



# Shadow pricing market access: A trade benefit function approach <sup>☆</sup>

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## Abstract

Appropriate assessment of the social value of market access is at the core of a broad range of inquiries in trade research. We propose a new approach based on a trade benefit function to obtain the shadow value of net imports. Our approach is in keeping with well-established trade welfare measurement techniques, for the trade benefit function is dual to the standard trade expenditure function. This dual relation further allows for a direct retrieval of the shadow values of net imports from the trade benefit function. The operationality of our approach is demonstrated in a series of applications and simulations.

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## 1. Introduction

The importance that countries attach to the value of net imports of traded goods, often referred to simply as market access, surfaces in a wide variety of contexts. A prime example involves multilateral trade agreement such as the GATT/WTO, where actions of trade negotiators are often seen to have been guided by a rule of thumb to secure market access [32]. Market access also takes center stage in the principles of the GATT/WTO such as Article 28 and Article 22.4,<sup>2</sup> which set forth the principles that govern the settlement of trade disputes. Specifically, these principles provide that trade agreement violation by any one party is to be met by an equivalent and compensatory market access re-balancing, so that total trade is left unchanged for all parties concerned [1,46].

This focus on market access in trade agreements is related to at least three important and distinctive lines of research inquiries, each with specific implications which have not yet been fully understood as part of a coherent framework in which the welfare implications of market access can be ascertained. These are: (i) the use of market access as a measure of trade welfare, (ii) the role of market access in shaping incentives to comply with trade agreements, and (iii) the role of market access in the design of trade disputes settlement mechanisms.

First, the emphasis on market access in trade agreement negotiation runs contrary to some of the oldest arguments of gains from trade, which demonstrate the benefit of unilateral trade concessions. Put simply, a country's own welfare gains from "opening up" should not depend on whether other countries erect trade restrictions at the cost of their own self-interests. Furthermore, the value of imports and exports assessed at world prices is generally not well-suited as an indicator of economic efficiency, since differences in preference and endowments [33], policy distortions [9,13] and composition effects [25] can simultaneously confound observed trade outcomes.

By contrast, the vital role of market access in deterring trade agreement violations has been shown in a body of recent studies. [3,4] demonstrate that to require reciprocal exchanges in market access of equivalent value assessed at world prices – referred to as the reciprocity principle – is to effectively rule out the ability of countries to manipulate the terms of trade. By similar reasoning, by countering trade agreement violations with a compensatory displacement of trade of equal value – referred to as the nullification or impairment rule [1,46] – any terms of trade gains that a violation *ex post* can offer will be canceled out [5]. Taken together, the world value of market access does in fact convey important information about aggregate welfare of open economies through the terms of trade, and putting checks on its value can be expected to alter the behavior of self-interested governments.

The third line of inquiry deals with the lack of participation in trade dispute settlements [5–7,14]. Two sets of issues arise here which again call into question the value of securing market access. First, trade agreement violations in both export and import competing sectors are not uncommon despite the nullification or impairment rule [5,45]. Second, when trade violations do occur, participation in trade disputes has been sporadic. That is, there are countries that may appear to prefer non-compliance knowing that any market access gains thus generated may be eliminated. Meanwhile, there are others who do not avail themselves to a re-balancing in market

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<sup>2</sup> To wit, GATT Article 28 legitimizes compensation in the form of the withdrawal of "substantially equivalent concessions", when a trade partner withdraws a previous concession. Article 22.4 of the Dispute Settlement Understanding of the WTO allows an injured party in a legitimate trade dispute to "suspend previous concessions equivalent to the nullification or impairment of benefits".

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