Trade freedom and revenue from trade taxes: a cross-country analysis

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TRADE FREEDOM AND REVENUE FROM TRADE TAXES: A CROSS-COUNTRY ANALYSIS

Abstract

In order to estimate the relationship between trade freedom index and revenue from trade taxes we used the data for 104 countries worldwide for 2012. For further analysis we divide countries into two groups according to their income level as specified in the World Bank classification. We find a significant negative correlation between trade freedom and revenue from international trade taxes in low-income and lower-middle-income economies which allowed us to make conclusions about economic policy of countries at different stages of trade liberalization.

Key words:

International trade; trade taxes; trade freedom; developing and transition countries

Introduction

Trade liberalization in countries worldwide in the form of gradual abolition of tariff and non-tariff barriers in foreign trade, generally leads to decrease in revenue obtained from collection of trade taxes. To compensate the revenue loss by domestic tax receipts, a given country should have a well-organized and well-administered tax system. Hence it is possible mainly in developed economies where regulatory function of taxation instead of the fiscal one comes to the fore. While in developing and transition countries taxes on international trade play a significant fiscal role which is primarily conditioned by simplicity of their collection. But at the same time trade taxes significantly distort production and consumption choices; so their replacement by domestic taxes, which impose less distortion or inefficiency costs, is required.

Thus in developing and transition economies it can be assumed that the more liberalized is the economy and the higher is the level of trade freedom, the share of trade taxes in total tax revenue declines more slowly. I.e., *ceteris paribus*, the tax system is able to better adapt to the changes.

Literature Review

The largest part of research studies the impact of trade freedom on economic growth. See for example Krueger (1974), Rivera & Romer (1991), Chheng (2005), Lundstrom (2003), Gorlach & Le Roux (2013), Mahmood (2014) etc. These papers usually use a panel data in order to investigate such impact. They concluded that trade freedom is highly significant and is positively related to economic growth.

Another set of papers studies the influence of trade freedom on certain macroeconomic and foreign trade variables, notably on FDI inflows to 12 developing countries of Middle East and 43 other developing countries for 1995-2006 (Beheshtitabar and Irgaliyev (2008)), on bilateral trade and RTAs, using an unbalanced panel dataset for 33 African countries (Naanwaab & Diarrassouba (2013)), on the economic performance of labor and capital productivity for 18 MENA countries over the period 1995-2009 using nonlinear Panel Least Squares regression (Emara (2014)) etc.

The investigations studying the impact of trade freedom and income inequality should be emphasized separately.

Norhazlin (2010) examined the issues of income inequality and trade freedom towards economic growth in developing countries using the World Development Indicators and 2009 Index of Economic Freedom data. The results of the study established that in some cases trade freedom will increase income inequality.

Batuo and Asongu (2012) using panel data of 26 African countries spanning the period 1996-2010, examined the effect of liberalization policies with particular focus on financial, trade, institutional, political and economic liberalizations on income-inequality. They applied two methods, the dynamic panel econometric method and the “before and after” approach. Generally, their findings tend to suggest that overall the liberalization policy reforms have increased income inequality in African countries. Crechet (2012) provided an empirical analysis for 45 developing and emerging countries covering a period of 1990-1997 and regressed synthetic indexes of inequality on trade, in interaction with a measure of financial development. He concluded that trade freedom increases income inequalities in some developing countries. Pérez-Moreno & Angulo-Guerrero (2012) examined the relationship between economic freedom and income inequality in the 28 EU countries using panel data for the period 2000-2010. They suggested that economic freedom seems to entail greater income inequality. But not all areas of economic freedom affect income distribution similarly. Thus while government size and regulation appear to be robustly associated with income inequality, legal system and property rights, sound money, and trade freedom are not significantly related with income distribution in the EU countries.

Akin et al. (2014) investigated the relationship between economic growth and economic freedom for different income groups using the data for 94 countries covering the period 2000-2010. They found a statistically significant positive relationship between the level of trade freedom for all income groups and economic growth.

Empirical research estimating the impact of trade freedom on tax revenue is generally provided for selected countries, where such influence is significant. Typically this is true for African economies. See for example Kabbashi (2005), Pupongsak (2009), Mushtaq et al. (2012), Nwosa et al. (2012), Gaalya (2015) etc.

The cross-country studies of Baunsgaard & Keen (2010) and Cage & Gadenne (2014) deserve a special mention. Baunsgaard & Keen (2010) used a panel data for 117 countries over 32 years in order to estimate the compensation of lost revenue (from trade liberalization) by income obtained from collection of domestic taxes. They found that high income countries have been recovered those revenues while middle and low income countries have been not.

Cage & Gadenne (2014) used a novel dataset on total and trade tax revenues covering 130 countries from 1792 to 2006 in order to compare the fiscal cost of trade liberalization in developing countries and in today’s rich countries at earlier stages of development. They concluded that trade liberalization led to larger and longer-lived decreases in total tax revenues in developing countries since the 1970s than in rich countries in the 19th and early 20th centuries.

Data

The trade freedom variable index for 2012 is extracted from database of the Heritage Foundation. According to their methodology, trade freedom is a composite measure of the absence of tariff and non-tariff barriers that affect imports and exports of goods and services. The trade freedom score based on two inputs: the trade-weighted average tariff rate and non-tariff barriers.

Share of taxes on international trade in total revenue data come from the World Bank's World Development Indicators (WDI).

Results and discussion.

Figure 1 illustrates the visual correlation between the share of taxes on international trade in total revenue for 2012 and the trade freedom index for the whole sample of 104 countries. A higher value of trade freedom index equates to lower tariff and non-tariff barriers.

This is not surprising that developed countries are situated in the lower right corner while most of developing and transition economies are located in the center part of the graph.

So the highly liberalized foreign trade translates to a decrease in trade tax revenue up to their absence like in Malta, Austria, United Arab Emirates, and Singapore etc.

Then it was of our particular interest to investigate more deeply the relations between share of taxes on international trade in total revenue and the trade freedom index for developing and transition economies.

According to the classification of countries by their level of income proposed by the World Bank, we chose from the whole sample the low income and the low middle income economies as on 2012.

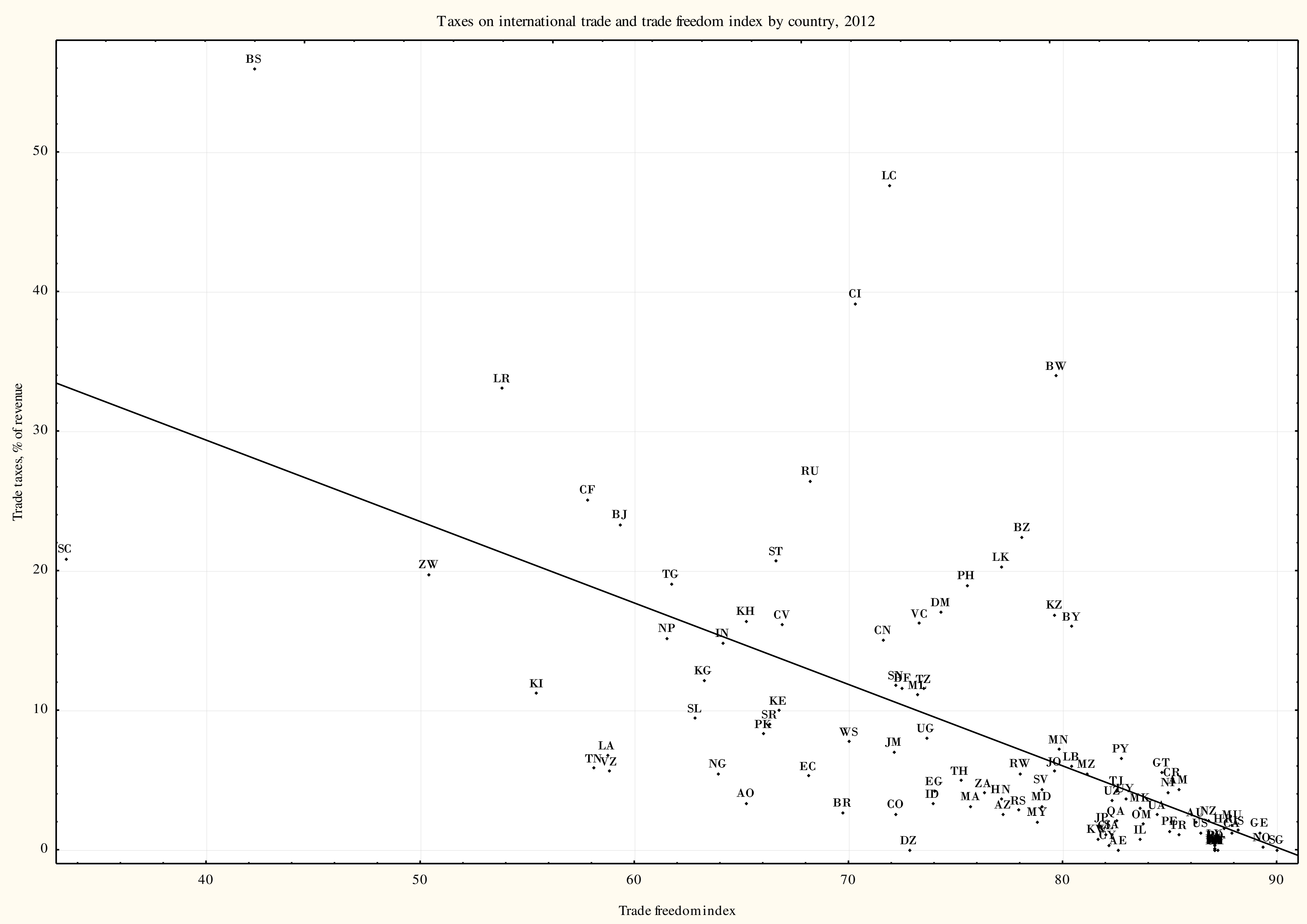

Fig. 1 Taxes on international trade vs. trade freedom by country, 2012

Figure 2 presents the correlation between the share of trade taxes in total revenue and the trade freedom index for these 39 economies. It should be noted that in developing and transition states levying of trade taxes is the prevailing measure of customs regulation by contrast with non-tariff barriers applying in developed countries.

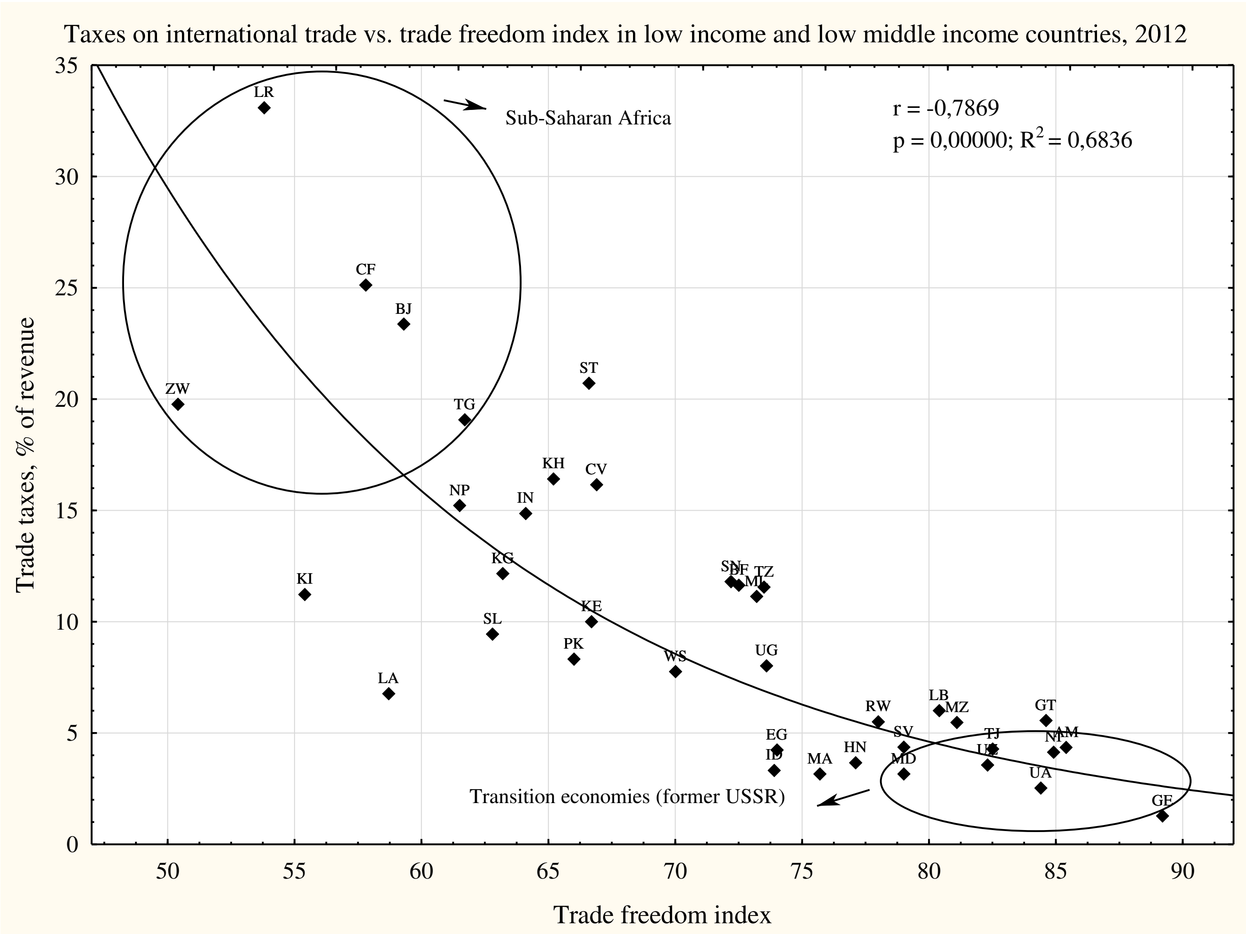

Fig. 2 Taxes on international trade vs. trade freedom in low income middle and low middle income countries, 2012

As it can be seen from the Fig.2, here is a significant exponential relationship with negative slope and consequently with negative coefficient for the independent variable.

It will be observed that the division by geographical distribution is sufficiently clear. Thus, .in the upper left corner there are a group of Sub-Saharan

African countries: Liberia, Zimbabwe, Benin, Togo and Central African Republic. For these economies is typical the high level of trade taxes and low level of trade freedom. In the lower right corner of the graph there are located transition economies – countries of the former USSR: Moldova, Georgia, Ukraine, Armenia, Tajikistan and Uzbekistan. So they are closer to the developed countries with regard to ratio of the trade tax revenue to the level of trade freedom.

The same analysis made for the upper middle income and high income countries showed that the bulk of these economies are located in the lower left corner of the graph as on the Figure 1., but there is no clear relationship between variables.

The properties of exponential relationship as applied to this graph imply that the rate of decline of revenue obtained from collection of trade taxes falls with proportional increase of trade freedom index. This means that the higher is the level of liberalization, the share of trade taxes revenue in total receipts falls more slowly.

This brief analysis provided evidence that among low income and low middle income economies transition countries have more flexible tax system (comparing with other developing countries) which supposes their possibility to compensate the revenue loss from trade liberalization by receipts obtained from collection of domestic taxes, like high income (developed) countries.

Conclusion

In the paper we empirically tested the assumption that in transition economies the tax systems are more flexible comparing with other developing and least developed countries which in turns allows more efficient reallocation of sources of revenue.

At various stages of trade liberalization the tariff policies of low income and low middle income countries differ.

Developing and especially least developed countries maintain the high level of taxes on international trade since the tax systems in such economies are underdeveloped and they are able to generate returns primarily from easily collected indirect taxes like trade taxes. For this reason these states cannot efficiently promote trade liberalization, by eliminating tariff barriers.

For that matter transition countries are closer to developed ones with upper middle and high income levels. Their tax systems allow faster shifting from fiscal to regulatory tools of taxation compared with other developing countries.

As it was mentioned above the properties of exponential relationship relating to this topic imply that decrease of level of trade freedom will determine the increase at a quick rate the share of trade taxes in total revenue.

Defining whether this increase is induced by direct rise of amounts of collected trade taxes or by "collapse" of economics at large accompanied by reduction of domestic tax and non-tax revenue, requires the further investigation.

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