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WTO membership and the shift to consumption taxes

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ABSTRACT

This paper explores tax policy effects and revenue implications of joining the World Trade Organization (WTO) and its predecessor, the General Agreement on Tariffs and Trade (GATT). It documents that countries joining GATT/WTO after 1990 have implemented tariff-cum-tax reforms, lowering tariff rates and raising consumption tax rates, in particular through reform or introduction of a value added tax (VAT). Employing a panel of 97 developing and transitional countries, 31 of which joined GATT/WTO between 1990 and 2011, using robust difference-in-difference specifications as well as the synthetic control method, we find a statistically and economically significant decline in revenues from import duties. This finding supports concerns about revenue losses, but also corroborates the efficacy of the late Uruguay GATT and the WTO trade regimes in promoting free trade among new members. Regarding consumption taxes, we find robust evidence that revenue substitution was successful, since revenue losses from import duties were more than compensated for by enhanced revenues from consumption taxes. With regard to the timing of the revenue effects, our results show that revenue losses in import duties mostly take place at the time of membership or later. Changes in consumption taxation, however, exhibit pre-membership effects, as revenues are increased, and VAT is adopted, often a few years ahead of losses in import duties. No such effects are found before the start of the accession negotiations, indicating that consumption tax reforms are initiated once a country is on the road to GATT/WTO membership.

1. Introduction

Sixty years after it was first introduced in France, the value-added tax (VAT) is currently administered in more than 150 countries and contributes substantially to financing the public sector in many countries (*e.g.*, Tait, 1986; Bird & Gendron, 2007). The reasons behind its proliferation and the precise timing of its adoption have not been analyzed extensively. While the efficiency properties and the revenue potential of the VAT have been widely acknowledged (*e.g.*, Keen, 2006; IFS & Mirrlees, 2011), the VAT's role in replacing lost tariff revenues as a result of trade liberalization has received limited attention in the economic literature.

After various attempts to foster trade liberalization, by 1990 there was a growing consensus among supranational organizations on the importance of combining tariff reform with appropriate fiscal policies to offset revenue losses stemming from tariff reductions (*e.g.*, Linn & Wetzel, 1990; Mitra, 1992). The prevailing concern was that failure to take into account the interdependence of public finances and trade policy could reverse the global trend of declining protectionism, especially in the context of developing countries.[1]

The general recommendation of international institutions such as the International Monetary Fund (IMF) and the World Bank (WB) has been to compensate for the revenue implications of lower tariffs with a concomitant movement towards a broad-based VAT. Besides its revenue potential, the VAT is consistent with the rules of the General Agreement on Tariffs and Trade (GATT) and its successor, the World Trade Organization (WTO).[2] The theoretical rationale for the substitution of import duties with VAT is presented in Hatzipanayotou, Michael, and Miller (1994) and Keen and Ligthart

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[1] In the mid-1980s, for example, the sustainability of trade reforms in Argentina, Turkey, Morocco, Thailand, the Philippines, Zambia and several other countries was compromised by unsound fiscal practices, in some cases leading to subsequent tariff increases (Mitra, 1992; Rodrik, 1992).

[2] The VAT is consistent with the GATT/WTO rules since it does not discriminate between imports and domestically produced consumption goods. Further, since the credit mechanism compensates for taxes paid on inputs, the tax system does not distort the choice between domestic and foreign inputs (Tait, 1986; Schenk & Oldman, 2007).

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(2002). A stream of theoretical literature, however, highlights that the presence of a large informal sector, common in developing countries, could compromise revenue substitution, and, under certain conditions, revenue neutral reforms could entail welfare losses (*e.g.*, Emran & Stiglitz, 2005).

The concern that compensation of lost import duties through VAT would be difficult and would ultimately require higher taxes and consumer prices is not just of theoretical relevance. For successful participation and integration into a free trade regime, it is essential that countries maintain economic and political stability, for which the protection of government revenues is an important precondition. This holds in particular for least developed countries (LDCs) pursuing trade liberalization policies in various forms, and especially through accession to the WTO. The empirical assessment of the effectiveness of the tariff-cum-tax reform recommendation is therefore an important undertaking.

Despite the importance of the issue, there is scant empirical evidence on countries' actual experiences with replacing tariff revenues by consumption taxes and VAT, in particular. In one of the few papers on the subject, Khattry and Rao (2002) test whether total tax revenues are affected by the ratio of international trade taxes to the volume of total trade. This approach has the advantage of using a comprehensive continuous indicator – an implicit tariff or tax rate – that reflects the current state of trade liberalization.[3] Baunsgaard and Keen (2010) use a similar approach and focus on the relationship between total tax collections and tariff revenues in order to estimate the degree of recovery of lost tariff revenues. While results differ with respect to the extent to which revenue substitution took place, a common finding of these papers is that least developed countries face difficulties in recouping revenue losses.

This paper employs a new approach to assessing the role of consumption taxes as a substitute for import duties: Instead of using a tariff-based measure of trade liberalization, it explores revenue effects by focusing on major multilateral trade liberalization events. This approach allows us to explicitly distinguish between trade liberalization policies and their revenue consequences, which is important given the theoretical concerns about revenue implications of general equilibrium effects. More specifically, we study revenue developments before and after countries become members of the GATT and the WTO. Our analysis focuses on revenues from import duties and consumption taxes in 97 countries. Since official statistics on revenues from import duties often include consumption taxes collected at the border, we need to ensure that revenues from consumption taxes collected at the border are counted as consumption taxes, and that revenues from import duties only incorporate tariff revenues. This issue prevented us from using standard databases and necessitated the collection of the revenue data mostly from IMF Statistical Appendices and national statistical offices.[4]

The paper makes three contributions to the literature. First, it shows that GATT/WTO membership is associated with substantial revenue losses from import duties. Some previous studies have indicated that the relationship between GATT/WTO membership and trade liberalization is weak (*e.g.*, Rose, 2004, 2010).[5] This conforms with evidence that before the Uruguay Round of negotiations initiated in 1986, low income GATT contracting parties undertook only minimal steps towards increasing access to their markets (*e.g.*, Finger, Ingco, & Reincke, 1996). Focusing on the more recent period when the trade regime evolved into the WTO, employing a panel of 97 developing and transitional countries, using robust difference-in-difference specifications as well as the synthetic–control method, we find a statistically and economically significant inverse relationship between GATT/WTO membership and import duties, even after controlling for contemporaneous unilateral and regional trade liberalization policies. This result supports the concerns about revenue losses, but also corroborates the efficacy of the late Uruguay GATT and the WTO trade regimes in promoting free trade among new members.

A second contribution of the paper is to explore how consumption tax revenue responds to GATT/-WTO membership, and, given the revenue losses from import duties, whether total revenue increased or declined. The results document a large increase in revenues from consumption taxes. Quantitatively, the estimates indicate that countries joining the GATT/WTO, including least developed countries, have successfully replaced import duties with consumption taxes. This finding supports the view that trade liberalization in the form of the recommended tariff-cum-tax reforms ensures stable revenues.

A third contribution is to document differences in the timing between revenue losses from import duties and revenue gains from consumption tax reforms. The existing literature implicitly assumes that tax reforms follow the development of tariff revenues with the typical presumption that these reforms become effective at about the same time or after revenue losses are realized. Yet far-reaching trade agreements, especially multilateral agreements, often involve intense negotiations. In the course of negotiations, governments obtain an understanding of the scale and scope of the reforms required of them as a prerequisite for membership. Therefore, they might anticipate the revenue losses associated with these reforms and act on their expectations. Ignoring such ex-ante adjustments could lead to biased estimates of policy effects.[6] Since least developed countries often tend to raise a significant share of revenues from import duties, trade liberalization might put their public finances at considerable risk. Hence, these countries could be particularly eager to undertake consumption tax reforms in advance of entering a trade agreement. This could explain why empirical studies find relatively weak revenue substitution effects for low-income countries. While we find that cuts in tariffs mostly take place at the time of membership or later, changes in consumption taxation exhibit pre-membership effects, as revenues are increased, and VAT is adopted, often some years ahead of the losses in import duties. However, no effects are found before the start of the accession negotiations. This suggests that consumption tax reforms and VAT adoption are initiated when a country is on the road to GATT/WTO membership.

The paper proceeds as follows. The next section provides an overview of major developments in tariff policy based on the timing of countries' membership into GATT/WTO. It also provides descriptive evidence on the tariff-cum-tax reforms implemented by members joining GATT/WTO and shows that many countries adopted VAT in response to (anticipated) losses in import duties. The subsequent parts of the paper explore the revenue implications of these reforms. More specifically, Section 3 discusses the methodology of the analysis of revenue effects. The data are described in Section 4. Section 5 reports the empirical results for the effect of GATT/WTO membership on revenues from import duties. Section 6 focuses on the effects on consumption tax revenues. Section 7 explores the revenue substitution of import duties by consumption taxes. Section 8 concludes.

3 For a summary of measures of liberalization used in the literature, see for example Greenway, Morgan, and Wright (2002).

4 Prichard (2016) discusses in detail the various limitations of cross-country government revenue statistics data and the implications for the robustness of findings in various research contexts.

5 Tomz, Goldstein, and Rivers (2007) point out, however, that stronger effects are found if non-member participants of GATT are taken into account.

6 See Malani and Reif (2015) for a discussion of biases arising from anticipation effects in the context of tort reform.