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Christina Elschner · Robert Schwager

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The Effective Tax Burden on Highly Qualified Employees

An International Comparison

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Preface

This book is the result of a research project commissioned by the «IBC BAK International Benchmark Club»®, an initiative by BAK Basel Economics, and carried out by the Centre for European Economic Research (ZEW). It contributes to the IBC's effort to evaluate and compare economic performance and location factors across European regions. The book provides the background to the headline figures presented at the International Benchmark Forum on June 11th and 12th, 2003, in Basel, as well as many additional results.

This work has benefited from the help of many institutions and individuals. Above all, we are indebted to the sponsors for financing the project in times of limited fiscal resources. A panel of experts in human resources and taxation has advised us on characterising the compensation structure of typical highly qualified employees. We would like to thank the experts as well as the members of the Steering Committee of the IBC module on taxation for their enduring support. Special thanks go to Kurt Dütschler of the Swiss Federal Tax Administration who was always ready to provide information on detailed aspects of the Swiss tax system. We are grateful to Christoph Koellreuter and Martin Eichler from BAK Basel for organising and promoting research on taxation inside the IBC. Our colleague Lothar Lammersen (ZEW) provided many detailed comments which greatly improved our work. Our thanks go also to Otto H. Jacobs (University of Mannheim) and Christoph Spengel (University of Gießen and ZEW) for encouragement and advice. In addition, we are indebted to Gerd Gutekunst, Rico Hermann, and Thorsten Stetter (all ZEW) for helpful discussions. Finally, we owe thanks to Kristoph Baum and Irina Kremel (ZEW) and Monika Jackmann (University of Göttingen) who provided able help in preparing the final draft of this report. Of course, all remaining errors are our sole responsibility.

Mannheim and Göttingen, October 2004
Christina Elschner and Robert Schwager

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Executive Summary

This study presents estimates of the effective level of the tax burden on highly qualified employees in eight European countries and the United States. It is complementary to a companion project analysing the tax burden on capital.[1] Although both studies rely on different models for estimating effective tax burdens, they share the same spirit. The qualitative results of both can be compared, and common conclusions can be drawn. Hence, the results of both approaches provide a comprehensive picture of the level of taxation in the countries studied.

The study was prepared for the «IBC BAK International Benchmark Club»®, which evaluates and compares economic performance and location factors across European regions. The headline figures of this Executive Summary represent the *IBC Taxation Index* (see Table 0.1. on p. 5). This index will be updated regularly in the future so as to illustrate trends in the effective tax burdens of companies and on highly qualified employees.

The scope of the study is threefold: First, due to a great number of relevant tax rules, effective tax burdens may differ significantly from statutory tax burdens. Therefore, the analysis quantifies meaningful estimates of effective tax burdens. These estimates take into account the most important rules of all the relevant taxes. The study considers income taxes including surcharges, tax-like social security contributions as well as payroll taxes paid by the company. Second, taxation is deemed to be an important location factor. In order to compare the attractiveness of different locations from a tax perspective, the study compares effective tax burdens inter-regionally and internationally. Third, an effective tax rate is always the result of each particular case. To identify the general context, and to find out the most relevant tax provisions in different economic constellations, the so-called tax drivers, the study examines the effect of important tax provisions on effective tax burdens.

The measurement of the tax burden on highly skilled manpower is a new research field. Due to a lack of established methods a completely new approach has been developed which allows considering several components of the remuneration package, the family situation, and varying levels of compensation. This 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 have to compensate these for taxes on labour income and tax-like social security contributions. As a consequence, the tax burden of differ-

[1] See Lammersen and Schwager (2005).

ent regions is compared for a given *disposable income* after taxes which the employee can obtain at all locations.

The computer-based model determines the tax burden in an iterative procedure. At first the tax assessment of a typical qualified employee's income before taxes (the *total remuneration*) is conducted. If the resulting income after taxes falls short of (exceeds) the required disposable income, the assessment is repeated for a higher (lower) total remuneration. The model then iterates until the total remuneration necessary to obtain the predetermined disposable income is found. The effective average tax rate is calculated by dividing the difference between total remuneration and disposable income (the *tax wedge*) by the total remuneration. 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 € 100,000 faces an EATR of 25 per cent this means that the tax wedge (€ 33,333) amounts to a quarter of the total remuneration (€ 133,333).

Taxes in this context are 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 here. Hence contributions to unemployment insurance, and by a similar reasoning also contributions to accident insurance, are defined as taxes. Health premiums, on the other hand, are not considered to be taxes since they are deemed to provide a genuine insurance.

Contributions to public pension schemes are considered to be partly taxes. The first pillar of old-age insurance is usually organised as a pay as you go system involving redistribution between generations and between high and low earning workers. Inasmuch as contribution payments do not result in actuarially fair pension entitlements, they constitute an implicit tax rather than an insurance premium. To account for this implicit tax, entitlements earned by the highly qualified employee are computed according to the legislation currently in force and offset against contributions.

Our model distinguishes between four kinds of compensation: (1) cash compensation, (2) contributions to old-age provision, (3) stock options and (4) perquisites. These components are taxable in different periods. Cash compensation and perquisites are taxable income in the year of payment whereas stock options are either taxable when the options are granted or when they are exercised. Contributions to old-age provisions may be excluded from taxable income and thus pension benefits are subject to taxation, or contributions may be paid out of taxed income implying that pensions are non-taxable income during retirement. Our model explicitly deals with the timing of tax and pension payments by using an intertemporal approach.

Geographically, the study covers twelve Swiss cantons, Austria, France, Germany, Ireland, Italy, the Netherlands, the United Kingdom, and the United States (Massachusetts). Currencies are converted with average nominal exchange rates of 2002. The effective average tax rates are calculated from the laws applying in 2002 and 2003.

The base case represents the *IBC Taxation Index* for highly skilled manpower. Here, we consider an employee's disposable income of € 100,000 that consists of 75 per cent cash compensation, 20 per cent old-age contributions, and 5 per cent perquisites. The employee is single and has no other income. The results show a threefold picture: The Swiss cantons Schwyz and Zug have the lowest tax burden with EATRs of 25.7 per cent and 25.9 per cent, followed by the other cantons analysed, the United States, and the United Kingdom with EATRs above 28 per cent and below 40 per cent. The highest tax burdens with effective tax rates between 40 per cent and 50 per cent occur in the other European countries considered, namely Ireland, Austria, the Netherlands, Germany, France, and Italy.

To illustrate these differences, it is instructive to translate back the EATRs into the total remuneration required in each location so as to provide the employee with a disposable income of € 100,000. To achieve this, a company has to spend € 134,589 in Schwyz, € 161,812 in Massachusetts, and € 199,203 in Italy. Thus, taxes interfere heavily in the international competition for talent.

Changing the disposable income to € 50,000 results in decreasing tax rates in almost all regions. With more than 10 percentage points, the reduction is particularly important in Switzerland and the Netherlands. This result illustrates the overall progressivity of the income tax and social security combined. The system becomes more progressive if tax rates rise steeply over the range of incomes considered, as in Switzerland, or if tax rates applying to low income brackets are very low, as in the Netherlands. On the other hand, ceilings on social security contributions reduce progressivity, as in Germany, Austria, and Italy.

Increasing the disposable income to € 200,000 results in relatively strong increases in the EATRs in Switzerland. This is due to the fact that, except in the case of unemployment insurance, there is no income ceiling in the Swiss social security system. Contributions still have to be paid on high income brackets. While Swiss cantons have the lowest effective tax burden among all countries analysed for low disposable incomes, Switzerland in part loses this top position once one moves to very high disposable incomes. In this respect, the United States, the United Kingdom, Ireland, and Austria compete successfully with Switzerland. In the United States, a highly qualified employee bears a lower effective average tax rate than in the cantons of Bern, Basel-Stadt, Basel-Landschaft, Genève, Ticino, Vaud. Austria ranks ahead of Genève, Ticino, and Vaud.

To analyse the taxation of *families* the effective average tax rates of an employee with a non-working spouse and two children have been calculated. All regions grant tax reliefs for families. On the one hand, families receive child benefits and/or tax credits. On the other hand, tax schedules differ depending on marital status and the number of children. Compared to other countries, families in Germany, Ireland, the USA, France, and Switzerland enjoy a particularly strong reduction of their tax burden relative to singles. In Italy, singles and families are taxed almost equally. A comparison of the effective tax rates for families at disposable incomes of € 50,000 and € 100,000 reveals that the tax advantage of families decreases with increasing income.

The *compensation structure* also influences the effective average tax rate. While increasing the share of old-age provision in the compensation package has