Tariff–tax reforms and market access

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Abstract

Reducing tariffs and increasing consumption taxes is a standard IMF advice to countries that want to open up their economy without hurting government finances. Indeed, theoretical analysis of such a tariff–tax reform shows an unambiguous increase in welfare and government revenues. The present paper examines whether the country that implements such a reform ends up opening up its markets to international trade, i.e. whether its market access improves. It is shown that this is not necessarily so. We also show that, comparing to the reform of only tariffs, the tariff–tax reform is a less efficient proposal to follow both as far as it concerns market access and welfare.
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1. Introduction

A main focus of the piecemeal reform literature is to find simple and easily implementable rules for tariff changes that lead to an unambiguous welfare improvement. Two such rules have been prominent: the proportionality rule, where all tariffs are reduced proportionally, and the concertina rule, where the highest tariff is reduced to the second highest level; see among others Hatta (1977a and 1977b).[1]

'Welfare improvement' is undoubtedly a natural target to have, but this does not preclude policy makers to also have other targets. An example of such a target – that arguably has more political visibility than 'welfare improvement' – is the government budget. As Falvey (1994) has shown, imposing the constraint that tariff reductions must not lower government revenue – which, needless to say, is a highly legitimate target to have when government's finances depend heavily on trade taxes – weakens the welfare results that the proportional and concertina rules were so good in delivering.

To the rescue of simple reform rules, a recent paper by Keen and Ligthart (2002) revives (and extends) a result first proven in Hatzipanayotou et al., (1994): a proportional tariff reduction combined with a point-by-point consumption tax increase delivers both a welfare and a revenue improvement. As Keen and Ligthart (op.

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[1] A large part of this literature focuses on testing the robustness of these two rules in less simplistic models (see, among others, Fukushima, 1979; Diewert et.al., 1989, 1991; Anderson and Neary, 1992; Turunen-Red and Woodland, 1992; and Lopez and Panagariya, 1992).

cit) explain, this proportional tariff–tax reform leaves consumer prices unchanged, and affects only the production sector of the economy. Facing a reduction of implicit production subsidies (due to the reduction of tariffs), the production sector will allocate resources more efficiently, which in turn will lead to a 'production efficiency'-driven welfare gain. At the same time, the reduction of implicit production subsidies will unambiguously increase government revenue — obviously, a "win–win" advice.[2] More interestingly, and perhaps more importantly, it is an advice that currently the IMF and the World Bank have widely adopted in their conditionality agendas.[3]

Due to its practical importance, this simple reform rule clearly deserves further investigation. The present paper focuses on the impact that this reform has on the economy's import value (at world market prices), i.e. the so-called market access issue. Market access is something that policy makers care about when negotiations for tariff reductions are taking place, and it is something that the IMF and World Bank advisors expect to happen when they recommend tariff reductions — after all, advising trade liberalization should end up increasing the value of imports!

Unfortunately, as this paper shows, the coordinated tariff–tax reform rule presented above does not necessarily increase the trade of the country. On the other hand, while there exists a (non-linear) tariff–tax reform that unambiguously increases trade, we show that this reform does not necessarily increase welfare. Furthermore we show that the trade increase that results from implementing the (non-linear) tariff–tax reform is smaller than the trade increase that we get from a reform of only tariffs. This ranking also holds with respect to the welfare effects of the two reforms. In that sense, and as far as it concerns market access and welfare, coordinating tariff–tax reforms do worse than isolated tariff reforms. Indeed, these are not attractive properties of an otherwise popular strategy.

Ju and Krishna (2000) are the first to focus on the market access effects of tariff reforms. They show that the implementation of the two well-known tariff reform rules (proportional and concertina) may easily reduce market access. More recently Anderson and Neary (2007) show that, in general, tariff reforms that lead to

welfare improvements do not coincide with tariff reforms that lead to market access improvements. The present paper shows similar results but for the coordinated tariff–tax reform — a reform that, as mentioned above, is widely used in IMF's and World Bank's stabilization and structural adjustment packages.

2. Framework and analysis

Consider a small open economy that trades $N+1$ goods, with good 1 being the numeraire good. While commodity world prices p^w are fixed, domestic prices are affected by per unit import tariffs t and consumption taxes τ (no taxes are applied to the numeraire good). We denote producer prices of the non-numeraire goods by $p = p^w + t$ and consumer prices by $q = p + \tau$.[4]

The equilibrium condition for the economy is described by the budget constraint that the representative consumer faces, expressed below by using standard expenditure and revenue functions:[5]

$$E(q, u) = R(p) + G \qquad (1)$$

where $E(q,u)$ denotes the minimum expenditure necessary to achieve the utility level u given consumer prices q, and $R(p)$ is the maximum output produced by competitive producers that face prices p.[6] G is the revenue from import tariffs and consumption taxes, and it is assumed to be distributed among consumers in a lump-sum fashion. Moreover, it is defined as

$$G = t'\left(E_q(q, u) - R_p(p)\right) + \tau' E_q(q, u) \qquad (2)$$

where the partial derivatives of the expenditure and revenue functions ($E_q \equiv \partial E / \partial q$ and $R_p \equiv \partial R / \partial p$) represent the compensated demand vector and the supply vector in the economy, respectively. $E_q - R_p$ represents the compensated import demand.

The tariff–tax reform considered in this section is exactly the same as in Hatzipanayotou et al., (1994) and Keen and Ligthart (2002) and it is compactly written as

$$dt = -\theta t, \theta > 0 \text{ and } d\tau = -dt \qquad (3)$$

i.e. a radial reduction of all tariffs by a small amount θ accompanied by an equal increase of all consumption taxes. Since $q = p^w + t + \tau$, this reform will leave

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[2] (Naito 2006) has recently added a third "win" by showing that the above reform also facilitates growth.
[3] Raising a cautious voice to this practice and advocating a more country-by-country adoption of this reform rule, Emran and Stiglitz (2005) show that the existence of an informal sector that avoids the collection of consumption taxes can render this reform welfare reducing.

[4] All vectors are column vectors. Transposition is indicated by a prime.
[5] The price of the numeraire good is suppressed in both the expenditure and revenue functions.
[6] Producers use K inputs of production that are inelastically supplied and therefore suppressed as arguments in the revenue function.