Available online at www.sciencedirect.com

ScienceDirect

Procedia Economics and Finance 36 (2016) 274 – 282

Procedia Economics and Finance

www.elsevier.com/locate/procedia

1st International Conference on Applied Economics and Business, ICAEB 2015

The Impact of Trade Liberalization on Tax Structure in Developing Countries

Mohammad Karimi[a,*], Shivee Ranjanee Kaliappan[a], Normaz Wana Ismail[a], Hanny Zurina Hamzah[a]

[a]*Faculty of Economic and Management, Universiti Putra Malaysia, 43400, Selangor, Malaysia*

Abstract

In this paper, we investigate the impact of trade liberalization on tax structure in a panel 97 developing countries for the period 1993-2012. Our empirical results, based on the fixed-effect estimator, reveal that trade liberalization in the form of trade openness did not seem to have a strong impact on major tax sources of developing countries. Instead, trade liberalization in the form of tariff reduction seems to have a contribution to tax structure in these countries.

Peer-review under responsibility of SCIJOUR-Scientific Journals Publisher

Keywords: trade liberalization; openness; tariff rates; tax structure.

1. Introduction

In the last three decades, there has been a considerable shift towards more liberal trade regimes by many developing countries as part of the recommended policy for lending programs of the World Trade Organization (WTO) and World Bank rules (Jones, Morrissey, & Nelson, 2011). It is widely acknowledged that there are substantial gains from trade that result from trade liberalization, but when fiscal revenue is accounted for, it is not clear what the net welfare effect will be.

The widespread trade reforms in the mid-1980s provide an excellent natural experiment to analyze tax structure changes. These events indeed coincided with significant changes in the tax structures of countries. For example, Tosun (2005) showed that there was a statistically and economically significant move from international trade taxes to domestic taxes on goods and services in non-OECD countries from the mid-1980s. Michael et al. (1993),

* Corresponding author. Tel.:+60-104330772.
E-mail address: karimi.740@gmail.com

Peer-review under responsibility of SCIJOUR-Scientific Journals Publisher
doi:10.1016/S2212-5671(16)30038-7

Hatzipanayotou et al. (1994) and Keen and Ligthart (2002) provided a rationale by arguing that replacement of tariffs with domestic consumption taxes improves welfare and increases revenues. Tosun (2005) argued that, unlike other non-OECD countries, the MENA countries did not increase their reliance on domestic consumption taxes in response to trade liberalization.

While the tax structures of industrialized nations are similar to a certain extent, developing countries' tax structures vary extensively (Tanzi, 1992; Zee, 1996; Tanzi and Zee, 2000). The fare of revenue impact of trade liberalization seems to be considerable in developing countries because for most of them the share of trade tax in total tax revenue is high. In this regards, trade liberalization may possibly lead to changes in the tax structure. It might reduce current trade tax revenue but also lead to a future enhance in domestic taxes. In most developing countries, the major problem of the fiscal consequences of trade liberalization is how to fit the revenue compensation into revenue loss from liberalization. For this reason countries must try to implement a domestic tax reform with trade liberalization which is associated with broad issues of economic policy, tax administration, and tax structure design. The most important and interesting point is to see how tax structure of developing countries changed in response to trade liberalization in order to make the whole tax structure desirable, administratively practicable, and politically feasible. This paper provides an empirical examination of how tax structures of developing countries changed in response to extensive trade liberalization in recent decades.

The paper is structured as follows. The next section explains the methodology and highlights the data. Section 3 reports the empirical results and their interpretation. Discussion and concluding remarks are presented in section 4.

2. Methodology and data

2.1. Empirical model

In order to account for the effects of trade liberalization on tax structure this study employs the basic approach from Tosun (2005), with some modifications. The empirical analysis uses seven major components of total tax revenue based on Government Finance Statistics (GFS) database. Accordingly, total tax revenue (TT) is defined as:

$$TT = IT + ST + PAT + PRT + DGST + ITT + OT \tag{1}$$

Where, where, IT is income, profits and capital gains taxes, ST is social security contributions from both the employees and the employers, PAT is payroll taxes, PRT is property taxes, DGST is domestic taxes on goods and services, ITT is international trade taxes and OT is all other (residual) taxes. Accordingly, tax shares are defined as the ratio of each tax on the right-hand side of the equation (1) to total tax revenue on the left-hand side of equation (1). This indicates that

$$\frac{IT}{TT} * 100 + \frac{ST}{TT} * 100 + \frac{PAT}{TT} * 100 + \frac{PRT}{TT} * 100 + \frac{DGST}{TT} * 100 + \frac{ITT}{TT} * 100 + \frac{OT}{TT} * 100 = 100 \tag{2}$$

Tax structure changes can be examined by using each of the seven tax shares in equation (2) as dependent variables in the following regression equations. Since the tax shares always sum to one, across the revenue share equations, the value of the coefficients of the explanatory variables would also sum to zero; if a variable leads to an increase in the relative reliance on one tax source, it must also lead to the reduction in the reliance on some other source. Analogously, the constant terms coefficients in every equation must sum to 100 percent or one. Since each component of the tax system in every country is part of an optimal political strategy chosen by a government, the equations constitute a system of seemingly unrelated regressions. Efficient estimation of this seemingly unrelated system may be, and is, conducted by using exactly the same set of explanatory variables in each equation (Kenny and Winer, 2006). The following specification is used to run regressions with tax shares as dependent variables to show effect of trade liberalization on tax structure:

$$\begin{aligned} Tax\ Share_{it}^{j} &= \beta^{j} LIB_{it} + \theta_1^{j} GOV_{it-1} + \theta_1^{j} LGDP_{it} + \theta_1^{j} POP65_{it} + \theta_1^{j} LPOPD_{it}{}_{i}^{j} + \theta_1^{j} URB_{it} + \theta_1^{j} AGRI_{it} + \\ &\theta_1^{j} FUEL_{it} + \theta_1^{j} COR_{it} + \theta_1^{j} EDU_{it} + u_i^{j} + \varepsilon_{it}^{j} \end{aligned} \tag{3}$$