

Economics of Tariff-Rate Quota Administration

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Introduction

This report examines the economics of administering tariff-rate quotas (TRQs). The Uruguay Round Agreement of the World Trade Organization (WTO) did not resolve the question of what kinds of TRQ administration are consistent with WTO principles, and what kinds are not. The first chapter provides an economic and legal introduction to tariff-rate quotas. It explains how TRQs operate and the rules governing TRQ administration in the WTO, particularly in regard to the two criteria of nondiscrimination and quota fill. These criteria are employed throughout the report. The next chapter introduces the various forms of TRQ administration as defined by the WTO. It presents the distribution of quota-fill rates by method as reported to the WTO for 1995 and 1996, and explains why quota fill is not a reliable indicator of administrative performance.

The following chapter analyzes the various administrative methods by the two WTO criteria for TRQ administration. It first considers the superior efficiency of market allocation; that is, rationing a fixed supply among competing demands by market-determined prices, either auction bids or market-clearing prices, with or without tariffs. Market allocation provides the benchmark to evaluate other allocation methods.

Other methods are divided into two groups: quasi-market methods and discretionary methods. Quasi-market methods can be reduced to algorithms and include first-come, first-served; license on demand; and historical allocation. A brief case study of the U.S. sugar TRQ provides an example of historical allocation. Discretionary methods cannot be reduced to algorithms. The importing country delegates to either a state trading organization or a producer organization control over the volume and sources of in-quota imports. A case study of the Japanese Food Agency's administration of the TRQ for wheat provides an example of import administration by a state trading organization.

Tariff-Rate Quotas

An Economic Definition

A tariff quota is a two-tiered tariff. In a given period, a lower in-quota tariff (t) is applied to the first Q units of imports and a higher over-quota tariff (T) is applied to all subsequent imports. The terms "tariff quota" and "tariff-rate quota" are employed interchangeably in the literature and in this report. Technically, tariff quota, a more accurate description, includes specific tariffs, while tariff-rate quota excludes them.

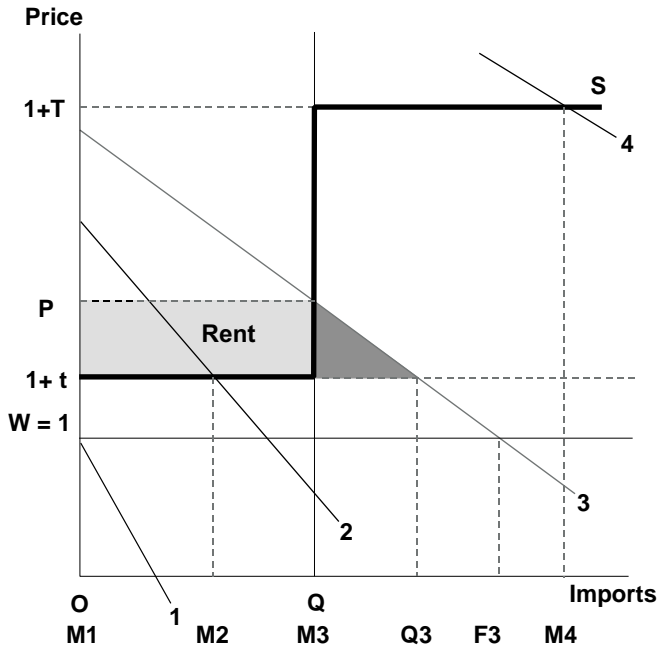
Tariff quotas are not considered quantitative restrictions because they do not limit import quantities. One may always import by paying the over-quota tariff. This opportunity is not available under a regular quota. If an over-quota tariff makes imports prohibitively expensive, it yields the same import volume as a traditional quota. If the difference between domestic and international prices exceeds the over-quota tariff, a tariff quota results in a different volume of trade than does a standard quota. Importers profit despite paying the over-quota tariff. Were a standard quota in place, expanding the volume of imports over the restricted quantity would be impossible. Because of this frequently slight difference, a tariff quota is in theory less restrictive than a standard quota.

A tariff quota can influence the incentive to import (fig.1).¹ The effective supply curve of exports to the

¹This report assumes that the international market is competitive and the importing country employing the tariff quota is "small." A "small country" is one in which changes in its import volume are insufficient to change international prices. These assumptions are reasonable for most existing tariff quotas and they allow us to represent the international supply curve as a horizontal line. To simplify matters further, all prices are expressed relative to W , the relevant, international free-market price. Thus, the international price always equals 1 and the domestic price $P = Pd/W$. This assumption ignores the distinction between specific and ad valorem tariffs. Finally, we assume TRQs apply to homogeneous products. The conclusions derived for homogeneous products also apply to TRQs for heterogeneous products. For any TRQ, allowing heterogeneity increases the risk of underfill and of a biased distribution of trade.

Figure 1

Tariff-rate quotas affect import demand



import market consists of two horizontal lines. The lower line represents the in-quota imports and extends from zero to Q at the price $1 + t$. The other line represents the effective supply of over-quota imports and extends from Q to infinity at the price $1 + T$. A vertical line joins the in-quota and over-quota segments at Q, the in-quota volume.

The effect of a tariff quota on trade depends on the excess demand for imports. The figure shows four possible excess demand conditions. Excess demand curves labeled 1 to 4 represent increasing levels of import demand.

- No trade occurs. $M1 = 0$
- Quota is not binding $M2 < Q$
- Quota is binding $M3 = Q$
- Quota no longer binding $M4 > Q$

In the first case, domestic excess demand is insufficient to support imports at the world price, even without the in-quota tariff, so imports are zero: $M1 = 0$. In the second case, excess demand is sufficient to result in imports of $M2$ but are not great enough to cause the quota to bind: $M2 < Q$. As long as imports satisfy domestic excess demand at a volume less than Q, the tariff quota functions as an ordinary tariff applied at the in-quota rate.

The tariff quota is binding in the third case. If a tariff quota did not exist and merely a tariff applied at the in-quota rate, imports of $Q3$ would result. Although not graphed, $Q1 = M1$ and $Q2 = M2$. Were the tariff applied at the rate of zero, imports of $F3$ would result (F represents free trade). Therefore, $M3 = Q < Q3 < F3$.² If imports in the case of a binding TRQ are less than the volume of imports with an unconstrained in-quota tariff, then $M3$ units of imports must be rationed among $Q3$ units of demand. Rationing is the essence of TRQ administration.

Markets ration available supplies among willing demanders by adjusting prices. This concept is basic to economics: the equilibrium price equates supply and demand. Tariff quotas can be administered using prices and market mechanisms. For example, to cause imports to equal Q, increase the in-quota tariff to $P - 1$. This solution poses at least two problems. First, it requires rather exact knowledge of domestic excess demand elasticity and other market information to determine the correct tariff rate. Second, market conditions can change quickly, so the tariff rate must be updated continually.

The opportunity to import within a tariff quota and to sell on the domestic market is an opportunity to gain a profit without risk on each item imported. This rent equals the difference between the domestic price and the world price with the in-quota tariff: $R = P - (1 + t)$. Raising the tariff to $R + t$, as above, amounts to taxing away the rent, which is difficult. One can establish a market for the right to import within a quota, however. If the right to import within a quota were auctioned, potential importers would pay approximately R for the opportunity to make a riskless profit of R.

Excess demand curve 4 represents a high level of demand, sufficient to sustain imports at the over-quota tariff. The volume of imports is no longer constrained at Q. The domestic price increases to $P = 1 + T$. However, the rationing problem remains for imports within the quota. The opportunity to import at $1 + t$ and sell for the domestic price of $1 + T$ is still available for Q units of imports. Rent equals $T - t = (1 + T) - (1 + t)$, the maximum possible under a TRQ. The rent still must be rationed.

²The shaded triangle represents the deadweight welfare loss of the tariff quota relative to an applied tariff at the in-quota rate. The third section provides an extensive welfare analysis.

TRQ Administration and the WTO

Tariff quota administration is fundamentally a rationing problem. There are many ways to ration. How to determine the way most consistent with WTO principles is the issue. Tariff quota administration concerns how the rights to import at the in-quota tariff are distributed. How these rights are distributed can determine the volume and distribution of *trade*, as well as the distribution of quota *rents*. When considering tariff quotas, one must distinguish between the volume and distribution of *trade* and the volume and distribution of *rents*. The WTO is concerned only with how quota administration influences the volume and distribution

of *trade*; it has no direct interest in the distribution of rents. However, the distribution of rents is important. First, how quota rents are distributed influences the distribution of trade. Administrative methods that separate the distribution of quota rents from the distribution of trade remove the trade-distorting risk posed by quota rents. Administrative methods that award quota rents to in-quota imports encourage a biased distribution of trade. Second, it is the distribution of *rents* that motivates the politics of TRQ administration. The choice of the method of tariff quota administration is a political decision; many competing interests claim entitlement to quota rents.