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Abstract

WTO trade disciplines and commitments on market access (MA) are assessed for their ability to foster agricultural liberalization and policy reform in four Norwegian meat markets (beef, pork, lamb/sheep and chicken). The analysis addresses three issues: (1) the role that non-trade barriers played relative to the tariff regime in the overall MA of meats; (2) the changes in the composition of trade by product sub-categories and source country (and the role that quotas may have played); and (3) a comparison of the cost of imported meats and the average domestic price of the like good at the HS 6-digit level. The results suggest that MA opportunities required and created by the WTO have not initiated a process of liberalization or reform in the context of Norwegian meat markets. Only a limited scope of import penetration was permitted and was often use in collaboration with other bilateral and preferential quotas. The net effect of the policy mix continues to resemble a variable levy that limits/controls the volume imported and maintains/stabilizes prices. The analysis of the comparison of the cost of imported meat, inclusive of relevant border, with the average domestic price generally shows that imports under non-discriminating MA entered the domestic market within a 10% margin of the domestic price. There is little indication that rents are generated on imports under multilateral MA, but substantial rents could have been earned under preferential MA quotas.

Key words: Norway, meat product markets, market access, WTO commitments, non-tariff barriers, bound tariffs, preferential quotas, cost of imports, domestic prices

JEL codes: F130, F140, Q170, Q180

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1. Introduction

Prior to the conclusion of the Uruguay Round of GATT (UR-GATT), about 30% of the potentially traded agricultural products were directly restricted through prohibitively high tariffs, trade quotas, and indirectly through other import restrictions or less obvious domestic regulations (WTO, 2008b). The UR-GATT is credited with having introduced market disciplines to agricultural trade through various WTO agreements that comprehensively included agriculture under its scope, rather than treating it as an exemption (Hoekman and Kostecki, 2001).

The WTO Agreement on Agriculture defined domestic support and subsidy concepts relevant to agricultural production and trade, specified the products the rules covered, and required the incorporation of bound ceilings and reduction commitments on support values and the rates of tariffs (GATT, 1993). Applying the GATT logic of tariffs as the preferred form of restriction required the tariffication of quotas and creation of minimum access requirements where market access had previously been limited. For Member states with sensitive agricultural sectors, a pragmatic approach to provide market access was necessary. A tariff-rate quota (TRQ) was conceived as the instrument by which minimum market access would be granted which could gradually liberalize trade and initiate reform of agricultural policies and programs.

Producer support equivalent levels for Norwegian agriculture were among the highest in the developed countries (OECD, 2014), and most of that support was provided through restrictive trade policy, limiting imports to support domestic prices. Thus, Norway was required to apply the most TRQs on agricultural product lines of any Member state as part of its WTO market access commitments, accounting for about 16% of the total TRQs scheduled in 1995 (WTO, 2004).

If the introduction of UR-GATT trade disciplines and market access commitments in agriculture were an important first step for the WTO, then there must be some evidence that trade liberalization resulted in policy reform that promoted more competitive market situations in the sensitive sectors of a WTO-compliant country. Tariffication and minimum market access requirements in a country such as Norway, where product markets are growing and where high-levels of per capita disposable income do not severely constrain individual purchasing decisions (or expenditures) on imported food products, should serve as an appropriate test of whether gradual liberalization of agricultural and food product markets and policy reform have been a consequence. Furthermore, the draft modalities for the WTO agriculture negotiations (WTO, 2008a) under the Doha round would be expected to consolidate the reforms made, strengthen the disciplines and close loopholes that might still exist.

The purpose of this study is to assess the ability of the WTO's trade disciplines and commitments on market access (MA) to foster agricultural liberalization and policy reform in sensitive markets of a Member state. To this end, the domestic market situations of four Norwegian meat markets (beef, pork, lamb/sheep and chicken) and their MA regimes are

studied to analyze meat imports over three periods: (1) a base period prior to the conclusion of the UR-GATT in 1994; (2) the period corresponding with the implementation of WTO reduction commitments, 1995-2000; and (3) the post-implementation period, 2001-12, during which the Doha Development Agenda was defined and modalities were being drafted for implementation of future agricultural commitments.

Firstly, imports of meat are disaggregated into product sub-categories as defined under Chapter 2 of the Harmonized Commodity Description and Coding System (HS) of the tariff nomenclature at the HS 6-digit level, e.g., fresh/chilled or frozen carcasses, bone-in cuts and boneless meat). The imports are analyzed from 1993 to 2012 by country of origin to investigate whether there are emerging trends or patterns in the import of meat products (i.e., fresh/chilled versus frozen meats, or carcasses versus cuts). Attention is paid to how MFN tariff rates and non-tariff barriers (TRQs and preferential quotas) may have affected trade patterns.

Secondly, domestic meat prices (at the wholesale or retail level) are compared with the cost of imported meat on the domestic market, inclusive of the cost of relevant border measures, during 2001-12. If WTO MA commitments were consistent with its rules and disciplines, then the MA regime should have resulted in greater trade liberalization and policy reform through evidence of more competitive markets. For meat product lines with TRQs, there could have been rent-seeking opportunities on sales of imported meat on the domestic market in cases where the quota is not filled. Hence, the comparison of domestic prices with the cost of imports can provide insight into whether there is evidence of non-competitive rent-seeking behavior as it relates to imports.

The remainder of this paper is organized into four additional sections. Section 2 summarizes Norway's MA regime for the four meats within the context of WTO rules and disciplines. A brief summary of previous work on TRQ performance is provided in section 3 before a simple theoretical representation of MA limited by a quota by a small net-importing country is presented. A description of the data and the methodology used to analyze import patterns and compare domestic prices to the cost of imported meat is reported in section 4. In section 5, the important results and implications of the analysis are summarized in the concluding comments.

2. WTO rules and disciplines and Norway's specific MA commitments

The agricultural policy regime in Norway existing prior to the creation of the WTO, effectively insulated domestic meat markets, and trade policy was used to support and stabilize prices above border prices. Trade flows were a means of managing markets through either subsidizing the export of surplus meat or controlling meat imports or both. This kept production at levels higher than would otherwise have been the case (NILF, 2007). Table 1 compares average import prices of meat products entering Norway during 1988-1994 with average domestic prices of meat on the local market at different stages along the marketing channel. The product at the border might not be an exact match of the like product in Norway; however, a higher domestic price of carcass-weight meat relative to imported meat products is an indication of the degree of protection.

[Table 1 about here]

Consider a price comparison of imported fresh/chilled meat with domestic carcasses (beef, pork and lamb/sheep) or whole chicken at the wholesale level. Border prices, the average c.i.f. (cost, insurance and freight) import price weighted on the basis of the volume of imports, and the nominal domestic prices are expressed in local currency per kilogram (NOK/kg). Of all the imported meat, carcasses/half carcasses and whole chickens made up about half of the volume, except for beef where imports were mostly of bone-in or boneless cuts. Imported bone-in and boneless meat cuts are expected to have a higher price than the domestic wholesale carcass price to reflect the cost of the added value. Instead, fresh imported beef, all types, was priced 27% lower at the border, on average, than on carcass-weight wholesale beef. The carcass-weight wholesale price of domestic pork was 73% higher than the average price of imported fresh pork; wholesale lamb/sheep meat was priced 45% higher than imported fresh lamb/sheep meat, all types. For fresh whole chicken, where the comparison is of a more like product, the price differential was 58%.[1]

Following the conclusion of the UR-GATT, the WTO required members to commit agricultural product lines to tariff ceilings (initial bound rates), which were then subject to reduction commitments (resulting in final bound rates). Non-tariff barriers (e.g., quantitative restrictions, variable levies, minimum import prices, discretionary import licensing, etc.) were subject to tariffication and other trade disciplines to create MA opportunities (GATT, 1993). The tariff equivalent resulting from tariffication became the MFN base bound rate from which WTO reduction commitments on tariffs would apply. Tariff equivalents were established on product lines at the HS 4-digit level (or at times at the HS 6-digit level). Tariff equivalence was computed on the basis of the actual average c.i.f. unit values for the importing country (or of a neighboring country) or the average f.o.b. (free on board) unit export values of an appropriate major exporter(s) and a representative domestic wholesale price (GATT, 1993).

Where imports of a particular good accounted for less than 3% of domestic consumption during the 1986-88 UR-GATT negotiation base period, and where policymakers preferred to delay full tariffication (over concern for too rapid an increase in imports or an unacceptable reduction in domestic prices), a TRQ was intended to facilitate the MA opportunity. Two types of multilateral MA opportunities through TRQs were envisaged, minimum market access or current access. For minimum access, the modalities stated that the market access quota (MAQ) volume should be set at 4% of domestic consumption of the base period and increased to 8% by 2000 (GATT, 1993). Imports under the minimum access TRQ are charged a lower tariff, i.e., the in-quota rate. For imports exceeding the MAQ volume, a higher out-of-quota tariff rate applied, usually the MFN bound rate. Under the current access TRQ, the MAQ volume was specified as a maximum volume of imports (a level representing 5% of domestic consumption of the base period) and the current MFN bound rate was typically applied on those imports (Goode, 1998).

In reality, WTO rules were weakened from inconsistencies between the modalities on tariffication and TRQs, and how they were implemented in the country-specific commitments. The modalities specify the required commitments, but what was actually agreed to by each member is what was submitted in their country-specific MA schedules, whether or not it reflected the modalities. Once the MA schedules were adopted, the modalities ceased to be legally binding (Healy, Pearce and Stockbridge, 1998).

Norway's import policy regime on meats consists of border measures that are considered non-discriminating (e.g., the applied MFN bound tariff rates and multilateral

TRQs) or that provide preferential MA (e.g., lower tariffs with or without country-specific quotas). A portrait of the MFN bound tariff rates and TRQs is presented in table 2 for Norway's 24 meat product lines at the HS 6-digit level. Norway committed itself to specific and *ad valorem* bound rates with the right to apply whichever was higher, but in practice, only the specific rates have been applied. The initial (MFN) bound tariff rate is the ceiling to which reduction commitments would apply after 1995. Norway's notified initial bound rates ranged between 405% and 505% on 22 of the meat tariff lines (those other than for frozen chicken), and the final bound tariff rates on meats, existing since 2000, amounted to only a 15% reduction on the initial bound rate. The initial bound rate notified by countries in their MA schedules often exceeded the actual tariff equivalents of non-tariff barriers existing during the 1986-88 base period (Hoekman and Kostecki, 2001). The price data presented in table 1 would suggest this was the experience in the Norwegian case. Nevertheless, the predominant trade policy feature in Norway's meat MA policy regime has been the MAQs under the TRQs or preferential quotas.

[Table 2 about here]

For TRQs, WTO Members had flexibility in calculating the MAQ volumes, which did not always amount to the appropriate level of domestic consumption as stated in the modalities. Norway's current TRQ volumes for meat amount to less than 2% of consumption over the 1986-88 base. Several countries calculated the quota as a percentage of consumption on a commodity at the HS 4-digit level and then allocated the quota at the HS 6- or 8-digit level. Such administrative procedures might have created a smaller MAQ for the most sensitive products (Bureau and Tangermann, 2000). In so doing the range of products covered could also be narrowed and the degree of import competition among product categories and sub-categories would be limited. In table 2 the relevant policy instruments for the TRQs on the 14 meat product lines are reported. For the minimum MAQs, the initial and final quota volumes (tons) are reported along with the in-quota rate in specific terms (NOK/kg). The commitments required the minimum access quota volume to expand during 1995 and 2000. The final quota is the MAQ volume that currently applies. In-quota rates were required to be lower than the MFN bound rates, but did not require a reduction commitment, i.e., the in-quota rate was a fixed rate set in 1995. By contrast, the two product lines with a current access quota specified a quota whose volume did not expand and the in-quota rate was the final bound MFN rate (HS-0203.29, other frozen cuts of pork, and fresh whole chicken, HS-0207.11).

Most countries set their in-quota tariffs as a fixed percentage of the MFN bound rate. This implies that rates were probably set without regard for the volume under the MAQ. If the initial MFN bound rates were inflated during tariffication, then in-quota rates would also likely have been too high. In Norway's case, the in-quota tariff rates on meats were generally set 62% lower than the final bound rate. In all of the cases the in-quota rates exceeded 100% in *ad valorem* terms. Finally, the out-of-quota tariff rate, the MFN bound rate, is generally prohibitive or a redundant level of protection.

WTO rules permitted TRQs to be administered through a variety of methods, i.e., the procedures for allocating import licenses. The WTO Secretariat (2006) conducted a study of the application and performance of TRQs by principal administration method: applied tariffs; first-come, first-served; licenses on demand; auctioning; historical allocation; imports through a state-trading enterprise, etc. In Norway's case, meat import licenses were allocated through auctions arranged by the Norwegian Agricultural Authority (LD, for its abbreviation

in Norwegian, Landbruksdirektoratet).[2] The auctioning of licenses result in a quota fee that adds to the cost of imported meat. These fees ranged from being a negligible cost (averaging to less than 1 NOK/kg over 2001-12 for pork and chicken) to substantial additional costs (ranging from 10 NOK/kg to 30 NOK/kg for lamb/sheep and up to 50 NOK/kg for beef). The rate of the fee is related to the number of firms participating in the auction bidding process and the fill rates of the TRQ (LD, 2014_b).[3]

Norway had one minimum access TRQ that applied for each meat, but the number of product lines at the HS 6-digit level varied. For beef, the TRQ of 1 084 tons applies only on frozen product lines (HS 0202.10, .20 and .30). For lamb/sheep meat, the 206-ton TRQ covers seven HS 6-digit tariff lines, excluding only fresh boneless cuts. For pork and chicken meat, the TRQ covers one HS 6-digit product line, a 1 381-ton quota on frozen pork carcasses (HS 0203.21), and a 221-ton quota on frozen whole chicken (HS 0207.13).

As previously noted, the current access TRQs applied on tariff lines at the HS 6-digit level: 983 tons on other frozen pork cuts, and 145 tons of fresh whole chicken. These quotas were administered through the application of the final bound MFN rate and the volume served as the maximum value that could enter the Norwegian market. Hence, as was argued in Abbott (2002) and Abbot and Morse (2000), MA under the current access TRQ was really no different from an import quota. The current access TRQs were phased out after 2000 at which point only the MFN rate applies on all imports under those two product lines.

WTO rules did not actually require a commitment to ensure that MAQs be filled, only that the opportunity was provided (NILF, 2007). In addition to the lack of clarity on the quota, the modalities set imprecise constraints on the in-quota tariff rate, stating that it should be "low or minimum," leaving scope for interpretation (Bureau and Tangermann, 2000; GATT, 1993). This helps to explain a misinterpretation, noted by Abbott (2002), on the part of some members to establish a MAQ that defined a maximum import volume (with a high in-quota tariff) rather than the intended minimum import volume (with the possibility that imports could increase over time).

In addition to the multilateral MAQs under TRQs, as reported in table 2, Norway has preferential quotas under bilateral arrangements, some managed in the exporting country and others managed by the LD through quota auctions. A duty-free quota of 2 700 tons applies to boneless beef imports from Botswana and Namibia, allocated on a first-come, first serve basis in the exporting country. Under a more recent agreement with SACU (the Southern Africa Customs Union) a separate duty-free quota of 500 tons of beef is allocated through an auction managed by the LD, resulting in an average fee of NOK/kg 4. For pork, there is a duty-free 200-ton EU quota for imports of pork bone-in cuts managed by the LD with an average fee of more than 20 NOK/kg. A 600-ton quota applies to imports of lamb/sheep meat from Iceland subject to a preferential rate of 2.40 NOK/kg, and a duty-free 206-ton SACU quota on lamb imports, both of which were managed in the exporting countries.

Finally, while the TRQs and preferential quotas limited Norway's MA, there are other instruments to facilitate or manage MA through the tariff regime. There are two preferential rates of tariffs that apply under the generalized system of preferences (GSP), and a non-preferential institutional mechanism by which the LD can temporarily adjust the applied MFN tariff rate. One GSP rate provides a 10% reduction on the MFN bound rate, without a quota, and is offered on all meat product lines, except for pork. Given the high MFN rates on meat, MA was not provided through this channel. The other GSP rate is 30% off of in-quota

rates on product sub-categories with TRQs. There have been several instances where the LD has exercised the non-preferential mechanism to temporarily reduced tariffs on meat product lines when domestic prices exceeded some threshold.[4] The instances in which tariffs were temporarily reduced occurred mostly in the case of beef, but also to a lesser extent for imports of lamb/sheep meat and pork (LD, 2014_a).

3. Theoretical background

Much detailed county-specific research has been done to assess WTO disciplines on agricultural support (Orden, Blandford and Josling, 2011). By contrast, such detailed research to assess market access disciplines have either focused on average tariff rates (bound or applied rates), computation of *ad valorem* equivalence or nominal rates of protection, or on TRQ performance. TRQ performance is typically measured as the percent to which a MAQ is filled, i.e., the fill rate. The WTO Secretariat (2002; 2001a; 2000) compiled statistical data on TRQs to promote policy discussion on quota volumes, fill rates and administration methods. Many factors affect fill rates, e.g., the levels of the tariff and/or the quota, TRQ administration, market forces, and the degree of competition in the domestic market. However, a discussion on average fill rates computed across TRQs can have little meaning given that quota volumes across products vary, country market situations differ, and because administration procedures matter.

Empirical studies on the performance of TRQs in the literature either focused on the implementation of TRQs on high-profile internationally traded commodities (e.g., sugar, bananas or rice) or provided an assessment of TRQs in a broader sense (performance in developing or developed countries on the aggregate) by linking fill rates to TRQ administration. Country-specific studies analyzed TRQ administration on import access, e.g., through state-trading enterprises in Korea and Japan (Choi and Sumner, 2000), historical allocation of US import licenses (Skully, 2000), issuance of licenses on a first come, first serve basis in the EU (Bureau and Tangermann, 2000) or a variety of other methods depending on the commodity as in the EU and Canada (Barichello, 2000). Other issues that arise are WTO-consistency of a TRQ with the principles of non-discrimination, transparency and predictability (Abbott and Morse, 2000; de Gorter and Sheldon, 2000; Skully, 2001) and with competition (Moschini, 1991).

In this study, the focus is on the role that non-tariff barriers, TRQs and preferential quotas, play and their ability to either facilitate MA, constrain import competition, and/or encourage rent-seeking on imported meats that are sold on the domestic market. The performance of TRQs and the preferential quotas on meat is analyzed taking into account the broader import policy regime either because the TRQ is not the only MA instrument at play and/or because few tariff lines at the HS 6-digit level are covered by a TRQ. The use of GSP and lowering of the MFN applied rates is also considered in the instances in which they have been used. The analysis begins with an evaluation of the overall MA opportunities created under tariff regimes versus under non-tariff barriers. The analysis is then extended to understand whether TRQs affected MA through its selected application to particular meat product sub-categories during 2001-2012.

The principle feature of Norway's trade policy regime for meat is the administration of non-tariff measures and high applied tariff rates. In figure 1 a partial equilibrium representation of a small net importing market is modeled where the MAQ is depicted as a

simple import quota. In an initial autarky situation the domestic supply of meat, S_{Dom}, would equal domestic demand, D_{Tot}, at a volume, Q_0, and the domestic price, P_D, would be higher than the border price, P_B. Tariff protection would have to be at least equal to $P_D - P_B$. Under a minimum MAQ the imported volume would be added to S_{Dom} to give the total amount supplied on the domestic market, S_{Tot}. Domestic prices would fall to $[P_D]_{TRQ}$, the average domestic price. The domestic quantity supplied, Q_S, would fall to Q_S' and quantity demanded, Q_D, would increase to Q_D' with the difference made up by imports under the MAQ. An in-quota tariff of at most $[P_D]_{TRQ} - P_B$ would be required to ensure a stable equilibrium. This would reflect a quota under competitive market conditions.

[Figure 1 about here]

Another possibility is a situation in which the quota is not filled as a result of non-competitive behavior from the relatively highly protected domestic market. In panel A of figure 2, the initial domestic market situation is as it was in figure 1 with the quota. S_{Dom} and D_{Tot} determine the excess demand (ED) in panel B, where the market for meat at the border is analyzed. The rest of the world has an excess supply, ES, which is horizontal indicating that the border price, P_B, prevailing at a Norwegian port is fixed. Under the standard assumptions, P_B yields the free trade equilibrium quantity imported, $[Q_M]_{FT}$, which is unobserved.

[Figure 2 about here]

In introducing the quota, the ED curve becomes vertical at the MAQ volume, producing the kinked ED_{MAQ}. The cost of imported meat on the domestic market (under the TRQ regime) is P_B plus the in-quota tariff and quota auction fee, or $[P_D]_{TRQ}$. In panel B, if the average domestic market price was the same as $[P_D]_{TRQ}$, then the quantity imported would be $Q_D' - Q_S'$, equal to the MAQ volume and no private quota rents could be earned on imported meat. The rents would go to the government as in-quota tariff revenue and quota auction fees. However, given high levels of import protection, coupled with relatively few players participating in the quota auction under the TRQ regime, an imperfectly competitive market is a potential outcome (Moschini, 1991). In such a situation, the TRQ (complemented by a broader restrictive MA regime) could give domestic producers sufficient protection to raise average domestic prices, $[P_D]_{Avg}$, above the cost of imports, resulting in private rents to producers/importers. The case of a trade protection-induced non-competitive market situation is presented in panel B where the MAQ is underfilled and $[Q_M]"$ units are imported. $[P_D]_{Avg}$ is above $[P_D]_{TRQ}$, such that private agents earn quota rents equal to $[P_D]_{Avg} - [P_D]_{TRQ}$ (represented by the shaded areas in the graphs) and production is higher than in figure 1. The MFN bound rate would be required to be higher than the in-quota rate.

However, because there are other avenues through which meat can be imported onto the Norwegian market (e.g., preferential quotas, preferential tariffs under GSP, and for temporarily lowered applied MFN rates) the analysis is extended beyond TRQ imports. A comparison of domestic prices is made to the cost of imported meats at the HS 6-digit level, inclusive of the cost of the relevant border measures. By taking a more comprehensive approach to include imports by product and by country-of-origin one can get a better sense of the performance of the MA regime and what role the multilateral disciplines have played in import penetration.

4. Data, methodology and analysis

The import data on the volume and value of the four meats at the HS 4- and 6-digit level, as a total and disaggregated by the source country, were obtained from the UN's online Commodity Trade Statistics Database (UN Comtrade, 2014). The database provides disaggregated trade data for meat cuts at the HS 6-digit level starting from 1993. Thus, 1993-94 is used as the base over which to compare imports during 1995-2000 and 2001-12. Import volumes and values are used in the analysis as reported by Norway. Export data to Norway, as reported by trading partners, do not match the import data for the same period. However, the import data do closely match what is reported by Norway in the official MA notification documents that were submitted to the WTO, and as compiled in the UN Food and Agriculture Organization on-line database (UN FAOSTAT, 2014) and the *Statistical Yearbook* of Norway's Central Bureau of Statistics (SSB, 2014). To assess the overall import penetration, the total annual meat imports are averaged for the relevant periods and sub-totals of meats imported. The performance of TRQs is measured by computing fill rates and the volume is compared with imports under TRQ lines that did not count toward the MAQ.

Annual unit c.i.f. import prices are computed from the value of imports divided by the volume of imports for each year. An average import price for the relevant periods is computed for each source country, weighted on the basis of the volume of imports per year. The MFN bound rates and preferential tariff rates were obtained from the Customs Code of the Customs and Excise Tax Authority of Norway (Toll- og avgifts direktoratet, 2014). Information on the temporarily reduced MFN applied tariff rates on meats and the duration of the period over which rates are temporarily reduced are available from the LD website (LD, 2014_a). The data and information related to the meat quota auctions (quota fees, bid volumes and the participants) can also be acquired from the LD website (LD, 2014_b). The information on the in-quota rates, the MAQ volumes and the volume of imports counting toward the TRQ were obtained from WTO MA notification documents (WTO, various years). Finally, wholesale and retail prices of meats on the domestic market are taken from the Norwegian Agricultural Economics Research Institute (NILF, 2014) and SSB (2014). Wholesale prices are for carcass-weight meat in the case of beef, pork and lamb/sheep meat. For chicken, the wholesale price is for whole chicken. The retail prices of meats are defined, respectively, as fresh beef, first quality cut, pork roast cut, and fresh mutton, first quality cut. The domestic prices on cuts of chicken meat are not available.

The Norwegian domestic meat market situations are summarized in table 3 for three periods: 1988-94, as a pre-WTO benchmark; 1995-2000, for the years during which the reduction commitments were implemented; and 2001-12, the post-implementation period. For the four meats, except lamb/sheep, the (simple) average annual production levels expanded, relative to the base period, despite the implementation of reduction commitments. Beef, pork and chicken output increased by nearly 10%, 20% and 60%, respectively, achieving record levels in almost every year during 1995-2000. The production of pork and chicken meat continued to expand in the post-implementation period.

[Table 3 about here]

The rate of growth in meat consumption out-grew the rates of production, except in the case of chicken meat. As a result, Norway's beef, pork, and lamb/sheep markets have been transformed from a net export situation during 1988-94 to a net import situation in beef and lamb/sheep and to a net autarky situation in pork. In the chicken market, the change is

from net importer to an autarky situation. Imports of beef and lamb/sheep meat accounted for almost 9% and 6% of consumption, on average, respectively, during 2001-12.

For the analysis that follows, there are three issues to address: (1) the role that non-tariff barriers played relative to the tariff regime in the overall MA regime for meats; (2) the changes in the composition of trade by product sub-categories and source country (and the role that quotas may have played); and (3) a comparison of the cost of imported meats and the average domestic price of the like good. For the first part of the analysis, table 4 presents import data on the volume imported under a tariff regime (GSP or MFN) and under a quota regime (preferential quota or TRQ), depending on which is the binding constraint, i.e., which policy instrument affects import. This permits an assessment of whether import penetration was facilitated by the quotas (and the TRQ in particular) as intended by the WTO.

For beef, the total volume imported steadily increased over the study period to an annual average of 8 079 tons during 2001-12. Since 1995, about 50% of all beef imports have entered via a quota. Although the MAQ volume under the TRQ expanded as per WTO commitments, the preferential quotas (to Botswana and Namibia, and another for SACU as a whole) had nearly three times the volume as the TRQ and had duty-free access. The high fill rates on the TRQ and Botswana-Namibia quota suggest that the quota regime did facilitate imports to some extent. Nevertheless, the share of imports under lower applied MFN rates or GSP-lowered rates suggests that the beef market was still managed through controlled imports via quotas and that the domestic prices were maintained through the selective lowering of tariffs as the market situation required.

[Table 4 about here]

For pork, by contrast, the total volume imported steadily decreased despite minimum MA commitments, tariff bindings and reduction commitments. Imports under quotas (e.g., the TRQ and an EU quota since 2005) amounted to 30% of total imports since 2001. Imports under the 200-ton EU quota compensated for the reduced imports under the TRQ, resulting in the unchanged annual average volume of import under quotas. The current access quota on other cuts of frozen pork were treated as entering under the tariff regime because the MFN bound rate applied and the quota was non-binding. Thus, the pork market remains heavily protected through the inflated bound MFN tariff rates. The restrictions on import penetration of pork is apparent in how small the TRQ and preferential quota volumes are as a share of consumption and how limited the temporary reductions in applied tariff rates have been.

The volume of imports of lamb/sheep meat steadily increased, but the rate of growth in imports increased more rapidly during 2001-12. Imports of lamb/sheep meat under quotas amounted to 44% of total imports, on an annual average, over both the 1995-00 and the 2001-12 periods. The fill rate on the TRQ, which covers all lamb/sheep product lines except one, remained just under 80%. Under the bilateral quotas, Iceland managed a fill rate of 65% of the 600-ton quota, and SACU 61% of it 206-ton quota. It could be argued that quota access under preferential terms has played a role in expanding imports of lamb/sheep meat, but the continued importance of high MFN bound rates limited MA and supported domestic prices.

Finally, the import volumes of chicken meat have always been small, but have decreased nevertheless. The TRQ with a MAQ of 221 tons is the only quota in operation, accounting for 18% of imports, on average, since 2001. Imports under the current access quota from 1995-00 were treated as imports under a tariff regime because the MFN tariff was

used to administer the MA. Thus, the applied MFN rate was the principle means of managing MA, reflected in the autarkic state of the domestic market.

In summary, quotas and the TRQs in particular, have not really facilitated MA for overall imports of meat in Norway, except for perhaps beef and to a lesser extent lamb/sheep meat. However, it was probably not in the spirit intended by the WTO, i.e., as a means of providing greater MA over time. Preferential quota volumes were larger than the MAQ under the TRQs. Thus, it would appear that the role of non-tariff barriers was to help control import volumes and to help support domestic prices. This point will be elaborated further in the discussion related to the price analysis. Nevertheless, the TRQs might still have facilitated trade in product sub-categories over which TRQs were subjected.

In tables 5-8, the specific role that TRQs may have played in facilitating trade (and affecting the composition of trade by product sub-category) is explored through a more detailed study of imports at the HS 6-digit level. In table 5, beef imports under the HS lines subjected to the TRQ are reported, and overall beef imports are disaggregated into cuts and by country/region of origin to study the composition of import penetration. Only the three frozen beef categories were subjected to the TRQ. The share of total beef imports of meat cuts under TRQ lines (HS 0202.10, .20 and .30) was about 50%, on average, since 1995. Frozen beef imports increased by more than 300%, on an annual average, since 1993-94, and while the MAQ of the TRQ expanded (by 500% since 1995) and resulted in more imports (1 016 tons with a fill rate, on average, of 94%) , the preferential quotas accounted for slightly more imports. Nevertheless, during 2001-12 imports under the tariff regime, either via GSP or via lowered applied tariffs, nearly matched the import volume under the quotas.

[Table 5 about here]

The patterns on imports of beef have changed somewhat at the level of meat cuts and to some extent can be linked to the policy instrument applied. The share of fresh beef imports increased, doubling from 1993-94 to about 50% of total import volume during 2001-12. Carcasses, fresh/chilled and frozen, never a dominant sub-category of cuts, decreased during 2001-12, despite frozen carcasses being covered by the TRQ and the LD consistently lowering the applied MFN rates on fresh carcasses. The meat cut for which imports grew the fastest was fresh bone-in cuts, which was subjected to the MFN bound rate. Fresh bone-in beef cuts, mostly from the EU, accounted for nearly 40% of all imports, up from under 10% in previous periods. Imports of boneless cuts, fresh/chilled and frozen, which undergo the greatest degree of value added, also increased amounting to 60% of total imports during 2001-12. Almost 84% of the imported boneless beef cuts were supplied by Botswana and Namibia (772 and 2 087 tons or fresh and frozen cuts, respectively) and other SACU member states under preferential quotas, or under GSP-reduced tariffs for meat sourced from Latin America. This accounts for the shift away from imports from Europe since the early 1990s.

Thus, while the MAQ of the beef TRQ expanded and was filled at a high rate, the actual amount of beef imported under TRQ product lines was nearly four times the volume that did count toward the MAQ. Moreover, the biggest increases occurred in two lines not covered by the TRQ and the second largest line, fresh bone-in beef, was not subjected to a quota. This suggests that other avenues to import reduced the TRQ's role in facilitating MA, and re-enforces the conclusion that while quotas have been important MA instruments, it is not easily argued that the TRQ or quotas in general were the key policy drivers of beef imports.

The import volume data for pork across the six HS 6-digit product lines and under the TRQ are reported in table 6. Nearly all pork was sourced from Europe throughout the study period. Only 10% of total imports in 1993-94 were of frozen pork carcasses for which there is a TRQ. That share increased to 23%, but that is more a result of the overall reduction in pork imports by 55% (table 4) compared with the 1993-94 average. The fill rates of the MAQ decreased from 68% to 30% and essentially all imports of frozen carcasses counted toward the MAQ. The lower fill rate matched the overall reduction in pork imports. Practically all imports of frozen carcasses entered under the TRQ, suggesting that the TRQ had a prominent role in facilitating MA under this line. Most imports of fresh carcasses occurred in 2007 (94% of the total) when the applied MFN rate was temporarily lowered.

[Table 6 about here]

Imports of fresh pork averaged around 40% of the total since 1995 with little variation in the shares across the periods. Shoulders and hams, both fresh and frozen, have never had a large share of total pork imports. More than half of the import volume in the base period was of frozen other cuts (HS 203.29), but the share of imports fell to 34%, and the volume decreased by 71% on an annual average in 2001-12 compared with 1993-94. The only pork meat cut that experienced annual import growth, on average, was fresh other cuts, HS 0203.19, which amounted to 20% of pork imports. The preferential quota for imports of EU bone-in pork cuts came into being in 2005, which together with the TRQ accounted for 30% of total pork imports. This could account for why these particular lines have the largest shares of total imports. Nevertheless, limited quota application and high bound MFN rates explain the near-autarky situation since 1995 and imply that greater MA was not intended.[5]

Table 7 presents the import data on cuts of lamb/sheep meat. Unlike the other meats, the TRQ was broadly applied at the HS 4-digit level, excluding only fresh boneless cuts (HS 0204.23). Hence, 97% of all imports in 1993-94 were of product lines under the TRQ. During 2001-12, imports were concentrated on four lines: fresh/chilled lamb carcasses (12%), and frozen lamb carcasses (57%), bone-in cuts (13%) and boneless meat (17%). The two tariff lines on sheep carcasses, fresh/chilled and frozen, are omitted from table 7 because the volumes averaged less than one ton annually. Fresh bone-in and boneless cuts each averaged one ton annually. The exclusion of fresh boneless cuts from the TRQ is noteworthy in this regard. For the lines where there was import penetration, the import volumes increased in each case, except frozen bone-in cuts, HS 0204.42.

[Table 7 about here]

Frozen lamb/sheep meat imports accounted for nearly 90% of the total, on average, during 2001-12. Australia, New Zealand and Iceland had been the traditional suppliers of lamb/sheep meat to Norway. Imports from Australia and New Zealand entered under the TRQ or under lowered applied tariffs. The bilateral quota for Iceland facilitated imports of frozen lamb carcasses (an annual average of 392 tons) and amounted to 44% of imports of frozen carcasses. However, since 2001 the EU-27 supplied all 192 tons of fresh lamb carcasses, and 122 tons of frozen meat cuts were exported by Botswana and Namibia through the preferential MA quota. Imports from GSP countries in Latin America amounted to only a small share of imports (63 tons on average).

The expansion of the MAQ to its 206-ton limit, and the average fill rates remaining at just under 80% (and its broad application across meat cuts) would suggest that the TRQ was

an important instrument. However, the MAQ volume is small relative to consumption, i.e., less than 1%, and the actual import volume exceeded the MAQ volume by a factor of about seven, indicating the TRQ was not the principle trade policy instrument facilitating MA. There is no discernable pattern to imports other than to note that imports of fresh cuts are a small share of imports, in contrast with the other meats.

In table 8, the four HS 6-digit lines for chicken meat and the import volume under TRQ is reported. In 1993-94, three quarters of chicken meat imports were of frozen whole chicken, the only line covered by the TRQ. The MAQ expanded from a 120-ton average to 221 tons, but the average fill rate increased to 23% during 2001-12. Imports of chicken meat continued to be mostly in frozen product sub-categories (63% on average), but frozen whole chicken imports accounted for only 39% of the total, a smaller share over a smaller volume imported. Although the current access quota on fresh whole chicken no longer applied after 2000, the MFN tariff rate still applied to imports which increased to a 30% share of imports.

[Table 8 about here]

For chicken meat imports, there was no other quota option and there were no imports from GSP countries. Europe was the predominant supplier of imported chicken meat. The total amount of imported frozen whole chicken exceeded the volume that counted toward the quota, suggesting something other than the TRQ mattered. Nevertheless, the high bound MFN tariff rates have allowed the market to remain in an autarkic state.

The common policy effect that TRQs had on MA across meats was that they applied mostly on frozen product lines (except lamb/sheep meat) and on less processed meats (e.g., carcasses and whole chicken). Fresh imported meat accounted for the smaller share of total imports except in the case of beef (50%). Paradoxically, fresh lamb/sheep meat imports took the smallest share of imports (12%) despite MA through a TRQ. Where processing of carcasses into meat cuts is more extensive (e.g., beef and pork), imports of carcasses were a small share (1% and 39%, respectively). For lamb carcasses and whole chickens, import shares were 70% and 69%, respectively. Although the MFN tariffs on meat products within categories had uniform *ad valorem* tariffs, the application of the escalating specific rates might have favored imports of meat cuts. The preferential quotas served as a means of facilitating imports of meat cuts (except in the case of lamb carcasses). The reduction of applied MFN rates also seemed to serve this purpose while maintaining full control over overall import volume. Hence, the combination of limited TRQs, preferential quotas, and the temporary reduction of MFN rates could be argued to have worked as a variable levy designed to allow imports to maintain a targeted domestic price. The comparison of the cost of imports, inclusive of the cost of relative border measures, with the average domestic price of a like product is a means to confirm this supposition.

The final part of the analysis involves the computation of the differential between domestic prices and the cost of imported meats on 19 of the 24 HS 6-digit tariff lines on the four meats considered in this study. If the cost of imported meat products was reasonably close to average domestic products, then this would support the idea that the market was managed to target a domestic price. The analysis also provides some insight into the degree of competitiveness of imported meat and the potential for rent-seeking behavior on the sales of imported meat on the domestic market. Given the relevance of the quotas (preferential or multilateral TRQs) for the MA that had been granted, the possibility for rent collection was real.

The weighted average c.i.f. unit import volume of meat that is imported at the HS 6-digit level is presented by country of origin in tables 9-12. The border measures that apply to products coming from different countries are added to the c.i.f. import price, i.e. the price at Norway's border, to compute a cost of imported meat on the domestic market, inclusive of the relevant border measures (e.g., quota auction fees, in-quota rates, applied MFN rates and preferential tariff rates). The cost of the imported meat, a weighted average based on volume imported during 2001-12, is compared to the average domestic price of the like good on the domestic market (either at the wholesale level or retail level).[6]

Imported fresh carcasses, sourced only from Europe, cost 43.50 NOK/kg, inclusive of the applied MFN rate, were competitive at the average domestic wholesale price of beef carcasses, 45.21 NOK/kg. Frozen beef carcasses only averaged 1 ton annually and were sourced from GSP countries in Latin America cost 37.10 NOK/kg and would have been competitive with the average domestic wholesale price of 39.37 NOK/kg. Another possibility is the imports could have entered at the applied MFN rate which had been lowered in the years in which carcasses were imported. These imports would have generated rents, but the volume trade is so low. Perhaps the applied rate was lowered to induce more trade from the GSP-receiving countries, but these source countries did not have the exportable surplus available. The TRQ covers frozen beef carcasses, but the in-quota rate and quota fee would have made importing under the TRQ cost about 5 NOK/kg, on average, higher than the average wholesale price. It is also more likely that higher-cost cuts would have entered under the TRQ because of the specific rate and fixed average fee would reduce the cost of higher-valued cuts relative to meat on the carcass. Hence, rather than import beef carcasses, it seems reasonable to deduce that imports shifted toward cuts of beef (Melchior, 2005). Thus, there do not appear to have been any rent-seeking behavior in the import of beef carcasses.

[Table 9 about here]

Bone-in beef imports were supplied almost exclusively from Europe with the residual provided by GSP countries in Latin America. Fresh bone-in cuts from the EU-27 would have cost 92.44 NOK/kg, on average, under the applied MFN rate, and 94.03 NOK/kg under the GSP rate. The cost of imported fresh bone-in beef would have been competitively priced (at a 10.5% margin) compared with an average retail cut price of 102.14 NOK/kg. Frozen bone-in cuts only amounted to 71 tons on average, and imports would have been competitive under the applied MFN rate or the GSP rate. Meat sourced from the EU cost 95.81 NOK/kg (a 6.6% margin) and from GSP countries, at the preferential rate, cost 99.88 NOK/kg. Two notes of caution are in order. First, even at the HS 6-digit level bone-in beef imports cover very different cuts of beef. The domestic retail price is defined a first quality cut and it is not clear whether it is a bone-in or boneless cut. Second, the import cost under a lowered tariff assumes that all imports were subject to the lowest applied rate even when temporarily applied. Nevertheless, because the cost of imports entered relatively lower than the domestic price, it is considered unlikely that the TRQ was used on frozen bone-in cuts to allow its use for importing frozen boneless beef.

Boneless beef was sourced from a wide range of countries. Boneless beef, fresh/chilled and frozen, from Botswana and Namibia averaged 2 859 tons annually. The duty-free 2 700- ton quota on boneless beef (issue on a first come, first serve basis) was essentially filled and the amount over quota could have entered under the SACU quota (which was subject to a preferential tariff rate and a relatively small quota allocation fee, usually well under 10 NOK/kg). Imports from Botswana and Namibia, and under the SACU

quota would have earned substantial rents; however, the rents from imports of frozen boneless beef would have been greater, e.g., 67 NOK/kg on Botswana-Namibia meat and 37.44 NOK/kg from SACU.[7] Temporarily lowered applied MFN rates would have permitted frozen boneless beef to enter from the EU-27 at 105.11 NOK/kg, comparable to the average domestic price. Frozen boneless beef from GSP countries in Latin America would have entered at 107.94 NOK/kg, 5.7% higher than the average domestic price, but competitive with EU meat entering under the TRQ. The TRQ volume of 1 016 tons, on average, most likely would have been used to import frozen boneless beef, costing 109.95 NOK/kg from the EU-27 and 97.90/NOK/kg from Australia and New Zealand. Fresh boneless beef imports from the EU-27 under the applied MFN rate and from Latin America under GSP (about 15% of fresh boneless imports) would have entered substantially above the average domestic price.

In table 10 the cost of imported pork meat is compared with the average domestic prices of pork. Imports of fresh pork carcasses entered at the MFN rate costing 25.40 NOK/kg, on average, compared with an average domestic wholesale price of 28.08 NOK/kg. Most of the imported fresh carcasses during 2001-12 entered in 2007 (94%) when the applied rate was reduced to 9.22 NOK/kg (from 24.64 NOK/kg). Had all imports come under the lower applied tariff, then a margin of 10.6% would have been earned on those imports. Imported frozen pork carcasses entered under the TRQ costing 22.18 NOK/kg with a price differential of 5.78 NOK/kg, on average. However, imports of pork carcasses decreased, suggesting that the price differential was not enough to motivate imports or rent-seeking behavior. It could also be that the price differential was not sufficient to cover the relatively high cost of adding value in Norway, shifting pork imports towards cuts other than hams/shoulders. Imports of fresh/chilled and frozen hams/shoulders were competitive with average domestic prices. The cost of imports of 78.33 NOK/kg, a weighted average of fresh and frozen cuts from the EU-27, was on par with the average retail price of 78.76 NOK/kg, even after applying the MFN rate of tariff. Likewise, the weighted average of other cuts, fresh/chilled and frozen, amounts to 78.32 NOK/kg which also compares closely with the average domestic price. This would suggest that on average rents were not likely earned on pork cuts. By contrast, on the imports of 200 tons of pork cuts under the EU quota there should have been substantial rents earned in some years since 2006, on average. More recently the quota fee (on average more than 20 NOK/kg) would have been similar to the lower applied MFN tariff rate (on average, ranging from 30 to 38 NOK/kg on fresh cuts and 10.5 NOK/kg on frozen cuts).

[Table 10 about here]

Imports of lamb/sheep carcasses were heavily influenced by lowering of the applied MFN tariff rates. Fresh/chilled lamb carcasses entered exclusively from the EU-27, and only occurred in 2011 and 2012 when competitively priced at 59.35 NOK/kg compared with the domestic wholesale price of 62.03 NOK/kg. Frozen lamb carcasses were mostly competitive only at the lower applied MFN rates (46.11 NOK/kg) during 2007-09 during which 97% of the imports entered. Imports from Iceland entered under the preferential quota subject to a tariff set at 2.40 NOK/kg, resulting in an average cost of 41.71 NOK/kg. This should have earned rents to the importer. For the EU and Latin American GSP countries, the applied MFN rate would have frozen carcasses competitively priced (49.27 NOK/kg and 40.27 NOK/kg, respectively) relative to the wholesale price of 51.03 NOK/kg. Despite imports being very competitively priced at the TRQ, the application of specific tariffs would be expected to affect relative prices of meat cuts by category, favoring imports of the more expensive cuts of

meat. In the case of the lamb/sheep market, it would appear as if the TRQ would not have been used to import lamb carcasses.

[Table 11 about here]

Only one ton of fresh bone-in cuts of lamb entered from the EU which would have cost about 5.5 NOK/kg higher than the average domestic price if imported under the TRQ. Frozen bone-in cuts were imported from Australia and New Zealand, the EU-27 and a much smaller share from Latin American GSP countries. Some of the imported cuts would likely have come in under the TRQ, but the lack of detail over what specific cut was imported limits the cost comparison. In each case, the average cost of imported meat was higher than the average retail price of 79.25 NOK/kg. Frozen boneless lamb/sheep meat was sourced from several countries. Imports from the EU-27 and Australia and New Zealand would have likely entered under the TRQ (at a cost of 90.37 NOK/kg and 81.99 NOK/kg, respectively). Imports from Botswana and Namibia would have entered under the preferential MA at 61.34 NOK/kg earning a potential rent of nearly 18 NOK/kg. Imports, fresh or frozen cuts, from Latin American GSP countries would have been competitive with other source countries, but still 16-17 NOK over the average price. Thus, in most cases the average retail price is much lower than the cost of frozen bone-in and boneless meat, suggesting that the price of the average domestic retail cut is not an appropriate like product for comparison with the imported cuts.

The comparison of the cost of imported chicken meat with domestic prices is presented in table 12. There were no imports of fresh whole chicken until 2012. The applied tariff was lowered to 10.50 NOK/kg bringing the cost of importing chicken to 27.22 NOK/kg compared with an average wholesale price of whole chicken at 33.85 NOK/kg. Frozen whole chicken would have entered under the TRQ, the cost of which (28.10 NOK/kg) would have been close to the average wholesale price of 30.61 NOK/kg. The domestic retail prices of cuts of chicken were not available for a direct comparison with the cost of imported cuts of chicken meat. However, imports of meat cuts entered at the MFN rate of tariff, exceeding 200%, which were unlikely to permit any rent potential. The restrictive import regime would likely have supported domestic prices of chicken meat even though there is a modest increase in chicken imports.

[Table 12 about here]

5. Concluding comments

The UR-GATT required tariff bindings and conditions for non-discriminating minimum access TRQs. While Norway has been compliant with implementing its WTO commitments, the weak disciplines have had only a limited effect on providing MA into Norway's meat markets. Autarky market situations continue to exist in the two cases, pork and chicken meat. For beef and lamb/sheep, the increased imports are a result more due to preferential MA quota agreements and, to a lesser extent GSP arrangements, than to the multilateral process. The TRQ as a MA instrument that initiates a process of liberalization and reform has not occurred in the Norwegian context. For a country not disposed to liberalizing markets, WTO rules on MA have provided up to now enough flexibility to avoid real reform.

The MA regime provided only a limited scope of import penetration and was often used in collaboration with other bilateral and preferential quotas. This reflects a policy orientation designed to manage and maintain stability in the meat markets, despite the impressive growth in production and consumption on the domestic meat markets. The import policy regime continues to suggest that policymakers prefer more precise management of imports to deflect direct competition away from domestic producers through: the absence of TRQs that cover most fresh meat tariff lines; the application of the bound MFN rates on most pork meat imports; the use of temporarily reduced applied MFN rates to target specific products at the HS 6-digit level; and the continued use of preferential import quotas. The net effect of this policy mix resembles a variable levy that limits/controls the volume imported and maintains/stabilizes prices. Hence, while compliant, the commitments taken were not very ambitious.

The analysis of the comparison of the cost of imported meat, inclusive of the relevant border measure, with the average domestic price generally show that imports under non-discriminating MA entered the domestic market on par, on average, with domestic wholesale or retail prices or within a 10% margin. The LD's administrative mandate is to temporarily reduce import tariffs to stabilize and lower domestic prices. Whenever the market price exceeded a target price by more than 10% for two consecutive weeks, the LD can temporarily reduce applied rates. Hence, a 10% margin seems within the policy parameters of the LD's tariff administration. Moreover, in cases where the applied MFN rate was temporarily lowered and rents potentially generated, the volume of imports was also low (e.g., frozen beef and lamb carcasses, fresh pork carcasses, and fresh whole chicken). Only in the case of fresh bone-in beef could it be argued that the lowered MFN tariff provided substantial rent collection opportunities because the import volume increased substantially in years in which applied rates were lowered (and the cost of importing was less than average domestic prices).

There is no real evidence to suggest rent-seeking behavior through TRQ auctions. The TRQ could have provided rent potential in three cases (frozen bone-in beef, frozen pork carcasses, and fresh lamb carcasses), but in none of these cases does the volume of import suggest rents drove the import decision. Otherwise, imported meat entered at a premium relative to the average domestic price (e.g., lamb/sheep cuts), suggesting higher valued cuts is what was imported or import patterns were driven by preferential MA. Hence, it is unlikely that the multilateral MA regime produced any serious non-competitive rent-seeking behavior, especially given the LD's ability and willingness to change the applied MFN rate. By contrast, where MA was granted through preferential quotas (e.g., beef and lamb/sheep meat and to a lesser extent pork), there was considerable scope for rent-generation, especially when the LD was not auctioning the quota license because quota auction fees do appear to reflect market value).

Norway has argued at the WTO that its agricultural support and protection levels are a function of the geographical disadvantage of farming in a northern climate or mountainous terrain, and its need to preserve the socio-cultural role that agriculture plays, e.g., providing food security, improving the economic viability of rural communities, and maintaining the landscape and environment. WTO negotiations on new trade rules and commitments were approached mindful of how policy reform can be inconsistent with agriculture's multifunctional role in its society (WTO, 2001b). With higher international commodity prices since 2007 and the increased global attention to food security, Norwegian policy makers may have found a means to strengthen their case for orienting policy and programs toward continuous production of food, taking care of the production base and maintaining a well-

functioning trading system. However, the underlying framework calls for maintaining the self-sufficiency level despite fast growth rates in domestic markets (MAF, 2011).

In future, expanding the use of TRQs to products designated as sensitive, as proposed under the draft modalities of the Doha round (WTO, 2008a), would likely be a continuation of reform avoidance. Substantially lower in-quota tariffs (proposed to be capped at 10%) would be expected to fill expanded MAQs (to about 4% of the 1995-00 level of consumption), but policymakers would likely work with producers to find an acceptable trade-off between quota expansion and the over-quota tariff cut that avoid depressing the domestic prices. TRQs were not the measures to facilitate MA that the WTO intended, and the disciplines under a Doha round agreement would not change this. Such flexibility in the modalities will ensure the necessity of another negotiation round beyond Doha before MA commitments result in domestic meat markets that respond to international prices.

End Notes:

[1] OECD price data comparing aggregated imported meat prices, c.i.f., and domestic farm gate prices during 1988-94 show the price differential approaching 200% in all cases except lamb/sheep, which amounted to 114%.

[2] The Norwegian Agriculture Authority, LD, is an agency of the Ministry of Agriculture and Food, and is responsible for ensuring that all agricultural schemes and regulations are administered, including the auctioning of agricultural import quotas managed by Norway and the temporary reduction of MFN applied tariff rates on agricultural tariff lines.

[3] The TRQ auctions of beef import licenses have been the most active with fewer than 20 accepted bids. The auctions of licenses for importing lamb and sheep meat generally had between 9 and 12 accepted bids, followed by those for pork with between 8 and 13 accepted bids, and for chicken with only between 5 and 10 bids. However, the number of firms participating in auctions for meat import licenses has declined over time, and the actual number of firms participating was smaller than the number of bids because of repeat bids by the same firm. There were also instances in which the same unusual volume was bid by firms with different names, suggesting the same firm (or its subsidiary) entered multiple bids. Nevertheless, the higher the fill rates, the higher was the per unit price bid.

[4] Some farm level prices are negotiated between the government and farmers' union, and are the prices producers are permitted to obtain in the upcoming marketing year, given the market conditions and the restrictions under the current import regime. If the market prices on wholesale prices exceeded negotiated prices by more than 10% for two consecutive weeks, temporary administrative tariff reductions managed by the LD were used to reduce domestic prices (NILF, 2007). Such actions have been taken in the case of meat tariff lines, but no reports were found indicating the volume of imports that entered at the reduced applied rates (WTO, 2008c).

[5] Since 2012, another 800 tons of pork under EU quotas have been allocated through auctions which could help to increase pork imports in years beyond the period of this study. EU quotas for other meats have also been implemented or expanded in 2013.

[6] It is not always possible to directly link imports by country of origin with the specific border measure that was applied, but the average unit costs (combined with country-of-origin information) generally provide enough of a clue to deduce under which MA regime the product entered. A bigger limitation is the comparison of like goods. The average prices of meat products at the retail level can include meat that is either fresh or frozen, can consist of bone-in or boneless meats, and include both high- and low-cost cuts, complicating the price comparison of like products. Nevertheless, the high-cost of importing is likely to have favored high-valued cuts, making the price comparisons of reasonably like products.

[7] The Botswana-Namibia quota is managed from the export side. In conversations with Norwegian government and industry representatives it was noted that the rents went to meat processors there rather than to Norwegian importers. However, the presence of Norwegian interests in the meat processing sectors of these countries makes it difficult to determine to whom the rents actually accrued. The unit import prices appear to reflect the price of the meat without the inclusion of rents. It was not possible to confirm this.

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Table 1. Border and domestic prices, NOK/kg, 1988-1994 annual average

Meat product by cut	Border prices by sub-category[a]			Domestic producer and wholesale prices[b]	
	Total	Frozen	Fresh	Producer	Wholesale
Beef, all types	27.56	27.63	27.00	33.54	34.37
Bone-in		23.50	20.86	-	-
Boneless		27.91	37.26	-	-
Pork, all types	13.12	12.46	17.18	27.92	29.65
Lamb/sheep, all types	19.51	19.26	22.21	27.97	32.31
Chicken, all types	16.24	-	-	-	-
Whole		14.25	22.34	-	35.19
Cuts and offal		-	26.56	-	-

Note: [a] Border prices are annual average c.i.f. (cost, insurance, and freight) import prices weighted by the import volume.

[b] Domestic producer and wholesale prices are based on the carcass-weight price of meat or of whole chicken.

Source: Own calculations using data from UN, Comtrade database; Central Bureau of Statistics (SSB), Government of Norway.

Table 2. Profile of tariffs rates and quotas affecting market access into Norwegian meat markets

HS code	Product description	Initial bound rate		Final bound rate		MAQ volume (tons) of TRQ			Preferential quotas and preferential tariff rate			
		NOK/kg	%	NOK/kg	%	Initial	Final	NOK/kg	Tons	NOK/ kg	Tons	NOK/ kg
0201	Bovine meat, fresh/chilled											
.10	Carcasses	37.97	405	32.28	344	-	-	-	-	-	500	0.00
.20	Bone-in cuts	78.12	405	66.40	344	-	-	-	-	-	500	0.00
.30	Boneless cuts	140.01	405	119.01	344	-	-	-	2 700	0.00	500	0.00
0202	Bovine meat, frozen											
.10	Carcasses	37.97	405	32.28	344	181	1 084	12.15	-	-	500	0.00
.20	Bone-in cuts	78.12	405	66.40	344	181	1 084	25.00	-	-	500	0.00
.30	Boneless cuts	140.01	405	119.01	344	181	1 084	44.80	2 700	0.00	500	0.00
0203	Meat of swine, fresh/chilled or frozen											
.11	Carcasses, fresh	28.99	428	24.64	363	-	-	-	-	-	-	-
.12	Ham/shoulder/cuts, fresh	64.69	428	54.99	363	-	-	-	-	-	-	-
.19	Other cuts, fresh	76.42	428	64.96	363	-	-	-	200	0.00	-	-
.21	Carcasses, frozen	28.99	428	24.64	363	230	1 381	9.28	-	-	-	-
.22	Ham/shoulder/cuts, frozen	64.69	428	54.99	363	-	-	-	-	-	-	-
.29	Other cuts, frozen	76.42	428	64.96	363	983	983	64.96	200	0.00	-	-
0204	Meat of lamb/sheep, fresh/chilled or frozen											
.10	Lamb carcasses, fresh	38.22	505	32.49	429	34	206	12.23	206	0.00	600	2.40
.21	Sheep carcasses, fresh	28.41	505	24.15	429	34	206	9.09	206	0.00	600	2.40
.22	Bone-in cuts, fresh	100.32	505	85.27	429	34	206	32.10	206	0.00	600	2.40
.23	Boneless cuts, fresh	90.54	505	76.96	505	-	-	-	206	0.00	600	2.40
.30	Lamb carcasses, frozen	38.22	505	32.49	429	34	206	12.23	206	0.00	600	2.40
.41	Sheep carcasses, frozen	28.41	505	24.15	429	34	206	9.09	206	0.00	600	2.40
.42	Bone-in cuts, frozen	100.32	505	85.27	429	34	206	32.10	206	0.00	600	2.40
.43	Boneless cuts, frozen	90.54	505	76.96	505	34	206	28.97	206	0.00	600	2.40
0207	Meat of poultry (of the species Gallus domesticus), fresh/chilled or frozen											
.11	Fowls, uncut, fresh	56.94	500	48.40	425	145	145	48.40	-	-	-	-
.12	Poultry cuts, fresh	119.56	500	101.63	425	-	-	-	-	-	-	-
.13	Fowls, uncut, frozen	30.25	341	25.71	290	116	221	9.28	-	-	-	-
.14	Poultry cuts, frozen	78.50	368	66.73	313	-		-	-	-	-	-

Sources: WTO notification documents, Schedule XIV (G/AG/AGST/NOR) and tariff quotas (G/AG/N/NOR/various numbers)

Table 3. Summary of Norwegian meat market situations, 1988-2012 annual averages

	Pre-WTO, 1988-1994	Implementation of WTO reduction commitments, 1995-2000	Post-implementation period, 2001-2012
Beef market:			
Production ['000 tons]	81.86	89.76	84.58
% change relative to base period		9.7%	3.3%
Consumption ['000 tons]	80.35	90.89	92.34
% change relative to base period		13.1%	14.9%
Consumption per capita [kg]	18.86	20.56	19.66
Self-sufficiency ratio	101.9%	98.7%	91.6%
Net trade status, by volume	Exporter	Importer	Importer
Import share of consumption	1.4%	3.7%	8.8%
Export share of production	3.2%	2.4%	0.4%
Pork market:			
Production ['000 tons]	87.82	103.85	118.70
% change relative to base period		18.2%	35.2%
Consumption ['000 tons]	86.32	103.39	118.25
% change relative to base period		19.8%	37.0%
Consumption per capita [kg]	20.26	23.39	25.08
Self-sufficiency ratio	101.7%	100.4%	100.4%
Net trade status, by volume	Exporter	Autarky	Autarky
Import share of consumption	2.7%	2.4%	2.0%
Export share of production	4.4%	2.9%	1.9%
Lamb/sheep meat market:			
Production ['000 tons]	24.70	24.88	24.41
% change relative to base period		0.7%	-1.2%
Consumption ['000 tons]	24.45	24.99	25.75
% change relative to base period		2.2%	5.3%
Consumption per capita [kg]	5.74	5.66	5.48
Self-sufficiency ratio [	101.0%	99.5%	94.8%
Net trade status, by volume	Exporter	Autarky	Importer
Import share of consumption	1.3%	1.7%	6.1%
Export share of production	2.3%	1.3%	1.0%
Chicken meat market:			
Production ['000 tons]	21.24	34.25	60.38
% change relative to base period		61.3%	184.3%
Consumption ['000 tons]	21.60	34.49	60.48
% change relative to base period		59.7%	180.0%
Consumption per capita [kg]	5.07	7.79	12.79
Self-sufficiency ratio	98.3%	99.3%	99.8%
Net trade status, by volume	Importer	Autarky	Autarky
Import share of consumption	1.8%	0.8%	0.3%
Export share of production	0.1%	0.1%	0.1%

Source: Own calculations using databases from UN FAOSTAT and COMTRADE and SSB.

Table 4. Total meat imports under tariff and quota regimes (tons)

	Total volume	Under a tariff regime		Under a quota regime	
		GSP	MFN	Preferential	TRQ
Total imports of beef, all lines					
1993-94	1 321	-	-	-	-
1995-00	3 262	59	1 415	1 476	309
2001-12	8 079	1 119	2 969	2 975	1 016
Total imports of pork, all lines					
1993-94	4 065	0	-	-	-
1995-00	2 543	0	1 995	0	548
2001-12	1 831	0	1 280	135	416
Total imports of lamb/sheep, all lines					
1993-94	392	-	-	-	-
1995-00	432	0	240	98	94
2001-12	1 563	63	820	517	163
Total imports of chicken meat, all lines					
1993-94	394	-	-	-	-
1995-00	289	0	282	0	7
2001-12	279	0	228	0	51

Notes: Excludes current access quotas which were no longer notified after 2000.
Source: Own calculations using data from UN Comtrade and WTO MA notifications.

Table 5. Beef imports under TRQ lines and by source and cut

	Import volume under lines subject to TRQ (HS 202.10, 202.20 and 202.30)						
	Sub-total volume	Under a tariff regime		Under a quota regime			
		GSP	MFN	Prefer-ential	TRQ	MAQ volume	Fill rate
1993-94	988	-	-	-	-	-	-
1995-00	2 154	55	679	1 111	309	632	49%
2001-12	4 045	1 039	895	1 095	1 016	1 064	94%

	Beef imports by cuts					
	Carcasses		Bone-in		Boneless	
Period and trading partner	Fresh 201.10	Frozen 202.10	Fresh 201.20	Frozen 202.20	Fresh 201.30	Frozen 202.30
1993-94						
EU-27	257	14	2	47	43	779
Australia/New Zealand	0	0	0	7	2	101
ROW (diverse)	0	0	0	0	29	39
Total	257	14	2	54	74	920
1995-00						
EU-27	484	61	184	43	12	278
Australia/New Zealand	0	0	0	4	17	565
Botswana-Namibia	0	21	0	9	0	1 081
SACU	0	0	11	0	395	0
GSP countries	0	0	0	0	4	55
ROW (diverse)	0	0	0	0	0	36
Total	484	82	195	56	429	2 016
2001-12						
EU-27	108	0	2 996	65	58	453
Australia/New Zealand	0	0	0	2	1	288
Botswana-Namibia	0	0	0	0	772	2 087
SACU	0	0	0	0	8	108
GSP countries	0	1	7	4	73	1 034
ROW (diverse)	0	0	0	0	0	3
Total	108	1	3 003	71	912	3 973

Source: Own calculations from data in UN Comtrade; WTO notifications

Table 6. Pork imports under TRQ lines and by source and cut

	Import volume under lines subject to TRQ (HS 203.21)						
	Sub-total volume	Under a tariff regime		Under a quota regime			
		GSP	MFN	Prefer-ential	TRQ	MAQ volume	Fill rate
1993-94	413	-	-	-	-	-	-
1995-00	548	0	0	0	548	806	68%
2001-12	421	0	5	0	416	1 381	30%

	Pork imports by cuts					
	Carcasses		Shoulders/hams		Other cuts	
Period and trading partner	Fresh 203.11	Frozen 203.21	Fresh 203.12	Frozen 203.22	Fresh 203.19	Frozen 203.29
1993-94						
EU-27	1 146	413	199	127	31	2 146
Australia/New Zealand	0	0	0	2	0	1
Total	1 146	413	199	129	31	2 147
1995-00						
EU-27	936	548	100	201	36	687
Australia/New Zealand	0	0	0	34	0	0
Total	936	548	100	236	36	687
2001-12						
EU-27	293	419	30	82	370	629
Rest of world (diverse)	0	2	1	0	3	2
Total	293	421	31	82	373	631

Source: Own calculations from data in UN Comtrade; WTO notifications

Table 7. Lamb/sheep meat imports under TRQ lines and by source and cut

	Import volume under lines subject to TRQ (all lines, except HS 204.23)						
	Sub-total volume	Under a tariff regime		Under a quota regime			
		GSP	MFN	Prefer-ential	TRQ	MAQ volume	Fill rate
1993-94	392	-	-	-	-	-	-
1995-00	432	0	240	98	94	120	78%
2001-12	1 562	63	819	517	163	206	79%

	Lamb/sheep meat imports by cuts					
	Carcasses, lamb		Bone-in cuts		Boneless cuts	
Period and trading partner	Fresh 204.10	Frozen 204.30	Fresh 204.22	Frozen 204.42	Fresh 204.23	Frozen 204.43
1993-94						
EU-27	0	0	9	4	0	2
Australia/New Zealand	85	0	0	240	11	29
ROW (diverse)	0	0	0	6	0	0
Total	85	0	9	250	11	31
1995-00						
EU-27	0	3	0	16	0	7
Australia/New Zealand	6	83	10	137	1	52
Botswana-Namibia	0	0	0	0	1	0
Iceland	0	97	0	0	0	0
Total	6	183	10	153	2	59
2001-12						
EU-27	192	4	1	36	0	29
Australia/New Zealand	0	495	0	158	0	66
Botswana-Namibia	0	3	0	0	0	122
Iceland	0	392	0	0	0	0
GSP countries	0	2	0	11	0	50
ROW (diverse)	0	0	0	0	1	0
Total	192	895	1	205	1	267

Source: Own calculations from data in UN Comtrade; WTO notifications

Table 8. Chicken meat imports under TRQ lines and by source and cut

	Import volume under lines subject to TRQ (HS 207.13)						
	Sub-total volume	Under a tariff regime		Under a quota regime			
		GSP	MFN	Prefer-ential	TRQ	MAQ volume	Fill rate
1993-94	294	-	-	-	-	-	-
1995-00	198	0	191	0	7	120	4%
2001-12	108	0	57	0	51	221	23%

	Chicken meat imports by cuts			
	Whole, uncut		Cuts and offal	
Period and trading partner	Fresh 207.11	Frozen 207.12	Fresh 207.13	Frozen 207.14
1993-94				
EU-27	8	294	71	19
US	2	0	0	2
Total	10	294	71	19
1995-00				
EU-27	51	198	2	38
Total	51	198	2	38
2001-12				
EU-27	84	106	19	67
Rest of world (diverse)	0	2	0	1
Total	84	108	19	68

Source: Own calculations from data in UN Comtrade; WTO notifications

Table 9. Border prices, average cost of imported beef and domestic prices, NOK/kg

Period and trading partner	Carcasses		Bone-in		Boneless	
	201.10	202.10	201.20	202.20	201.30	202.30
2001-12 border price, average unit c.i.f. import value:						
EU-27	26.88	-	28.82	30.06	36.09	43.10
Australia/New Zealand	-	-	-	-	-	38.22
Botswana-Namibia	-	-	-	-	73.86	35.13
SACU	-	-	-	-	93.19	51.01
GSP countries	-	17.05	34.27	39.71	79.67	65.87
Weighted avg price	26.88	17.05	28.85	31.48	72.50	44.75
2001-12 average cost of imported meat, inclusive of border measures:						
EU-27						
MAQ under a TRQ	-	-	-	68.77	-	109.95
MFN rate, base/applied	43.50	-	92.44	95.81	119.76	105.11
Australia/New Zealand						
MAQ under a TRQ	-	-	-	-	-	97.90
MFN rate, base/applied	-	-	-	-	-	139.39
Botswana-Namibia quota	-	-	-	-	73.86	35.13
SACU, preferential quota	-	-	-	-	97.19	64.70
GSP countries						
GSP tariff rate	-	37.10	94.03	99.88	133.32	107.94
MAQ under a TRQ		44.20	-	103.67	-	138.06
MFN rate, base/applied	-	31.50	100.67	106.11	190.81	160.10
2001-12 domestic prices at wholesale level (carcasses) or retail level (cuts):						
Wholesale/retail price	45.21	39.37	102.14	102.14	102.14	102.14

Source: Own calculations from UN Comtrade; WTO MA notifications; NILF; LD and SSB.

Table 10. Border prices, average cost of imported pork and domestic prices, NOK/kg

Period and trading partner	Carcasses		Shoulders/hams		Other cuts	
	Fresh	Frozen	Fresh	Frozen	Fresh	Frozen
	203.11	203.21	203.12	203.22	203.19	203.29
2001-12 average border price, unit c.i.f. import value:						
EU	15.20	12.74	25.48	26.38	24.36	23.80
Weighted avg price	15.20	12.74	25.48	26.38	24.39	23.93
2001-12 average cost of imported meat, inclusive of border measures:						
EU-27						
EU preferential quota	-	-	-	-	44.20	46.50
MAQ under a TRQ	-	22.18	-	-	-	-
MFN rate, base/applied	25.40	33.66	74.77	78.95	70.05	83.22
2001-12 domestic prices at wholesale level (carcasses) or retail level (cuts):						
Wholesale/retail price	28.08	27.96	78.76	78.76	78.76	78.76

Source: Own calculations from UN Comtrade; WTO MA notifications; NILF; LD; and SSB.

Table 11. Border prices, average cost of imported lamb/sheep meat and domestic prices, NOK/kg

Period and trading partner	Carcasses, lamb		Bone-in cuts		Boneless cuts	
	Fresh	Frozen	Fresh	Frozen	Fresh	Frozen
	204.10	204.30	204.22	204.42	204.23	204.43
2001-12 average border price, unit c.i.f. import value:						
EU-27	42.11	24.10	47.21	73.19	-	59.18
Botswana-Namibia	-	-	-	-	-	61.34
Australia/New Zealand	-	23.72	-	58.91	-	51.20
Iceland	-	39.31	-	-	-	-
GSP countries	-	21.29	-	61.70	-	72.60
Weighted avg border price	42.11	30.84	47.21	61.47	-	60.72
2001-12 average cost of imported meat, inclusive of border measures:						
EU-27						
MAQ under a TRQ	75.60	36.68	84.72	108.82	-	90.37
MFN rate, base/applied	59.35	49.27	170.54	158.46	-	136.14
Australia/New Zealand						
MAQ under TRQ	-	36.91	-	94.64	-	81.99
MFN rate, base/applied	-	46.11	-	144.18	-	128.16
GSP countries						
GSP rate	-	50.53	-	96.05	-	95.92
MAQ under a TRQ	-	34.13	-	103.28	-	106.46
MFN rate, base/applied	-	40.27	-	146.97	-	149.56
Botswana-Namibia, quota	-	-	-	-	-	61.34
Iceland, preferential quota	-	41.71	-	-	-	-
2001-12 domestic prices at wholesale level (carcasses) or retail level (cuts):						
Wholesale/retail price	62.03	51.03	79.25	79.25	79.25	79.25

Source: Own calculations from UN Comtrade; WTO MA notifications; NILF; LD; and SSB.

Table 12. Border prices, average cost of imported chicken meat and domestic prices, NOK/kg

Period and trading partner	Whole, uncut		Cuts and offal	
	Fresh 207.11	Frozen 207.12	Fresh 207.13	Frozen 207.14
EU	16.72	17.62	46.35	28.60
GSP countries	-	-	-	-
ROW	-	-	-	-
Weighted avg border price	16.72	17.70	46.35	28.66
EU-27				
MAQ under a TRQ	-	28.10	-	-
MFN rate, base/applied	27.22	43.33	147.98	95.39
Wholesale/retail price	33.85	30.61	-	-

Source: Own calculations from UN Comtrade; WTO MA notifications; NILF; LD; and SSB.

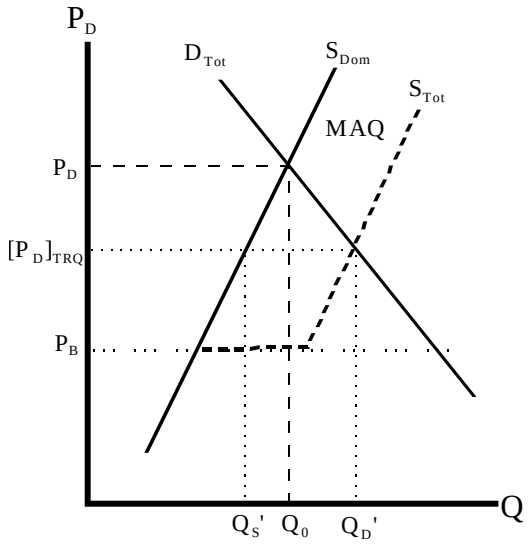

Figure 1. Partial equilibrium of a filled quota under competitive conditions

Panel A. Domestic meat market under a quota Panel B. World market at Norway's border

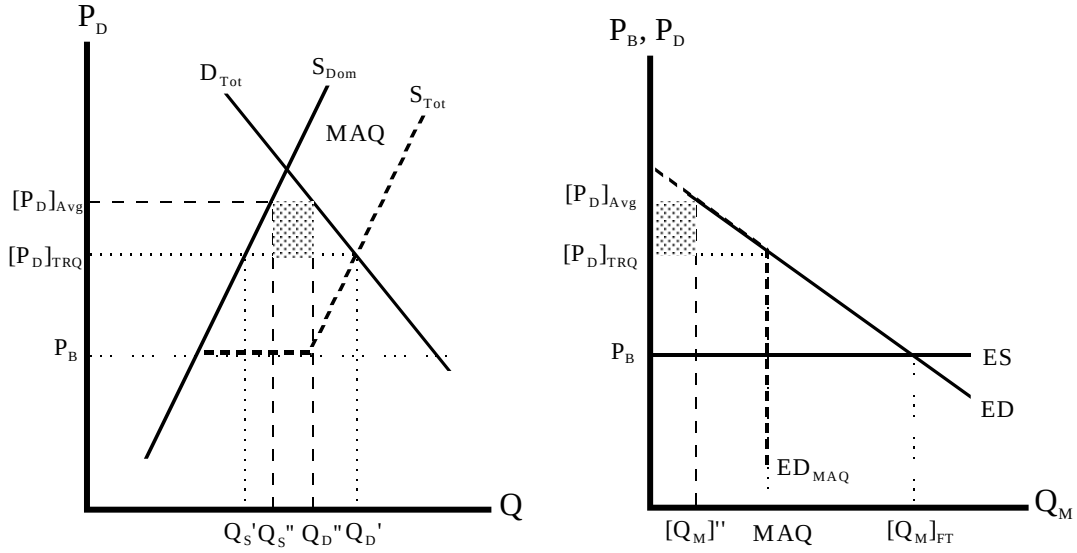

Figure 2. Partial equilibrium of an underfilled MAQ