Comment on "FDI and Taxation: Some Methodological Aspects and New Evidence for Central and Eastern European Countries"

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1. Introduction

I will start this discussion with some remarks on effective tax rates. I will focus here on different methods to compute effective tax rates, their respective field of application, their advantages and disadvantages. Thereafter, I will comment on the relationship between tax rates and FDI.

2. Effective Tax Rates

It is widely accepted that statutory tax rates do not appropriately reflect the tax burden on companies. For example, they do not take into account the tax base, or different depreciation allowances. As a consequence, various measures of effective tax rates were introduced.

The methods to compute effective tax rates can be distinguished on a time dimension and on an aggregation dimension. With regard to time forward and backward looking methods are distinguished, the former compute the effective tax rates for a hypothetical project whereas the latter use data to compute effective tax rates. Depending on whether aggregate data or firm level data are used, we speak respectively from macro and micro methods. Since the combination macro and forward is not possible, the following three combinations remain: macro-backward looking, micro-backward looking, and micro-forward looking. The decision on which of this measures should be used hinges on the question one wants to answer.

Another approach is to simulate the activities of a firm and compute the resulting tax payments. A well known example is the European Tax Analyzer (Jacobs and Spengel, 2001). Since this approach differs somewhat from the other approaches, I will not consider it here.

2.1 Macro-Backward Looking

This method calculates the effective tax rate by dividing tax payments by a measure for corporate earnings. Tax payments are taken from the corporate income tax statistics and the tax base is derived from the System of National Accounts or a similar statistic.

Macro-backward looking effective tax rates are a useful tool to analyze the distribution of the tax burden. For example, by calculating the effective tax rates on capital and labor it can be analyzed whether they are different across countries or whether their proportion has changed over time.

But, this method has several disadvantages. With regard to the tax base an appropriate measure must be identified. Here a candidate is the gross operating surplus. A problem arises due to the specification of the System of National Accounts as it is not possible to disentangle the contribution of corporations from those of other companies to this tax base.

In the present context the more severe drawback is that a backward looking method is not useful to analyze the effects of the tax system on FDI decisions, because investment projects are forward looking decisions. Hence, taxation in the past is not of much help.

2.2 Micro-Backward Looking

Micro-backward studies compute the effective tax rate from financial statements of companies. The method allows for example to compare the effective taxation of companies with different size or in different sectors. The micro-backward looking method does not allow isolating different tax systems, since the taxes a multinational company pays do not only depend on the tax system of its home country but also on the tax systems of the other countries the company is active in. Since this is also a backward looking measure, it may likewise lead to an incorrect characterization of the tax burden on new investment projects.

2.3 Micro-Forward Looking

This is the method used in the paper by Bellak, Leibrecht and Römisch, therefore I will discuss it in more detail. This method derives effective tax rates for a hypothetical investment project using the provisions of the tax code. It originates in King and Fullerton (1984) who introduced the effective marginal tax rate (EMTR) for marginal investments projects (i.e. investments that just cover the cost of capital). A modification due to Devereux and Griffith (2003) allows assessing the effective tax burden on inframarginal (i.e. profitable) investments. The latter measure is called effective average tax rate (EATR). Since the depreciation allowances of the tax code depend on the type of asset (e.g. machinery, buildings)

and deals differently with the forms of financing (retained earnings, debt, new equity) effective tax rates for each type of asset and each form of financing are calculated in a first step. The overall effective tax rate is a weighted average of these rates.

As a result of its forward-looking character this effective tax measure should be the most appropriate one for determining the impact of the tax system on investment. But, it also suffers from a number of shortcomings.

Since the calculations are somewhat complex anyway, important aspects of the tax system are usually not taken into account. These are for example untaxed reserves, risk, tax enforcement and the treatment of losses. The possibility that losses may occur is not even considered.

Many parameters are chosen somewhat arbitrarily and are taken as the same across countries and over time. These are for example the after tax rate of return required by the investor, the types of assets to include, the weights for the assets and the sources of finance, the nominal interest rate, the economic depreciation rate, the inflation rate and the exchange rate. Assuming an equal and constant rate of inflation may be justifiable for the EU-15 countries but it is certainly not an appropriate assumption for the New EU Member States.

The same weights of assets and sources of finance are used in all countries to derive the overall effective tax rate. This is done to isolate the effects of the tax system, i.e. to analyze how the effective taxation of two companies with the same characteristics would differ in two countries. But, this neglects that the financing and asset structure of a company is also influenced by the tax system. Hence, it is quite likely that a company would choose different asset and financing structure depending on the host country.

3. Taxes and FDI

Bellak, Leibrecht and Römisch point out that the elasticity of FDI flows with respect to taxes requires both an appropriate measure of the tax burden and of the investment activities of multinational companies. Concerning the measure of the tax burden the meta-analysis by De Mooij and Ederveen (2003) shows that the median of the semi-elasticities in the studies they consider is –3.3 in the sample without outliers, but the semi-elasticities range from –22.8 to +13.2. The elasticity clearly hinges on the tax measure used. For example the typical semi-elasticity in studies that use the statutory tax rate is –1.2 whereas for the EMTR this value is –4.2 and for the EATR –9.3. Hence, according to this analysis effective tax measures have a more pronounced impact on FDI than the statutory corporate tax rate. These numbers clearly indicate that – even though it may be controversial which tax measure is the most appropriate one – the choice of the tax rate clearly matters.

Additionally, it would be interesting to account for tax incentives in the computation of the effective tax rates. Tax incentives for investment are offered by many of the New Member States and they can have a non negligible effect on effective tax rates. Since a company that knows whether it is eligible for some tax incentives will use this information in its investment decision, the effects of tax incentives should be taken into account in the analysis of FDI flows. Thereby one has to account for that the attractiveness of such tax incentives depend on whether the home country uses a credit system or an exemption system. A problem one can cope with by using bilateral effective tax rates. Furthermore, the tax incentives vary according to the requirements for eligibility. To some of them nearly all companies have access others require a substantial investment. Analyzing the investment decision of companies would therefore require firm level data.

4. Probability of Investment

Another strand of literature analyzes the impact of taxation on the probability that a Multi National Company chooses a certain location for its investment. For example Devereux and Griffith (1998) showed that the EATR has a significant negative impact on the probability that a U.S. firm chooses France, Germany or the UK as a location.

Buettner and Ruf (2004) use firm level data to investigate the impact of taxation on the decision of a German multinational to invest abroad. They reach the interesting result that EMTRs have no predictive power for location decision whereas statutory tax rates and EATRs exert strong effects. Concerning the effective tax rates this result is consistent with the common view that EMTRs are an important determinant of the size of a plant but the location decision itself depends on EATRs.

An analysis for Austria (Beer et al., 2004) showed that the drop in the EATR resulting from the lowering of the corporate income tax by 9 percentage points increases the probability that Austria is chosen as an investment location by 1 percentage point. The low impact of the reduction in the corporate income tax rate is due to tax cuts in neighboring countries.

References

Beer, C., B. Felderer, G. Grohall, C. Helmenstein, E. Krylova, A. Schnabl and L. Strohner (2004) Ökonomische Wirkungen aktueller Steuerreformmaßnahmen, Studie des Instituts für Höhere Studien im Auftrag des Österreichischen Wirtschaftsbundes, Wien.

De Mooij R. A. and S. Ederveen (2003) Taxation and Foreign Direct Investment: A Synthesis of Empirical Research, International Tax and Public Finance 10, p.673–693.

Büttner T. and M. Ruf (2004) Tax Incentives and the Location of FDI: Evidence from a Panel of German Multinationals, ZEW Discussion Paper No. 76–04, Mannheim.

Devereux, M. and R. Griffith (1998) Taxes and the Location of Production: Evidence from a Panel of U.S. Multinationals, Journal of Public Economics, 68, 335–367.

Devereux, M. and R. Griffith (1999) The Taxation of Discrete Investment Choices, Institute for Fiscal Studies, Working Paper Series W98/16.

Devereux, M. and R. Griffith (2003) Evaluating Tax Policy for Location Decisions, International Tax and Public Finance 10, 107–126.

Jacobs, O. and C. Spengel (2001) Effective Tax Burden in Europe, Heidelberg/New York.

King, M. A. and D. Fullerton (1984) The Taxation of Income from Capital, Chicago.