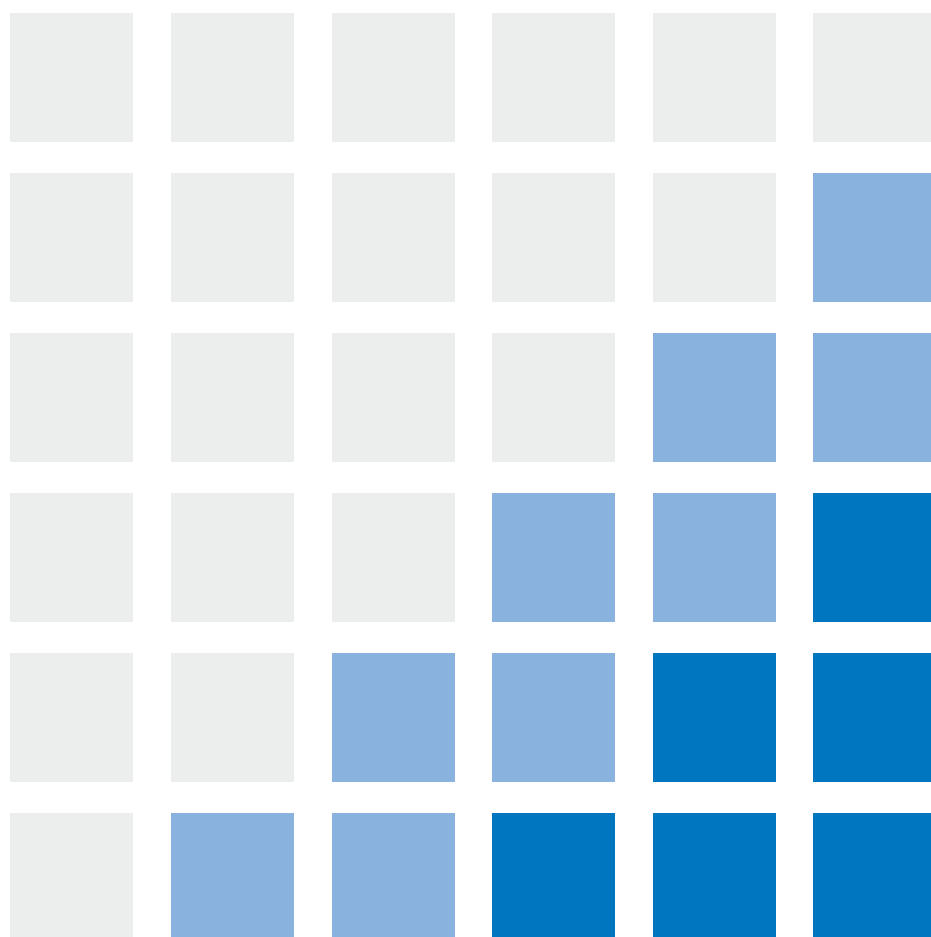


BAK TAXATION INDEX: METHODOLOGY

Short Description



Effective Tax Burden on Companies: Methodology

The common approach introduced by Devereux and Griffith forms the methodological basis for the determination of companies' effective tax burdens. We measure the effective average tax rate (EATR) on a profitable investment that yields a standardized pre-tax rate of return on investment of 20%. Furthermore, we measure the effective marginal tax rate (EMTR), i.e. the relative tax-induced wedge between the minimum pre-tax real rate of return and the post-tax real rate of return required by the shareholder. We assume a corporation in the manufacturing sector which undertakes a particular mix of investments and uses a particular combination of sources of finance. The types of investment assets considered are industrial buildings, intangibles (patents) bought from third parties, machinery, financial assets and inventories. The types of assets are weighted equally, i.e. each type of asset is assigned a weight of 20%. The financing policies of the corporation take into account three different sources of finance which are, sequenced by weight: retained earnings (55%), debt (35%) and new equity capital (10%).

The calculations take into account the most relevant tax provisions of the national tax systems. With respect to the taxation of corporate profits, the approach considers statutory corporate profit tax rates as well as surcharges and some other special rates for particular types of income and expenditures. It also takes into account the most important features of taxes on capital, e.g. real estate taxes. Generally, it assumes the corporation earns profits and capital at a level where the top-bracket statutory tax rates are applied. Regarding the definition of the taxable base, the relevant rules concerning depreciation and amortisation allowances, valuation of inventories and interest deductibility in case of debt financing are considered. Additionally, the approach includes some important and generally available investment incentives.

Effective Tax Burden on Highly Qualified Manpower: Methodology

The tax burden on highly qualified manpower is measured by means of a simulation model developed at the ZEW. The model allows for consideration of several components of the remuneration package, family status, and varying levels of compensation. The concept parallels established methodologies for the quantification of company tax burdens by calculating the effective average tax rate (EATR) as an indicator of the tax burden. The basic idea of our approach is that employers compete for highly qualified employees and, therefore, they have to compensate these valued employees for taxes on labour income and for tax-like social security contributions which employees must pay. As a consequence, the tax burden of different regions is compared for a given *disposable income* after taxes which highly qualified employees can earn at all locations.

The model determines the tax burden in two steps. At first, the tax on a typical qualified employee's income before taxes (the *employment costs*) is assessed. If the resulting income after taxes falls short of (or alternately, exceeds) the required disposable income, the assessment is then repeated for higher (or alternately, lower) employment costs. The model then iterates until the employment costs necessary to obtain the predetermined disposable income are found.

The effective average tax rate (EATR) is calculated by dividing the difference between employment costs and disposable income (the tax wedge) by the employment costs. The EATR thus expresses how much the employer has to expend in addition to the predetermined disposable income. For example, if an employee with a disposable income of EUR 100,000 faces an EATR of 25%, this means that the tax wedge (EUR 33,333) amounts to a quarter of the employment costs (EUR 133,333). In this context, taxes refer to all income taxes including surcharges and state and municipality taxes, as well as payroll taxes paid by the company. Social security contributions are part of the tax burden inasmuch as the employee does not earn a specific, individual benefit by paying them. According to the basic idea of competition, there is little risk of unemployment for the kind of qualified employees considered in this study. Accordingly, contributions to unemployment insurance and, with a similar reasoning, contributions to accident insurance, are defined as taxes. In contrast, health insurance contributions are considered not to be taxes since they are deemed to provide a genuine insurance.

From 2011 on, the conversion of the disposable income from Euro to the respective local currency is based on a rolling average of the exchange rates in the preceding four years. Therefore, changes in the effective tax burden are not only attributable to changes in tax and social security systems; in non-Euro countries they are also attributable to changes in the exchange rate. Before, constant exchange rates used to be assumed. The conversion rate for Switzerland, e.g., was 1.466 CHF/EUR until 2009; in 2011 it is 1.485 CHF/EUR. While until 2009 the effective tax burden was based on a disposable income of CHF 146,600, in 2011 the disposable income is CHF 148,500. Given a

system of progressive tax rates, the effective tax burden will then increase due to the increased local currency reference income.

Sustainability of Fiscal Policy: Methodology

An enhanced version of the OECD concept of fiscal sustainability is used to assess the sustainability of fiscal policy in the context of the BAK Taxation Index. The concept has a number of advantages: the time period is clearly defined, it is relatively simple to implement, the resulting sustainability indicators are easy to interpret and the quantitative results lend themselves to comparison.

The OECD concept is based on a government's intertemporal budget constraint. The resulting sustainability indicators show to what extent the present value of the final figure for the debt ratio corresponds to the predetermined target value for the public debt. To ensure that the indicators are comparable across different regions, a target value for the consolidated public debt equal to 60% of GDP is assumed for all locations in consideration. Furthermore, comparability is guaranteed by taking all levels of government into account (e.g. in Switzerland the federal, cantonal and municipality level). Results for cantons do always include a share of the federal figures, corresponding the share of the canton in the national economy (GDP weights).

The calculations are based on a number of indicators that reflect the state of the public finances at present (public debt, primary balance) and the development anticipated if current policies are maintained (projections of revenues and expenditures). The base year of the analysis is 2008 and the period under review extends at the most to 2060.

The sustainability indicator used in this study is the revenue gap expressed as a percentage of GDP. A positive value indicates that revenues are too low to achieve a debt ratio of 60 percent of GDP in the final year – i.e., if the current fiscal policy were maintained, the debt ratio would eventually exceed 60 percent. By contrast, a negative revenue gap shows the percentage of GDP by which revenues could be reduced without causing the debt ratio to exceed the target value equal to 60 percent of GDP in 2060.

It should be noted that all analyses are based on data for the year 2008. As some of the data necessary for the calculations are only published after a substantial time delay, 2008 is the most recent year for which all information is available. To guarantee comparability, it has been decided to use only data up to 2008 and ignore any partial information for later years. Therefore, the effects of the financial and economic crises as well as the current public debt crisis are only to a small extent incorporated into these results.