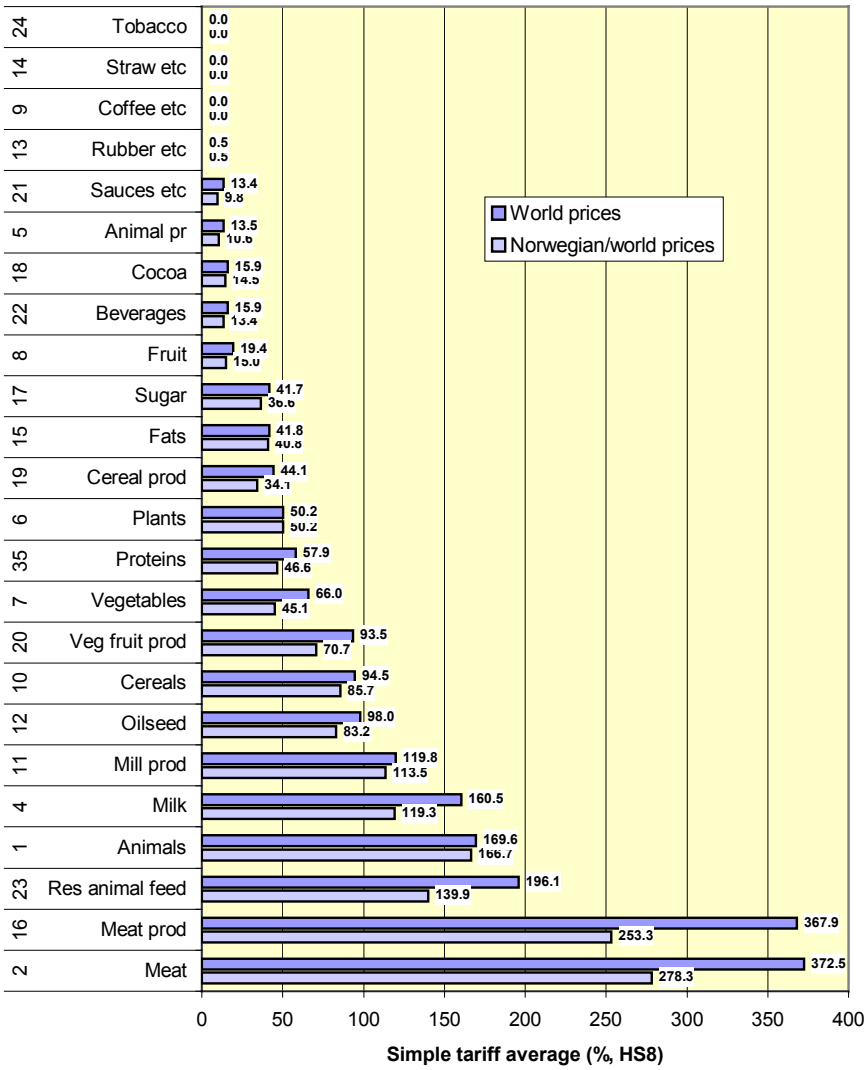
The results suggest that the Norwegian tariff average is generally around 73-103% for MFN applied tariffs, and 54-74% if we consider imports from developing countries. For bound tariffs, the average is in the range 151-174% (103-118 if weighted by developing country exports).

Hence our result is considerably below the 273% presented by Cline (2002), but significantly above the figures presented by WTO (2004). As noted, the latter calculations were undertaken with a reduced number of observations, and this may be the explanation, in addition to the use of import prices. Note also that the WTO agricultural aggregate contains 69 more tariff lines that are all zero, so our unweighted averages may be multiplied by 0.95 to be made comparable to the WTO figures. The prices used for AVE calculations may also be a reason why our average is higher than the one based on Boüet et al. (2004).

It should be observed that the highest tariffs tend to inflate the averages. On the other hand, the median would not give a reliable picture either. Hence the most representative summary of tariffs is the one in Diagram 1, and the averages should be treated with some caution.

Diagram 2 shows the tariff level in different sectors of agriculture, using HS Chapters.

Diagram 2: Norwegian agriculture: Tariffs in different sectors

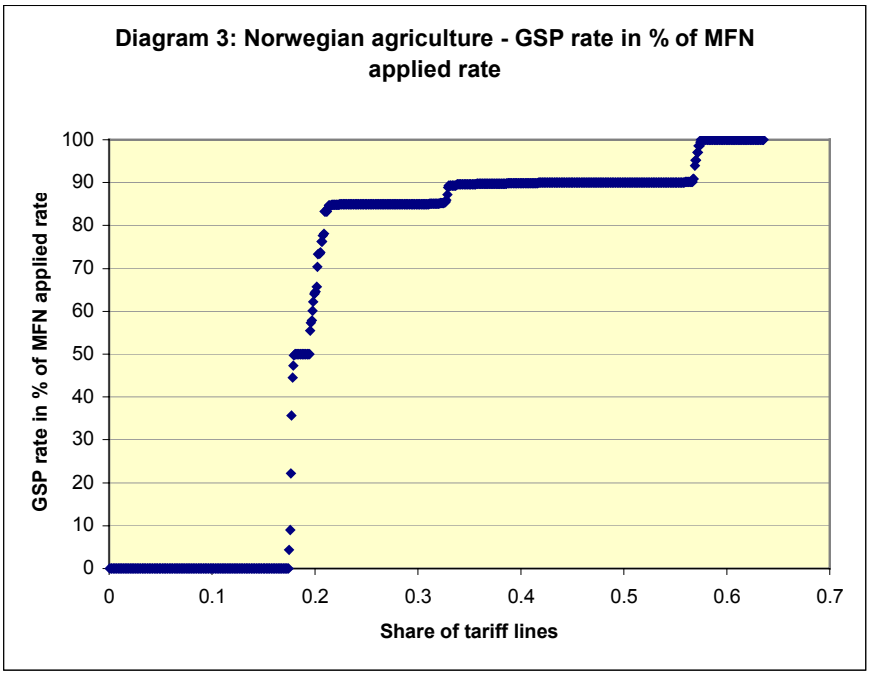


As also shown by Dimaran and McDougall (2002) and WTO (2004), protection is highest for meat products and dairy products. For animal feedstuff, protection is also high. For some fruit and vegetable products, tariffs are zero when the goods are for human consumption, and high if they are feedstuff. This contributes to higher tariffs in these sectors.

Observe that it is not evident that there is strong tariff escalation; i.e. higher tariffs for processed goods. We may observe that the tariffs for meat products are not higher than for meat, but on the other hand, mill products are more protected than cereals, and vegetable and food products are somewhat more protected than fruit and vegetables. The impression concerning tariff escalation is therefore ambiguous, and a closer examination is needed to provide a clear answer.

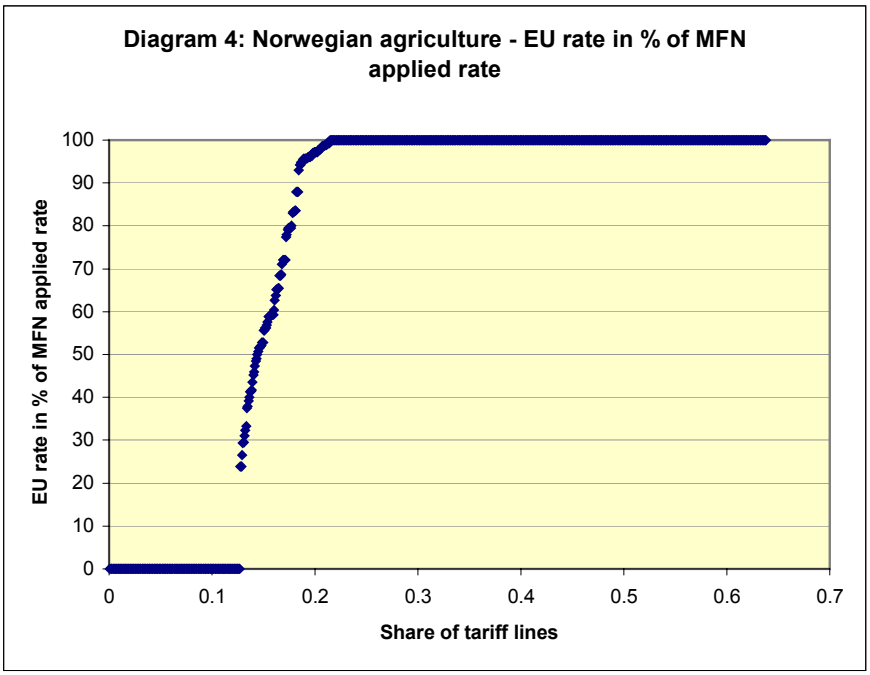
5. The GSP system

While the LDCs face zero tariffs in Norway also for agriculture, ordinary GSP implies tariff cuts that vary across products according to sensitivity. Diagram 3 shows the distribution of cuts (i.e. GSP tariff in % of the MFN tariff). We drop the 36% of lines where the MFN tariff is zero; the distribution therefore ends at 64%, to the right in the diagram.



Hence 17.5% of the tariff lines are reduced to zero, while around 40% obtain cuts in the range 10-15%. On average, GSP implies a tariff cut of 13-18.5% of the MFN rate, depending on the weighting and the AVE calculations applied. Since many tariffs are prohibitive, however, the real increase in market access with tariff cuts of 10-15% is uncertain in many cases.

For manufacturing, the Norwegian GSP system has traditionally been inferior to free trade agreements in terms of market access. Only in the last decade have the two systems converged in terms of the depth of tariff cuts. It is therefore interesting to observe that for agriculture, GSP is in fact more "generous" that the European FTAs. Diagram 4 shows the tariff cuts obtained by the EU.



For a considerable share of non-zero tariff lines, EU has obtained no tariff cuts. The average tariff cut for the EU is only 3-4%; i.e. more limited than for GSP.

6. Tariff exemptions

The analysis of tariffs above does not provide a complete picture of the tariff regime. In fact, these tariffs do not always apply. There are three types of deviations:

- Norway applies a number of tariff rate quotas (TRQs), with reduced tariffs within some quantitative ceilings. Such TRQs exist for MFN, GSP and EU tariffs.
- Second, individual tariff suspensions may be granted. In 2003, more than 2600 individual tariff suspensions or reductions were granted, e.g. for inputs or to the processing industry.[11]
- Third, general tariff reductions may me granted throughout the year. In 2003, 322 such tariff reduction were given for individual tariff lines. For cereals, tariffs change over time due to the target price system; in which tariffs should correspond to the gap between target prices and world market prices.

Due to these deviations, the tariffs listed in the Customs Tariff publication, which we have also used as the basis for analysis, do not always apply. According to Norwegian Customs and Excise, these tariffs should be regarded as upper bounds. Administratively, tariffs for agriculture are managed directly by the Norwegian Agricultural Authority – not Norwegian Customs and Excise. Hence NAA announce

[11] See. St.prp. nr. 1, 2004-2005, Skatte-, avgifts- og tollvedtak, p. 89.

changes in agricultural tariffs directly in the TVINN tariff clearance system.

For trade, it may be a problem that tariffs are variable. Firms have entry costs when trading with new suppliers, and have to make their calculations about how much to invest in getting trade off the ground. If they believe the tariff is 30% but then it turns out to be 60%, it may be a problem. Variable tariffs may create a problem of lacking predictability and work as a non-tariff barriers. Some of the importers interviewed raised this as a problem of the Norwegian system.

We do not have documentation to provide a further analysis of the general and individual tariff reductions.[12] On TRQs, however, we shall provide an overview – although not a full analysis of their impact.

7. Tariff rate quotas (TRQs)

Tariff rate quotas imply that lower tariffs apply within quantitative ceilings. After the UR Agreement, Norway bound approximately 300 TRQs in the WTO. Norway is in fact one of the countries worldwide using this instrument most frequently.[13] There are currently approximately 60 active TRQs in Norway.[14] For approximately half of these, tariffs are fully eliminated within quotas, for the other ones tariffs are reduced.

Some types of TRQs provide enhanced market access. These are:

- Minimum access quotas under the WTO: Some quotas are there in order to fulfil the requirement from the Uruguay Round that at least 5% of consumption should be imported. There are ten such quotas.
- TRQs under free trade arrangements; notably for the EU: There are currently 19 TRQs for imports from the EU, with the number increasing after negotiations in 2003.
- TRQs under the GSP system: There are eight such quotas.

For the GSP quotas and most EU quotas, in-quota tariffs are zero. For the WTO quotas and a few EU quotas, tariff reductions within quotas are partial.

These TRQs provide additional market access beyond ordinary MFN tariffs. In addition, there is a particular regime for grains and oilseeds.[15] Here there are specific target prices, and the cooperative firm Felleskjøpet has the role of "market regulator" (making recommendation

[12] We also drop an examination of special tariff arrangements for processed goods, the so-called raw material compensation ("RÅK") arrangements.

[13] St.meld. nr. 65, 1993-1994, Special Appendix, Norges bindingslister for varer og tjenester, p. 54ff. See also Skully (2001) for an overview.

[14] See St.prp. nr. 1, 2004-2005, Skatte-, avgifts- og tollvedtak, Appendix 2, or Appendix to Forskrift om fordeling av tollkvoter for landbruksvarer, Appendix, first issued 20 June 2003, available at http://www.lovdata.no/for/sf/ld/ld-20030620-0907.html

[15] For information about the cereal import regime, see St.prp. nr. 1, 2004-2005, pp. 91 ff., and Norwegian Agricultural Authority, Circular 46/2004, 21 July 2004, or Circular 59/2003, 24 June 2003. On auctions, see e.g. Norwegian Agricultural Authority, 2005, "Resultater av auksjoner gjennomført i 2004", and "Foreløpig oversikt over auksjonskvoter og tidsplaner for auksjoner i 2005", available at www.slf.dep.no. Some special TRQs (e.g. elk meat) are not mentioned here in order to avoid detail; information may be found at the web page.

on imports and tariffs). Felleskjøpet makes an assessment of the need for imports, based on the domestic demand and supply. The proportion of food grain in Norwegian production varies considerably over time due to weather conditions etc., and the import quotas have to be adjusted accordingly.[16] The tariff is set to make up for the difference between world market prices and the Norwegian target prices. In 2004, tariffs were at 8-52% of the MFN bound tariff. The bound tariffs apply if anyone would try to import outside the auction system. There are meetings between Felleskjøpet, the Norwegian Agricultural Authority and importers to discuss the market situation and the planned imports. Quotas for food grain, feed grain and oilseeds are thereafter auctioned. This occurs three times a year, and the tariff is adjusted for each period. Felleskjøpet has different regional companies, and is taken together the dominating importer (approximately 2/3 of imports). The grain regime has a certain collusive flavour, and the auction price is surprisingly stable at 0.01 NOK/kg. As one importer stated: "10 NOK/tonne is almost a magical limit."

To an increasing extent, the Norwegian TRQs are auctioned. In 2004, 40 out of 59 quotas were auctioned. Data from the auctions are available and provide useful information in order to assess the value of the TRQs, and the improved market access they offer. It is beyond the scope of this study to provide a full assessment, but some evidence will be presented.

As an illustration, imagine that a product has a tariff at 200%, but a certain quantity x may be imported with only 50% tariffs. Assume further that the 200% tariff is prohibitive, so there is "water in the tariff" – imports will only take place if the tariff is 100% or lower. In a market with many competing importers, these should then be willing to pay 50% of the import price for the quota.

For some TRQs, this description may fit as an approximation. Consider, for example, the WTO minimum access quota for frozen bovine meat. Within this quota, beef from e.g. Brazil, Argentina and Uruguay is imported. For some of the products included, the ordinary tariff is 119 NOK/kg, while the in-quota tariff is 33.60, or 28% of the MFN tariff. For this item, there have been more than 30 bidders and the quota price during auctions has increased over time, to 23 NOK in the auctions for 2005. According to the stylised story above, the prohibitive tariff would be around 23+33.60=56.60 NOK/kg. Due to the high specific tariff, imports are mainly high-priced items such as tenderloin. Considering that the Norwegian import price for tenderloin etc. in 2003 was 43 NOK, the tariff + auction price was at 133% of the import price. With a world market price for boneless meat at 15 NOK, imports of such goods would not be profitable. The auction price suggests that there may be considerable "water in the tariff" – more than 60 NOK for the high-price meat if the model illustration above fits.

Among the TRQs under GSP, there is at least one similar story; for honey: The MFN tariff for honey is 21 NOK/kg, or equivalent to 140% of the world market price. In 2003, the world market price for honey was 17.44 NOK/kg whereas the Norwegian import price was 20.72. The in-

[16] See Budsjettnemnda for jordbruket (2005, 45).

quota tariff is zero. The quota price has been fluctuating between 6 and 10 NOK/kg, with 6-10 bidders. A quota price at 10 NOK is equivalent to a tax of around 50%. The cooperative firm Honningsentralen is the largest importer (and also the "market regulator), and some other importers may sell their share of the quota imports to Honningsentralen. No firm can buy more than 50% of the auctioned quota. Honey imports have to conform to EU/ European health standards, and LDCs have problems with this. This is a main reason why importers pay 6-10 NOK/kg to import from ordinary developing countries, even if they can import without tariffs from the LDCs.

Also in the case of the TRQs for imports from the EU, it is the case that quota prices have excelled only in some markets. This has occurred for ham and sausages, with prices reaching 25-31 NOK/kg. Common to TRQs for MFN, GSP and EU is nevertheless that these examples; with sharp competition bidding up quota prices, is the exception rather than the rule. In several cases, quota prices are low, and in some cases, quota utilisation is also low.

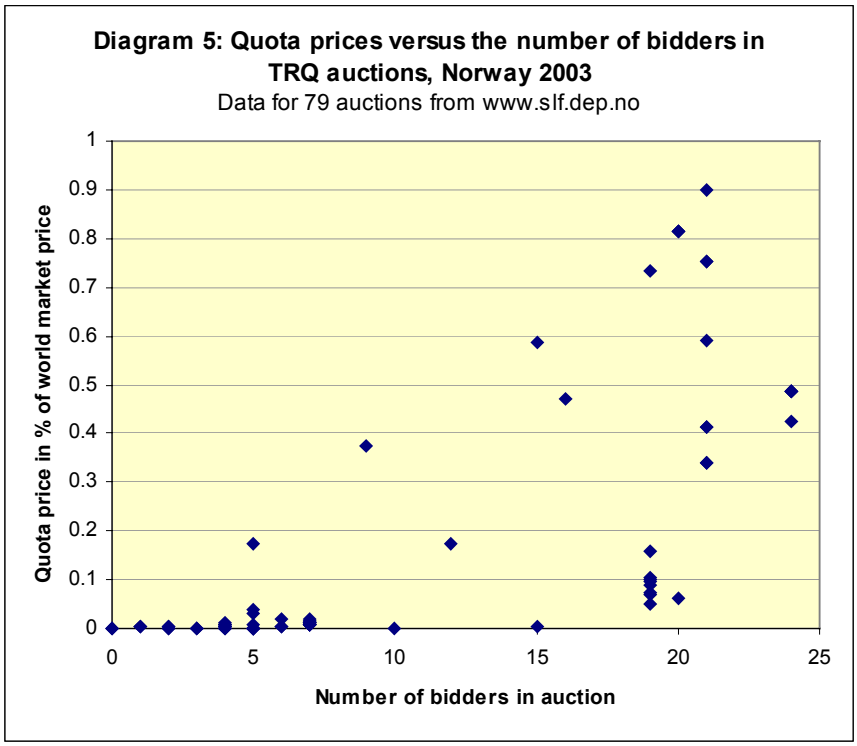
Quota utilisation has been good for the TRQs for impirts from the EU in the majority of cases (14 out of 19 in 2005), and for the WTO quotas in most cases (all but one in 2005). For GSP quotas, the picture is more mixed: Four out of the eight GSP quotas are not used very much, and the quota price for these is zero or close to zero.[17] Three of these are quotas for vegetables.

One might believe that low quota prices would correspond to low quota utilisation. This is true in one sense: If quota utilisation is low, the quota price is also low. With high quota utilisation, however, it is not necessarily the case that the quota price is high. For all types of quotas, there are examples of quota prices being very low even if utilisation is high. There are different possible reasons for this:

- There may be collusive behaviour so that bidders have a tacit understanding of keeping prices low. This is more likely in markets with few participants. For imports from developing countries, there may be high entry costs so that new importers do not want to take the risk to challenge the established importers. This may reduce competition and render collusive behaviour more likely.
- For WTO quotas, where tariff reductions are partial, it may be the case that the remaining tariff is still so high that imports are not profitable if higher quota prices are added.
- For imports from some developing countries, high entry costs may also imply that even a modest quota price can make imports unprofitable. The regime with zero tariffs for LDCs illustrates the relevance of this point: Little imports have entered in spite of zero tariffs for agriculture.
- It should be recalled that parts of Norwegian agriculture are close to autarky so there may be high costs of establishing new imports. Reduced competition for quotas is then more likely.

[17] In 2005, utilisation was 1-20% for these quotas.

The hypothesis about collusive behaviour is supported by the fact that there is a fairly strong relationship between the number of bidders and the quota price. This is shown in Diagram 5.

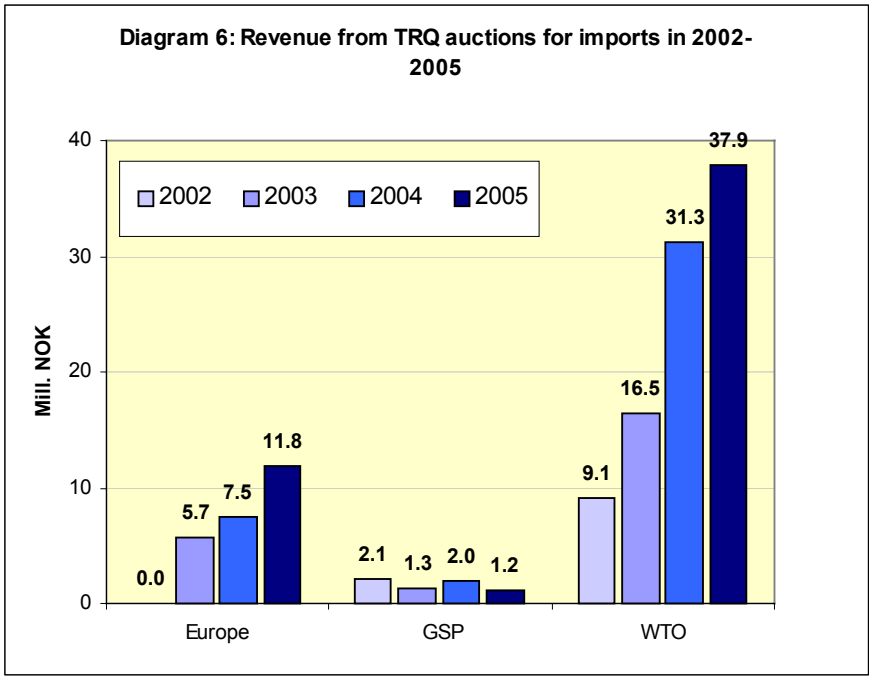


There is a positive correlation between the number of bidders and the auction price. This suggests that the extent of competition in each market is important, although a full test has to take into account also other aspects that affects the quota price. For the so-called "open ascending auctions" used in Norway, the risk of collusion has been noted by some authors (see e.g. Sunnevåg 2001, Jörin and Campo 2005). Some of the Norwegian auction markets for TRQs have a collusive flavour, and in some cases (e.g. cereals and honey), the market regulators play a dominating role.

The quota price should be increasing with the magnitude of the tariff rebate. This is statistically confirmed, but the relationship is not very strong. An appropriate test should however correct for "water in the tariffs", and we do not have data to undertake this.

An illustration of the importance of various TRQs is the amount of revenue collected from the auctions. Arranging auctions with respect to the year of importation, we obtain the following picture:[18]

[18] Diagrams 5 and 6 are both based on information from the Norwegian Agricultural Authority web page www.slf.dep.no. World market prices used for Diagram 5 are based on COMTRADE data.



Here the WTO TRQs and the grain quotas have been merged. It is evident that the WTO quotas loom largest. Here more than 25 mill. NOK of the revenue for 2005 came from beef alone. For GSP, almost all came from honey. For the EU, most of the revenue came from ham and sausages. Hence the products mentioned above were the main auction successes.

Some quotas are however not yet auctioned; in particular the important quota of 4000 tons of cheese from the EU is not auctioned, but allocated based on historical performance. This amounts to a tariff exemption of 108 mill. NOK; i.e. more than the revenue from all auctions combined. The government has wanted to auction also this quota, but has faced opposition from established importers. Given that auctions imply that the rents are taxed away, importers with earlier quotas may prefer to keep profits for themselves. On the other hand, interviews confirmed that importers value the openness and opportunity for all firms to compete. A few of them complained about too little information; e.g. one importer missed an auction by mistake and could not continue imports that had taken place regularly for many years.

In spite of potential collusion in some auctions, the system has to be commended for its transparency: All auction results, with bids, prices and the names of firms is openly accessible at the internet, for current auctions as well as four years back in time.

As noted, the LDCs face zero tariffs so there is no need for TRQs for them. The former LDC Botswana has however grown richer, and does not benefit from the LDC tariff regime. Together with Namibia, Botswana has nevertheless continued to obtain special trade preferences in Norway. In the field of agriculture, we have already seen that tariffs are lower. In addition, there is a special tariff-free quota at 2700 tons for bovine meat from Botswana and Namibia, which is allocated on a first

come first serve basis with zero tariffs. This allows imports of chilled meat as well as frozen (contrary to the WTO bovine quota, which is only for frozen meat). Most of these imports are to the processing industry, whereas e.g. imports from Brazil under the WTO quota are mainly high-priced consumer items such as tenderloin. Considering that importers pay 57 NOK/kg for importing from e.g. Brazil, the quota for Botswana and Namibia is attractive. A London-based agent has been important for setting up this trade link. According to some importers, the number of potential suppliers in Botswana is limited, so the market is "taken" and impossible for new importers to enter even if there is no tariff. Hence there seems to be a monopoly-like situation. An issue in such cases is who captures the rent; exporters, middlemen, importers, manufacturing firms or consumers. Although we are not able to provide a precise answer, our impression is that at least exporters, middlemen and importers get some.

8. Norwegian agricultural protection and the export interests of developing countries

As noted above, the tariff structure of Norway is skewed in the favour of developing countries; i.e. tariffs are lower when weighted by developing country exports. This does not, however, imply that developing countries generally face low tariffs.

Table 6 provides summary statistics of Norway's GSP tariff averages, combined with data for DC and LDC exports (Their share in world exports for each HS chapter). The table also includes a concentration index of the form $\sum_i s_i^2$, where si are the share of each DC in the total world imports from DCs within the HS Chapter. If one DC has all DC exports, the concentration index will be one. If trade is more evenly divided, it is lower (the minimum is close to zero). For items with a low concentration index, trade liberalization will benefit more countries. In the table, we have ranked HS chapters according to the share of developing countries in world exports.[19]

[19] We use OECDs list of countries entitled to ODA (Official Development Assistance) as the developing country definition.

Table 6: Developing country shares of world import of agricultural goods							
HS Chap-ter	Short description	World imports 2003 from:		% shares of world imports 2003 for:		Concen-tration index for DC exports	GSP tariff average (type 1a)
		Developing countries	LDCs	Developing countries	LDCs		
9	Coffee etc	9901	1036	75.6	7.9	0.07	0
14	Straw etc	348	17	71.2	3.5	0.10	0
8	Fruit	20954	344	51.6	0.8	0.06	9.9
15	**Fats**	**14235**	**105**	**51.0**	**0.4**	**0.21**	**35.3**
23	**Res animal feed**	**9693**	**64**	**40.7**	**0.3**	**0.22**	**169.4**
5	**Animal pr**	**1502**	**8**	**40.0**	**0.2**	**0.29**	**12.1**
12	**Oilseed**	**10950**	**330**	**39.8**	**1.2**	**0.27**	**84.1**
17	**Sugar**	**6135**	**179**	**38.4**	**1.1**	**0.09**	**34.8**
18	Cocoa	7135	113	38.3	0.6	0.21	12.0
20	Veg fruit prod	8415	16	34.4	0.1	0.13	59.1
13	Rubber etc	881	76	32.2	2.8	0.12	0
7	Vegetables	8710	414	31.9	1.5	0.16	41.3
16	Meat prod	2006	0	28.8	0.0	0.16	331.1
10	**Cereals**	**9301**	**64**	**28.7**	**0.2**	**0.15**	**85**
24	Tobacco	5073	517	24.0	2.4	0.10	0
6	Plants	2208	75	19.4	0.7	0.12	41.6
1	Animals	1522	131	17.1	1.5	0.18	122.5
11	**Mill prod**	**804**	**11**	**14.9**	**0.2**	**0.10**	**106.4**
2	Meat	6624	30	14.3	0.1	0.26	336.3
21	Sauces etc	3043	6	13.8	0.0		7.3
22	Beverages	6231	25	13.6	0.1	0.16	8.8
19	Cereal prod	2446	8	11.6	0.0	0.10	30.3
35	Proteins	948	2	7.8	0.0	0.16	27.5
4	Milk	1997	21	6.3	0.1	0.08	144.6

Developing country shares are highest for chapters 9 and 14 where tariffs are already zero. Milk products and proteins etc. (Chapter 35) are the other extreme, with little exports from developing countries. Meat products are intermediate, but faces very high tariffs.

Grains and particularly feedstuff are among the goods that face stiff protection. When the LDCs obtained zero tariffs for all goods, this was the last product group to be included, and for these goods there is still a safeguard/ surveillance system so restrictions may be reinstated if the "market balance" is threatened.

For some chapters, the Norwegian trade regime is liberal for products for human consumption, while feedstuffs are protected. Table 7 shows what impact this protection of feedstuffs has on tariffs. Here we have picked the 153 categories where it is explicitly mentioned in the tariff line description that products are for animal feeding. Some other products could also be used for feedstuff, e.g. some cereals, but these are not included. Hence Table 7 shows a lower bound for how the protection of feedstuffs affects the tariff levels. This time we have ranked the HS

chapters according to the reduction in the GSP tariff average. The tops sectors are also indicated in bold in Table 6.

Table 7: How the protection of feedstuffs affects the tariff level

HS chapter	Short description	MFN applied			GSP		
		Old	New	% red.	Old	New	% red.
5	**Animal pr**	**13.5**	**0**	**100**	**12.1**	**0**	**100**
15	**Fats**	**41.8**	**8.9**	**79**	**35.3**	**5.7**	**84**
10	**Cereals**	**94.5**	**38.4**	**59**	**85**	**34.6**	**59**
17	**Sugar**	**41.7**	**19.7**	**53**	**34.8**	**15**	**57**
23	**Res animal feed**	**196.1**	**105.3**	**46**	**175.9**	**94.3**	**46**
12	**Oilseed**	**98**	**56.1**	**43**	**84.1**	**47.7**	**43**
11	**Mill prod**	**119.8**	**68.1**	**43**	**106.4**	**60.5**	**43**
8	Fruit	19.4	18.1	7	9.9	8.7	12
7	Vegetables	66	61.5	7	41.3	37.2	10
35	Proteins	57.9	56.4	3	27.5	26.4	4
20	Veg fruit prod	93.5	92.4	1	59.1	58.1	2
19	Cereal prod	44.1	43.7	1	30.3	29.8	1
1	Animals	169.6	169.6	0	122.5	122.5	0
2	Meat	372.5	372.5	0	336.3	336.3	0
4	Milk	160.5	160.5	0	144.6	144.6	0
6	Plants	50.2	50.2	0	41.6	41.6	0
16	Meat prod	367.9	367.9	0	331.1	331.1	0
18	Cocoa	15.9	15.9	0	12	12	0
21	Sauces etc	13.4	13.4	0	7.3	7.3	0
22	Beverages	15.9	15.9	0	8.8	8.8	0
9	Coffee etc	0	0		0	0	
13	Rubber etc	0.5	0.5	0	0	0	
14	Straw etc	0	0		0	0	
24	Tobacco	0	0		0	0	
Total		95.8	81.5	15	78.1	65.3	16

The columns "new" shows the tariff average if the 153 feedstuff categories are set at zero. This leads to an overall reduction of 15-16% for MFN as well as GSP tariffs. For some chapters that are very important in the exports of developing countries (5, 10, 11, 12, 15, 17, 23), the elimination of tariffs for feedstuffs leads to a considerable cut in the tariff average. These are marked in bold in both tables.

Now the point is that the majority of top sectors in Table 7 are also among the sectors ranked high in Table 6. In other words: The protection of feedstuff hits several sectors of particular importance in the exports of developing countries. Protection of feedstuffs is therefore a feature of agricultural trade protection in Norway that is negative for developing countries.

Protection of grains and feedstuff has however been a cornerstone in Norwegian post-war agricultural policy: The so-called "channelling policy" is a special construct in this policy. When overproduction started to emerge around 1950, a deliberate choice was made to stimulate grain production in the most fertile land areas (especially in South East

Norway). In this way, livestock production could be located in more peripheral areas. In order to achieve this, the relative prices had to be changed to make grain production in the central areas more profitable. According to Vatn (1989), the policy was successful, except that more than planned of livestock production was located in the relatively fertile areas of South West Norway (Jæren). For a discussion, see also Aanesland (2002). In later periods, preparedness for conflict was also an argument for supporting grain production.[20]

A considerable share of Norwegian grain production is for animal feed; approximately ¾ in 2004.[21] This share varies over time due to the quality of each harvest. Wheat and rye are the main types of food grain, while oat and barley are mainly for animal feed. Due to recent overproduction of food grain, the government has recently announced that the price gap between food grain and feed grain should be reduced.[22] During the last two decades, the share of food grain produced domestically has increased, but with considerable fluctuations from year to year (see Budsjettnemnde for jordbruket 2005, 45).

As a result of this policy over 50 years, there is considerable grain production in South East Norway (84% of nationwide cereal production in 2004).[23] Since food grain and feed grain are inter-related, the support policy for grain also implies that the feed costs in other agricultural production is raised considerably. Diagram 7 shows the share of forage ("kraftfor") in total costs except labour costs in Norwegian agriculture. This share is 25% for all farms nationwide, and 30% for milk/bovine farms- Milk/bovine farms are particularly important for regional employment. If we include labour compensation, the cost share of forage is lower, but nevertheless considerable. In the model of Gaasland (2003), this share is 16.4%.

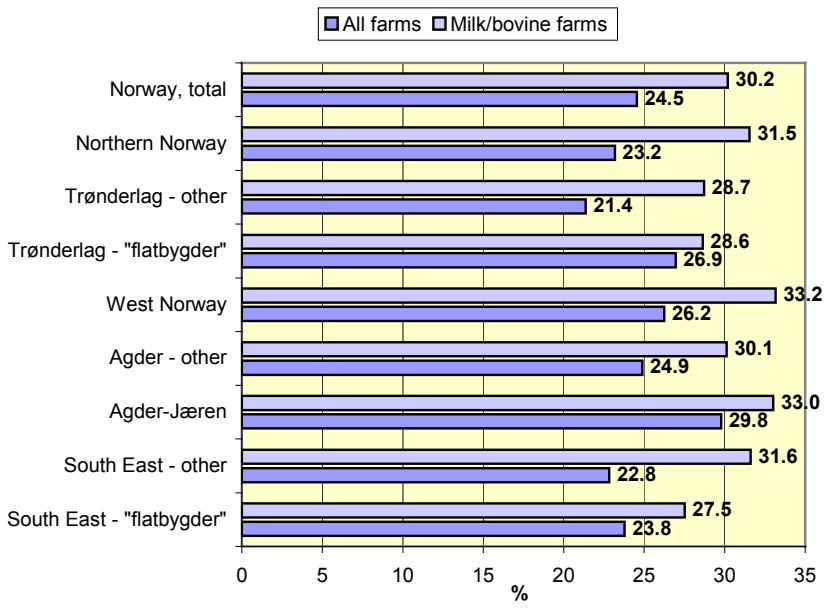
[20] Grain embargos during the first world war and the Napoleon wars in the 17th century had detrimental effects for Norway, and proponents of agriculture in Norway believe this is still a risk.

[21] Based on data from Statistics Norway, http://www.ssb.no/emner/10/04/10/korn/tab-2005-02-18-02.html.

[22] St.prp. nr. 69, 2004-2005, Om jordbruksoppgjøret 2005 – endringer i statsbudsjettet for 2005 m.m., pages 48, 65.

[23] Data source: Statistics Norway (2005). According to Budsjettnemnda for jordbruket (2005, 56), the share was somewhat lower.

Diagram 7: The share of forage ("kraftfor") in total costs in agriculture, Norway 2003



Data source: NILF, 2004, Driftsgranskninger i jordbruket, Resultater for driftsåret 2003,

Considering the magnitude of current tariffs[24], trade liberalization could probably cut the forage price to less than half of the current level (see e.g. Mittenzwei and Nersten 2004). This would amount to a cost reduction of close to 10% for milk and livestock producers. Cheaper forage could therefore contribute significantly to reducing the costs of agricultural policy in Norway.[25] Brunstad et al. (1995, 118) examine how production should be optimally adjusted to maintain certain policy goals, and find that grain production would be scaled down considerably. A challenge in this context is how to maintain production in peripheral areas: Allowing more milk/bovine production in South East Norway necessarily entails reduced production in the peripheries. This effect could be dampened by production-neutral support. A more detailed analysis is beyond the scope of this study; we conclude by observing that liberalizing forage imports from developing countries could cut costs in Norwegian agriculture significantly.

8. Concluding remarks

In this paper, we have shown that Norwegian agriculture is well protected by tariffs. Even if 36% of the tariff lines are zero, some tariffs are extremely high and the *ad valorem* equivalents suggest that the highest ones can be measured in thousands of percentage points. These

[24] See e.g. Norwegian Agricultural Authority, Circular 46/2004, 21 July 2004.
[25] Forage can to a varying extent be substituted for fodder (grass). On the cost of grass production in Norway, see Stornes (2003).

tariffs are one of the elements at the WTO negotiating table. How will they be affected?

This is too early to say, since an agreement in the field is not yet close. Recently, a method was agreed in the WTO negotiations on a formula for calculating AVEs.[26] These AVEs will be used to place product in different tiers, which will be subject to different tariff cuts. The method relies mainly on import prices, however with a lower threshold than applied here. COMTRADE world price data are used if import prices are not available or not reliable, subject to a specific checking methodology. These calculations are undertaken only for bound tariffs. Comparing to the AVE equivalents calculated here, there is a high correlation (above 0.9), but the average of our calculations are somewhat higher: The WTO method gives an average of 106.5 for the specific tariffs, while we obtain 122 using Norwegian + world prices, or 160 using world prices.

We undertake an illustrative calculation with a tiered formula as follows: 40% tariff cuts in the range 0-15 , 50% in the range 15-90, and 60% cuts if tariffs are above 90%. Using our results, we find that the average cut in bound tariffs will be close to 60%, and this will lead to a cut in MFN tariffs at above 40%. If some "sensitive" tariff lines could be exempted from such a formula, it could affect the average considerably if the high-tariff items are taken out. These are proposals included in the so-called Harbinson proposal from 2003. In addition, some countries have suggested a ceiling for tariffs; capping all tariffs above a certain level. In this way, we would be able to show all tariffs in our graphs. On the other hand, it is uncertain how much "water" there is even in the applied tariffs. It is likely that many of the mega-tariffs may be cut considerably without having an impact on trade at all. Mapping the prohibitive tariff levels would be a useful extension of the analysis undertaken here.

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