

BAK TAXATION INDEX 2009

Effective Tax Burden of Companies
and on Highly Qualified Manpower

Executive Summary



Final Report for the International Benchmarking Programme (IBP)

Mannheim, December 2009

Editor

BAKBASEL

Authors

Daniel Dreßler, ZEW

Dr. Christina Elschner, University of Mannheim and ZEW

Jost Henrich Heckemeyer, ZEW

Information & Distribution

Marc Bros de Puechredon, T +41 61 279 97 25

marc.puechredon@bakbasel.com

Postal Address

BAK Basel Economics AG

Güterstrasse 82

CH-4053 Basel

T +41 61 279 97 00

F +41 61 279 97 28

info@bakbasel.com

<http://www.bakbasel.com>

Centre for European Economic Research/
Zentrum für Europäische Wirtschaftsforschung (ZEW)

L7, 1

D-68161 Mannheim

Tel. +49 621 1235 0

Fax +41 621 1235 223

dressler@zew.de

elschner@uni-mannheim.de

heckemeyer@zew.de

<http://www.zew.de>

© 2009 by BAK Basel Economics AG

All rights reserved, including the right of any form of reproduction in whole or in part.

Executive Summary

Aim and scope of this study

This executive summary presents the BAK Taxation Index 2009, an indicator for the effective tax levels of companies and on highly skilled manpower. Taxation of companies constitutes a widely accepted location factor. Companies pay taxes on profits and capital. Also, under competitive labour markets for highly skilled employees, companies have to compensate these highly skilled employees for international differences in labour tax levels. Both elements constitute a tax burden on companies and have an impact on a location's attractiveness for investment decisions. The BAK Taxation Index 2009 covers more than 80 regions worldwide. *Executive Summary*

The research is commissioned by BAK Basel Economics as an element of its International Benchmarking Programme (IBP) and is carried out by the Centre for European Economic Research (ZEW) in Mannheim. The IBP evaluates and compares economic performance and location factors across European regions and selected "benchmark" regions worldwide. The BAK Taxation Index represents the headline figures of the IBP's Taxation Module. It is regularly updated and illustrates trends in the effective tax levels of companies and on highly skilled manpower.

The BAK Taxation Index covers locations in Europe, the United States and Asia. More precisely, the focus is on geographic regions in the covered countries whenever there is inter-regional variation in tax regulations. Otherwise, the national capitals are referred to. Generally, within the regions selected, the capital – or the economically most important city if clearly different – is taken as the place to be evaluated. In Switzerland, this is always the capital of the respective canton considered (Kantonshauptort). In addition, the BAK Taxation Index 2009 presents for the first time a new feature: If there is a variation of the effective tax burden *within* a region or a country regarded as a whole, we additionally report the minimum and maximum effective tax levels and thus illustrate the span.

Besides 16 selected Swiss cantons, the study covers locations in 18 EU Member States and Norway. Outside Europe, 7 US states and Singapore as well as 3 major Chinese cities (incl. Hong Kong) are considered. As outlined above, both inter-regional and intra-regional differences in tax regulations are taken into account. Within this executive summary, we focus first on the inter-regional or international variations in effective tax burdens. Then we turn to the intra-regional variations in Swiss cantons and other countries. The comprehensive report includes many more regions along with their internal variations. After the presentation of the results for companies, the effective tax burdens on highly qualified manpower will be focused on. The scope of the study is as follows:

- First, effective tax burdens may differ significantly from statutory tax burdens. This study is based on effective tax burdens for two reasons. They are more relevant to the investment decision than nominal rates and, due to their aggregated level, they are directly comparable with regard to different locations. Therefore, the analysis quantifies meaningful estimates of effective tax burdens. These estimates take into account the most important rules of all the relevant taxes. For company taxation, these include the corporation tax with surcharges, other profit related taxes, real estate taxes, and specific taxes based on capital. For the taxation of highly skilled manpower, the study considers income taxes including surcharges, tax-like social security contributions as well as wage taxes paid by the company.
- Second, an effective tax rate is always the result of the underlying assumptions. 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.
- Third, 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 internationally, inter-regionally and - in a complementary analysis - also intra-regionally. Looking at effective tax rates over time provides an intuition about common trends and possible interdependences between locations.

Company Taxation

The BAK Taxation Index 2009 for companies presents estimates of effective average tax rates (EATRs) for companies. The applied methodology underlying the calculations is briefly outlined in the grey box below.

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 at least 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. The financing policies of the corporation take into account three different sources of finance which are, in sequence of their weight, retained earnings, debt and new equity capital.

The calculations take account of the most relevant tax provisions of the national tax systems. With respect to the taxation of corporate profits, the approach considers headline statutory corporate profit tax rates as well as surcharges and some other special rates for particular types of income and expenditures. It takes into account the most important features of taxes on capital, e.g. real estate taxes. Generally, it assumes a level of corporate profits and capital at which the top-bracket statutory tax rates are applied. Regarding 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, it includes some important generally available investment incentives.

The **effective average tax rates (EATR)** of the BAK Taxation Index 2009 are shown in Figure 1 below. The EATR bears more information than simple statutory tax rates because it also reflects effects of tax base regulations. It is a sound measure for a region's attractiveness when it comes to location choices. The index's headline figure depicts results for national capitals or - except for Switzerland - the country's median regional capital if more than one region was considered in a given country. For Switzerland, the results for all cantonal capitals assessed are shown. Generally, the effective tax levels disperse remarkably across the considered locations. The respective values range from 9.7% in Hong Kong to 36.2% in Boston, the US median.

The following analytical overview of the effective tax burdens in the locations covered summarizes the main findings of the study. As does Figure 1, the following statements refer to the respective canton's or country's capital or the country's median regional capital if more than one region was considered.

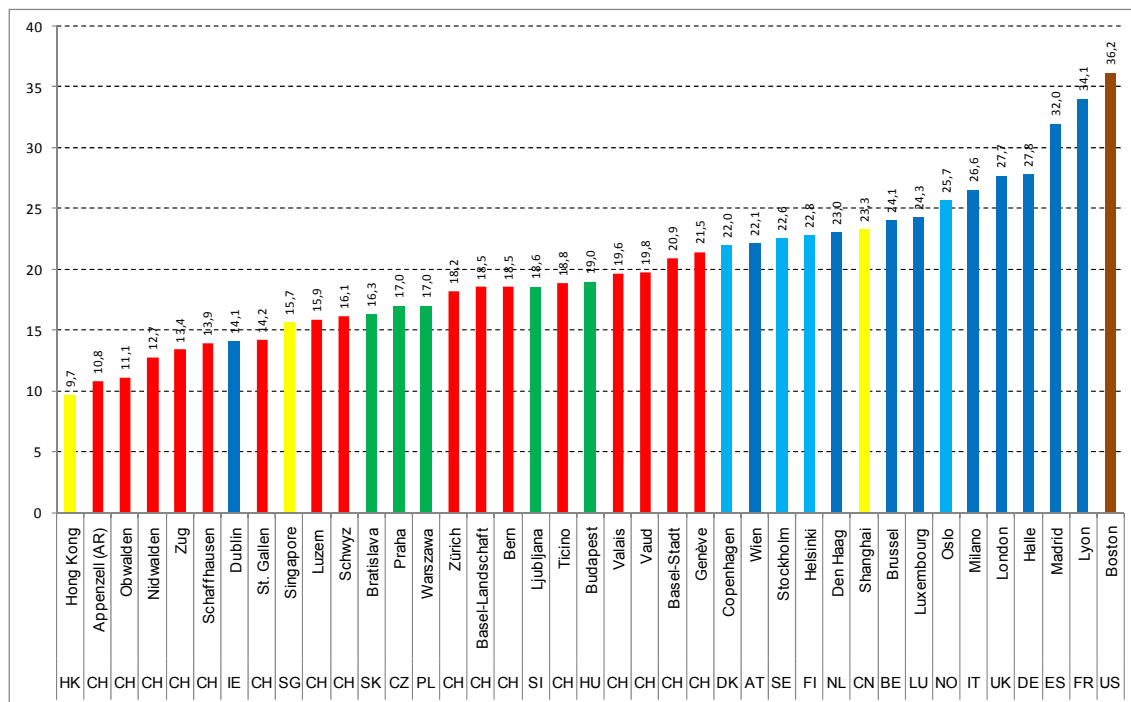
The Swiss cantons, marked with red bars, mainly rank in the lower half of the BAK Taxation Index 2009, reflecting lower tax burdens. Their EATRs are not the lowest in the world, but as far as the cantons of Appenzell Ausserrhoden, Obwalden, Nidwalden, Zug and Schaffhausen are concerned, there are no European locations taxing lower. Both narrow tax bases and low combined statutory tax rates are underlying these favourable positions. The EATR ranges widely between 10.8% in Appenzell Ausserrhoden and 21.5% in Genève. Many Swiss cantons lowered their taxes again during the last two years. With eight cantons undercutting the EATRs of the European neighbours to the East and none reaching the level of the direct neighbours, Switzerland remains very attractive from a tax perspective.

The East European countries considered in this study show up with green bars in between the Swiss cantons in the second quarter of the ranking. The countries of Slovakia, Poland and the Czech Republic show EATRs of about 17%. The effective rates of Slovenia and Hungary are about two percentage-points higher. This reflects their relatively higher statutory profit tax rates. A decrease of the corporate income tax rate in the Czech Republic by four percentage-points to 20% during the last two years helped Prague improve its rank. With effective tax rates at rather comparable levels, the East European countries form the most important group of countries directly competing with the Swiss cantons from a tax perspective.

Among the Scandinavian countries (light blue bars), Denmark has the lowest EATR of 22%. Sweden and Finland follow close by with effective average tax rates of 22.6% and 22.8% respectively. Norway places a higher tax burden on its companies. Its EATR of 25.7% mainly results from a higher statutory profit tax

rate of 28%. In the other three Nordic states considered, this statutory rate is at least two percentage-points lower. With the exception of Oslo, all of the Nordic locations have at least slightly lowered their EATRs. As in previous years, this adds up to the Scandinavian countries ranking behind Switzerland and East Europe but ahead of Europe’s big economies and the United States.

Figure 1: BAK Taxation Index 2009 for companies – EATR (%)



Note: In Switzerland, the tax burden has been calculated for the capital of the Canton (Kantonshauptort). Other locations shown are the (economic) capitals of their respective regions. If more than one region is considered in a given country, the median location with respect to the EATR is shown.

Source: ZEW/BAKBASEL.

The group of Continental European countries including Ireland and the United Kingdom are marked in dark blue. They tax at comparably high effective tax levels. Ireland, taxing clearly below the mean with an EATR of 14.1%, is the only exception. The statutory profit tax rate in Ireland of 12.5% is lower than at any other analysed location. Only due to its relatively broad tax base, characterised by relatively unfavourable depreciation rules, Ireland does not end up with the lowest EATR of the ranking. The other Continental European countries show effective average tax rates which are at times more than twice the rate of Ireland’s. The span depicted in Figure 1 ranges from 22.1% in Austria to 34.1% in Lyon, capital of the French region Rhône. The smaller countries, namely Austria, the Netherlands, Luxemburg and Belgium tax lower than their large neighbours. They show EATRs between 22.1% and 24.8%, whereas Italy, UK, Germany, Spain and France make up the higher ranks of the BAK Taxation Index 2009. Germany could significantly reduce its EATR by inter alia lowering its statutory corporate income tax rate by 10 percentage-points in 2008. Italy has undertaken some tax rate cuts, as well. Given the still high effective average tax rates of the two countries, these reforms only resulted in position changes within the highest tier of the index.

Seven US States represent North America in the BAK Taxation Index 2009. All of them rank at its upper end. The brown bar of the graph shows Boston, the median, with an EATR of 36.2%.

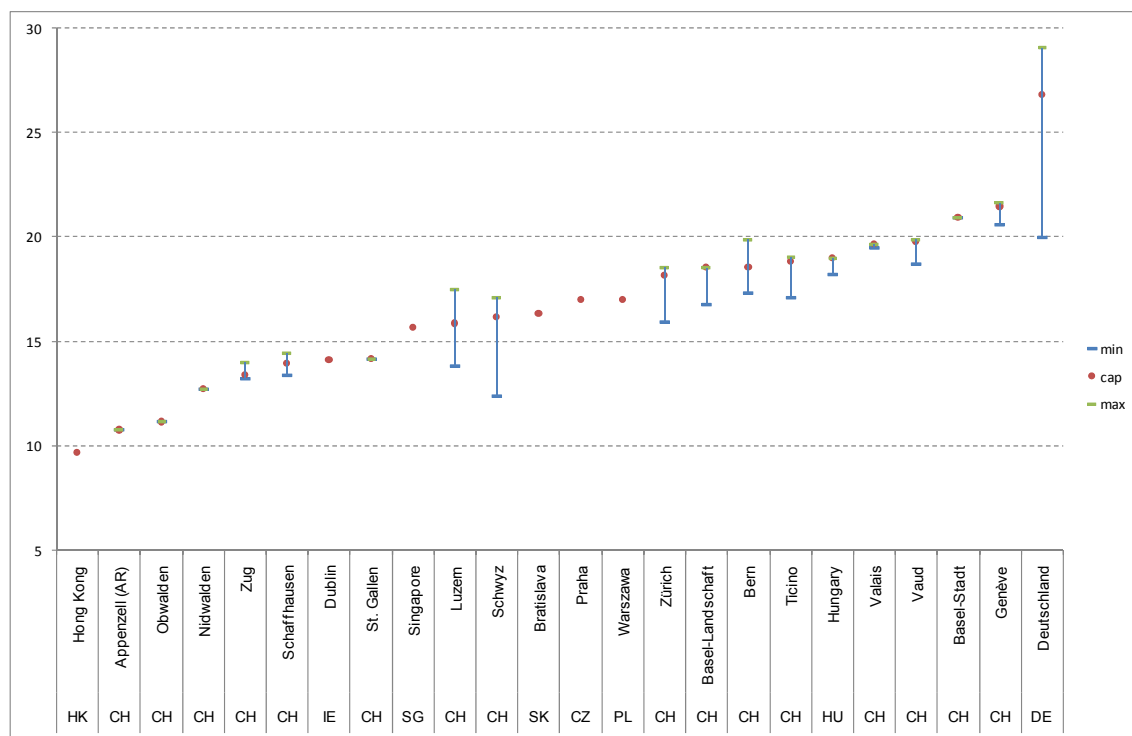
Asia, marked in yellow, is represented in the BAK Taxation Index 2009 by Singapore and three cities in China, including Hong Kong. Despite its official integration, Hong Kong has kept its own tax system which is therefore not comparable to the taxation in the two other Chinese cities covered, Shanghai and Beijing. Hong Kong shows the lowest EATR of 9.7%. The low rate results from the modest statutory profit tax rate

of 16.5% and very generous depreciation rules. While still placed in the lower third of the BAK Taxation Index 2009, Singapore shows a clearly higher EATR of 15.7%. The effective tax burden in China amounts to an EATR of 23.3%. In the international comparison, China ranks in among moderately taxing European States. As compared to 2007, China has even increased the effective tax burden. With states stretching over the entire index span, Asian countries prove to be diverse from a tax point of view.

The BAK Taxation Index 2009 does not only cover regional but also intra-regional tax differences. The regional differences between the Swiss cantons have already been revealed in Figure 1. Each canton shows a different EATR in its respective capital. Similar, yet more moderate differences exist in Germany and France. The variance is rooted in the municipalities’ right to set the multipliers of the trade tax and the real estate tax.

For the first time, **intra-regional variations** in the effective tax levels are paid attention to. Not every location within a given region might display the same EATR. Abandoning the mere focus on (regional) capital cities in a complementary analysis, this study also presents - wherever indicated - the lowest and the highest effective average tax rates within a given region. However, in order to be regarded in this computation of intra-regional ranges, a location must have at least 2000 inhabitants.

Figure 2: Range of EATRs at the corporate level within Swiss cantons and selected regions, in %, 2009



Note: The capitals indicated with a red dot are the cantonal capitals for Switzerland, for Germany it is Berlin. The blue (green) bar marks the effective tax level at each canton’s or country’s municipality with the minimum (maximum) EATR. Municipalities are included if they count at least 2,000 inhabitants.

Source: ZEW/BAKBASEL.

Figure 2 shows selected results of the intra-regional analysis. Concerning Switzerland, the three lowest taxing cantons (Appenzell Ausserrhodens, Obwalden and Nidwalden) and the canton of Basel-Stadt show no intra-cantonal variation in the company tax burden at all. However, except for St. Gallen, all the analyzed cantons in between show intra-regional differences. The biggest span is present in Schwyz. The canton’s minimum is not only below Singapore and Dublin, but also undercuts five other cantons with capitals taxing lower than that of Schwyz. The spans in Zürich and Basel-Landschaft are notable given the international context. The minimum of Zürich undercuts the EATRs in the three competing East European

countries Slovakia, the Czech Republic and Poland. The same holds for Basel-Landschaft concerning the latter two of the states. Considering their minima, Bern and Ticino get into the range of the tax levels of Prague and Warsaw. The four cantons mentioned above tax at comparable levels and all show considerable local variation. The minimum location in Vaud taxes lower than the capital of Hungary.

Turning to Hungary, minimum effective tax levels fall below those of the cantonal capitals of Zürich, Basel-Landschaft, Bern and Ticino. As to Germany, the EATR-span within a German federal state amounts to 4.7 percentage-points on average. The highest German EATR is measured in Munich with a value of 29.1%, the lowest amounts to 20.0% and can be found in small towns of Thüringen, Mecklenburg-Vorpommern and Brandenburg. Therefore, the effective tax levels in some German locations approach the relatively, i.e. in the intra-Swiss comparison, high taxing Swiss cantons.

The BAK Taxation Index is a ranking of effective average tax rates in several locations. As additional information, this study provides the **effective marginal tax rates (EMTR)** for the same locations. These show the tax burden on a marginal investment (see grey box for details). EMTRs react less to differences in the profit tax rate but are more driven by tax base regulations, in particular depreciation allowances, and non-profit taxes. Whereas the EATR is important for location decisions, the EMTR refers to the theoretically optimal level of investment given the investment location. The lower the EMTR at the corporate level, the larger is the optimal level of investment. Turning to the results, the EMTR ranking very generally corresponds to the EATR ranking, with Brussels switching from a high-tax position to the ranking's lead being the biggest exception. The dispersion of EMTRs is as great as the one already observed in the case of the EATR. It ranges from -9.4% in Brussels to a maximum level of 40.2% in New York. Its notional interest deduction for corporate equity is the major reason for Belgium's excelling negative EMTR. Spreading over the first half of the EMTR index, the Swiss cantons confirm their front positions already occupied in the EATR-based BAK Taxation Index. Seven of them are ranked directly behind Brussels and Hong Kong. The East European countries rank in between the Swiss cantons with the Czech Republic and Slovakia taxing at the lowest levels and Poland, Slovenia and Hungary following in this order. Concerning the Scandinavian countries, Norway shows an EMTR clearly above those of Denmark, Finland and Sweden, which all tax at comparable levels. Among the Continental European countries France clearly stands out, as French locations such as Lyon present the highest EMTR of all assessed locations. This is particularly due to the fact that in addition to relatively high statutory profit taxation, the French corporate tax system is especially characterised by important local non-profit taxes (trade tax and real estate tax) on industrial buildings and machinery. As regards the Asian locations, Hong Kong holds the excellent position also with respect to the EMTR due to very favourable depreciation rules.

Taxation of highly skilled manpower

The BAK Taxation Index 2009 on highly qualified manpower represents the effective tax level for employing a single highly skilled person, earning EUR 100,000 after taxes and charges. The applied methodology underlying the calculations is briefly outlined in the grey box below.

Methodology

The tax burden on highly skilled manpower is measured by means of a simulation model developed at the ZEW. The model allows considering several components of the remuneration package, the 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 have to compensate these for taxes on labour income and tax-like social security contributions. As a consequence, the tax burden of different regions is compared for a given *disposable income* after taxes which the employee can obtain at all locations.

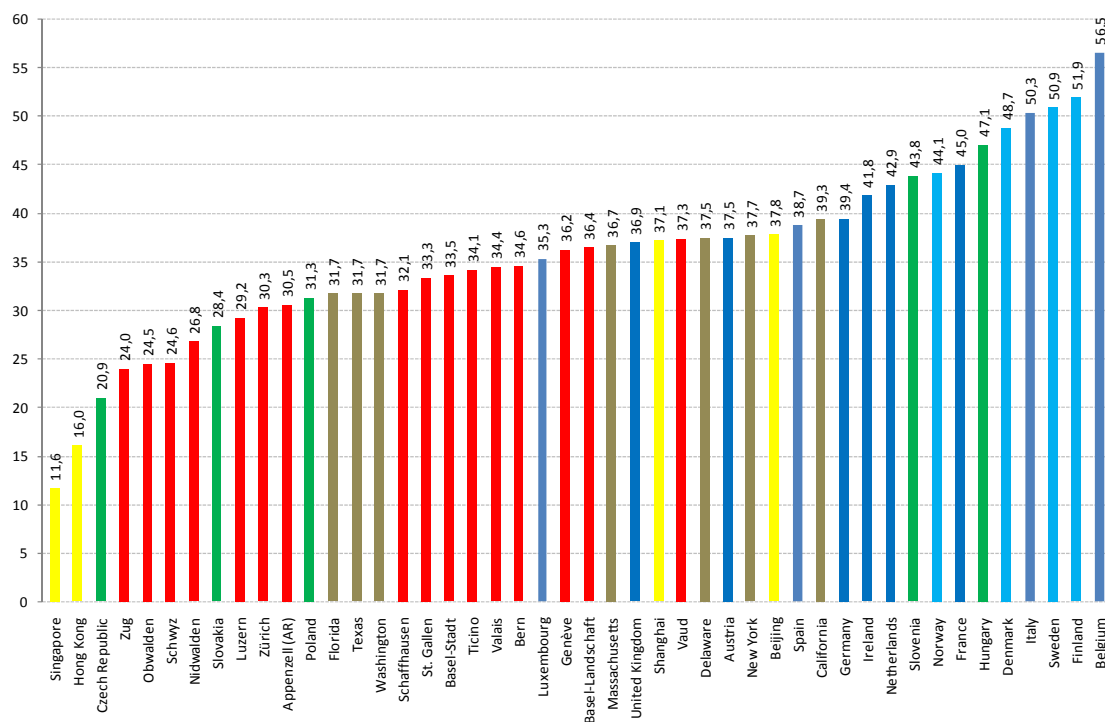
The model determines the tax burden in two steps. At first, the tax of a typical qualified employee's income before taxes (the *employment costs*) is assessed. If the resulting income after taxes falls short of (exceeds) the required disposable income, in a second step the assessment is repeated for higher (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 € 100,000 faces an EATR of 25% this means that the tax wedge (€ 33,333) amounts to a quarter of the employment costs (€ 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.

Figure 3 shows the **BAK Taxation Index 2009 on highly qualified manpower**. The effective tax levels in the index range between 11.6% in Singapore and 56.5% in Belgium. An employer who wants to remunerate a highly qualified employee with a disposable income of EUR 100,000 after taxes and charges faces employment costs of EUR 113,122 in Singapore and with EUR 228,885 double the amount in Belgium. On average, the effective tax level on highly skilled labour is 35.7% which is equivalent to EUR 155,521 employment cost. The median is 36.3%, between the two Swiss cantons Genève and Basel-Landschaft.

The Swiss cantons, marked in red, are almost all characterised by progressive income tax rates and display tax levels between 24.0% in Zug and 37.3% in Vaud. They thus dominate the first half of the ranking; though they are neither on the top of the ranking nor do all of them tax below the median. The Swiss ranking is mainly determined by the cantonal and municipal income tax tables as federal taxes and charges to the social security system are the same. The top tax rate is not always decisive for the rank within Switzerland because of a relatively pronounced progression of the federal income tax and intra-cantonal differences in the progression of each cantonal income tax. Zürich, for instance, with a top rate of 40% is on 10th rank with an effective tax rate of 30.3%. The two neighbouring cantons in the ranking, Luzern and Appenzell, apply top rates of roughly 30%, due to a different development of the tax progression. Overall however, those cantons with low top rates, namely Zug, Obwalden, Schwyz, and Nidwalden, head the inner-Swiss ranking with the lowest effective tax rates while those cantons with top rates above 40%, namely Bern, Genève, Basel-Landschaft, and Vaud, are at the high end of the Swiss ranking.

The US states, represented by brown bars, are within a moderate range between 31.7% and 39.3%. Employments in Florida, Texas, and Washington are the least expensive as there are no state income taxes levied. The federal income tax is moderate with an extensive progression and a top rate of 38%. Employments at the other four US locations Massachusetts, Delaware, New York, and California, though, are more expensive, with effective tax levels between 36.7% and 39.3%. They compete inter alia with the three cantons displaying effective tax rates above 35%: Genève, Basel-Landschaft, and Vaud. Generally, the group of locations with effective tax rates between 35% and 40% is quite broad and stretches across all geographical zones.

Figure 3: BAK Taxation Index 2009 on highly qualified manpower, disposable income EUR 100,000, in %



Note: In Switzerland, the tax burden has been calculated for the capital of the Canton (Kantonshauptort), in Belgium, Denmark, Finland, Italy, Norway, and Sweden for the capital of the country.

Source: ZEW/BAKBASEL.

East European countries, marked in green, tax either very low or very high (difference between lowest and highest level is 26.1 percentage-points). With 20.9%, the effective tax level for employments in the Czech Republic is the third lowest in the BAK Taxation Index 2009. Still, it is almost twice the effective tax level in Singapore. The Czech Republic introduced a flat personal income tax rate of 15% in 2008. Moreover, income ceilings for contributions to social security were introduced. Comparably high charges within the social security system prevent the Czech Republic from attaining the very low effective tax levels present in Singapore or Hong Kong. While Slovakia and Poland are the only two other East European countries in the first half of the ranking, Slovenia and Hungary show up in the group of locations with high tax levels above 40%.

Although they do not find themselves alone at the high end of the BAK Taxation Index 2009, the Scandinavian countries – taken as a regional group – bear the highest tax levels with 44.1% and more. Taking Denmark or Sweden as examples, the personal income tax (top statutory rates above 50%) makes up the by far largest part of the total effective tax rate. The main tax drivers of the effective tax burden on highly skilled manpower are the rates of social security contributions (if classified as charges) in combination with income ceilings on the one hand and the personal income tax rate including its progressive development on the other hand. The base of the personal income tax, i.e. personal allowances, standard allowances for employment income, deductibility of social security contributions, and the taxation of old-age provision typically (but not necessarily) is of minor importance at these high income levels.

Continental European countries as well as the United Kingdom and Ireland (marked in dark blue) are almost all in the upper half of the ranking with tax levels above the average. They thus mostly share results and underlying causes with the Scandinavian locations. Only Luxembourg is slightly below the mean.

The Asian locations considered in the index represent three tax systems. Singapore and Hong Kong hold the first and second ranks of the BAK Taxation Index 2009. Remarkably, these are two locations with a fully funded social security system, characterised by no or few redistribution between low and high income

levels and thus very low charges at high income levels. Singapore and Hong Kong both apply progressive income tax rates. Singapore's tax table is characterised by a quite long progression with a low top tax rate of 20% for income exceeding SGD 320,000 (~EUR 160,000). Hong Kong applies the top rate of 17% already for income exceeding HGD 120,000 (~EUR 12,000). Consequently, the effective tax burden in Hong Kong is closer to the top tax rate than the one in Singapore. As to China, its effective tax level of around 37% is comparable to the higher taxing US states and the lower taxing Continental European countries.

Since **families** at all locations except for China (Beijing and Shanghai) receive **special allowances** via the tax system or the social security system, corresponding complementary analyses are undertaken. The study computes the effective tax rates for the employment of a married highly skilled employee with two children and a disposable income of EUR 100,000. The resulting effective tax levels amount to between 10.8% in Singapore and 51.0% in Belgium. The first and the last rank again are the same as for single employees; however with lower tax levels. Luxembourg, the US states, Germany, and many Swiss cantons are characterised by high allowances for families. Within Switzerland, Zug is the canton which favours the employment of highly skilled with families the most compared to single employees. Countries with considerably low or without family advantages are the Czech Republic, Slovakia, Beijing and Shanghai, Slovenia, Hungary, Italy, Sweden, and Finland.

Due to progressive tax tables, income ceilings of social security and tax allowances, effective tax levels highly depend on the specific **earnings level under consideration**. In order to allow for these aspects, tax levels for a lower (EUR 50,000) and a higher level of disposable income (EUR 200,000) are calculated in addition. With increasing income those countries with low top income brackets of the personal income tax gain ranks. Almost all countries show a progressive development of effective tax rates with increasing income levels. For lower incomes, Slovakia, several US states, China, Ireland and Italy lose ranks, whereas Valais, the United Kingdom, the Netherlands, Norway, Denmark and Sweden can improve their positions. Concerning a higher level of disposable income, Zürich, Vaud and the Netherlands fall behind in the ranking, whereas Massachusetts, Spain and Germany can slightly gain.

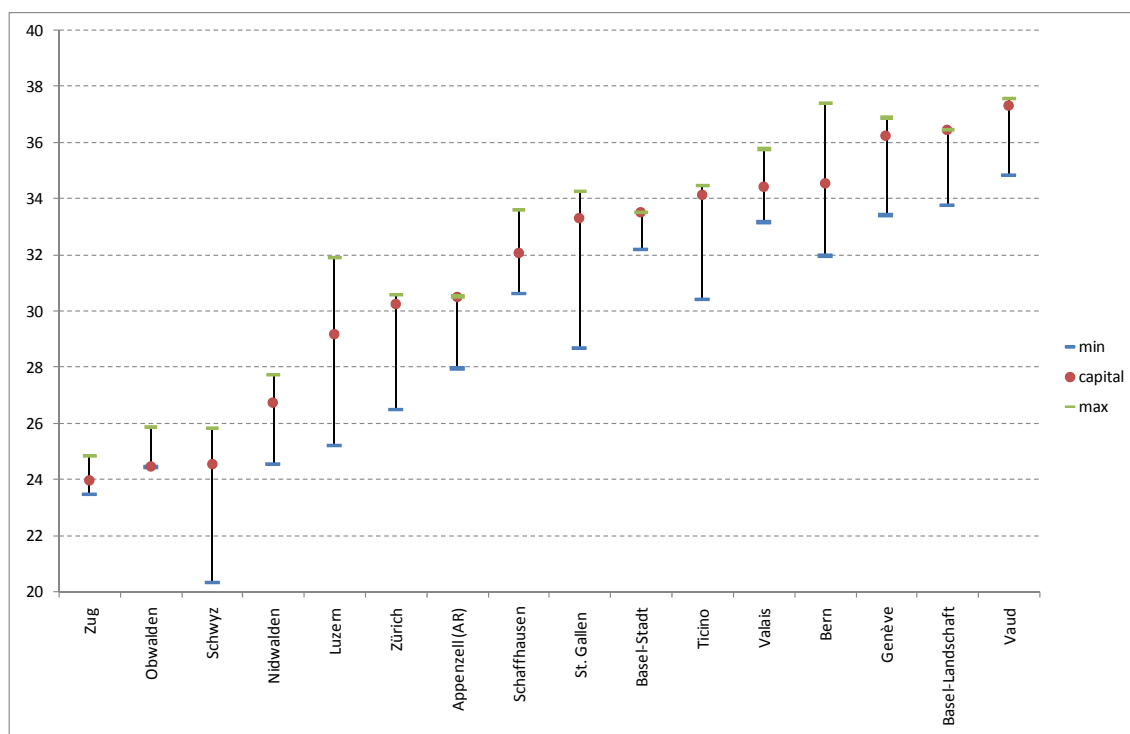
In several countries, regions and municipalities have the right to set their own tax rates. In order to capture such discretion at the sub-national or sub-regional level, results from complementary analyses focusing on **intra-regional variation** in effective tax rates on employment are presented. The influence a municipality has on the overall tax rate varies, however, considerably across countries.

The effective tax levels in Switzerland not only differ across cantons but also across municipalities. The cantonal income tax is multiplied by a cantonal and a municipal multiplier. Figure 4 presents the effective tax levels for the capital city as well as the maximum and the minimum levels for a single employee earning EUR 100,000 after taxes and charges. The green bar shows the tax burden in the municipality with the highest multiplier, the blue bar shows the tax burden in the municipality with the lowest multiplier of each canton. The level of the capital city is marked with a red dot.

The intra-cantonal dispersion of effective tax levels varies. Luzern shows the highest range in effective tax levels with a difference between the maximum and the minimum level of 6.7 percentage-points. St. Gallen, Schwyz, and Bern, too, show a high dispersion of at least 5.4 percentage-points. The deviation is lowest in Basel-Stadt with a span of 1.3 percentage-points, closely followed by Zug and Obwalden. One might expect that the capital city of a canton displays the maximum tax burden. This in fact is true for Appenzell Ausserrhoden, Basel-Landschaft, and Basel-Stadt. In Genève, Nidwalden, Schwyz, St. Gallen, Ticino, Vaud, and Zürich, the capital city ranks in the upper third of the cantonal range. However, there are several cantons, where the capital city shows a low tax level compared to other municipalities within the canton. In Obwalden, the capital city even represents the intra-cantonal minimum with respect to the tax level. Also in Zug, the tax burden in the capital city is fairly low. Bern, Luzern, Schaffhausen, and Valais are cantons where the capital city taxes on a moderate level, seen from an intra-cantonal perspective.

Taking all Swiss municipalities into account does have an impact on the overall ranking of cantons. While Zug heads the ranking if one solely considers the cantonal capital, Schwyz now shows the by far lowest effective tax level with 20.4%. On the other end of the ranking, Vaud remains the rear light. The highest effective tax level in the considered cantons amounts to 37.6%. Thus, the total range of effective tax levels in Switzerland is even higher as soon as one allows for all municipalities.

Figure 4: Range of effective tax levels within Swiss cantons, single employee, disposable income EUR 100,000, in %, 2009.



Note: The red dot represents the effective tax level at the cantonal capital. The blue (green) bar marks the effective tax level at each canton’s municipality with the minimum (maximum) municipal multiplier. Municipalities are included if they count at least 2,000 inhabitants.

Source: ZEW/BAKBASEL.

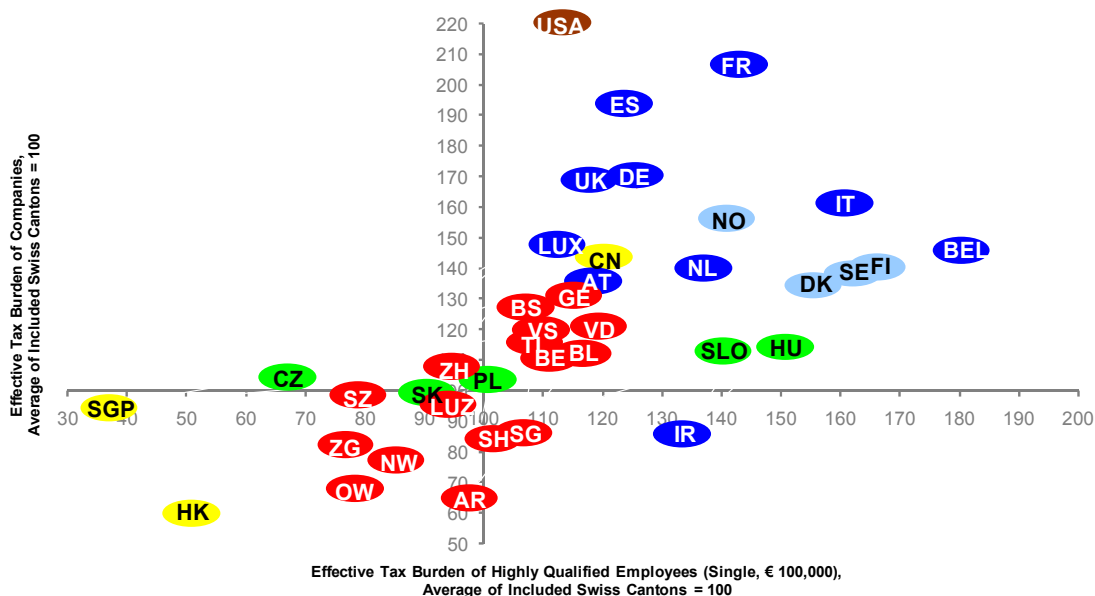
The Scandinavian countries Denmark, Finland, Norway, and Sweden all levy regional income taxes in addition to the national income taxes. The resulting span of effective tax rates is highest in Sweden with 5.1 percentage-points and lowest in Denmark with 3.2 percentage-points. The employment in the capitals of Denmark, Sweden, and Finland bears relatively low costs – compared to other municipalities within each country. Only in Norway, where a reduced state tax rate is applicable only in selected Nordic regions, the maximum rate equals that of the capital city. The position with the highest overall tax rate in Scandinavia is held by Sweden, with a slightly higher maximum rate than Finland.

There is a rather small variation of tax rates in Italy and Spain, meaning that the intra-regional differences of effective tax rates in these two countries are rather low with total spans of respectively 1 and 0.2 percentage-points. In Belgium, however, the identified range is higher with 3.5 percentage-points. Due to this variation, which is caused by municipalities’ discretion over a local surcharge on the income tax, the Belgian minimum can compete with the high-taxing municipalities in Sweden and Finland.

Synthesis of both indicators

The effective average tax rates for companies and on highly skilled manpower (single employee, earning EUR 100,000 disposable income) constitute the BAK Taxation Index. The methodologies used to determine the two kinds of effective tax levels differ however. Therefore, the figures of the respective BAK Taxation Index cannot be compared directly. But it is possible to compare the ranking and the relative differences of both indicators. Figure 5 presents a synthesis of the two headline figures. We indexed the effective tax levels of all countries and the Swiss cantons relative to the average of all included Swiss cantons. The vertical/horizontal distance between an observation and the axes shows how much lower/higher this location’s effective tax level is compared to the average of the Swiss cantons for companies (vertical axis) and for highly skilled manpower (horizontal axis).

Figure 5: Correlation of the two indicators representing the BAK Taxation Index on companies and on highly skilled manpower (2009)



Notes: In Switzerland, the tax burden has been calculated for the capital of the Canton (Kantonshauptort).
 Red: AR: Appenzell (AR), BE: Bern, BL: Basel-Landschaft, BS: Basel-Stadt, GE: Genève, LUZ: Luzern, NW: Nidwalden, OW: Obwalden, SG: St. Gallen, SH: Schaffhausen, SZ: Schwyz, TI: Ticino, VD: Vaud, VS: Valais, ZG: Zug, ZH: Zürich.
 Green: CZ: Czech Republic, HU: Hungary, PL: Poland, SK: Slovakia, SLO: Slovenia.
 Light blue: DK: Denmark, FI: Finland, NO: Norway, SE: Sweden.
 Dark blue: AT: Austria, BEL: Belgium, DE: Germany, ES: Spain, FR: France, IR: Ireland, IT: Italy, LUX: Luxembourg, NL: Netherlands, UK: United Kingdom.
 Brown: USA: USA (Massachusetts).
 Yellow: CN: China, HK: Hong Kong, SGP: Singapore.

Source: BAKBASEL/ZEW.

Compared to the BAK Taxation Index 2007, the overall picture is similar, but some locations moved horizontally and/or vertically. Altogether, the following conclusions can be drawn with regard to the regions under consideration:

- Swiss cantons (marked in red) hold top positions for both indicators. However, there are 2 non-Swiss locations (Hong Kong and Singapore) showing lower effective average tax burdens both for companies and highly skilled manpower. Furthermore, the newly considered cantons of Appenzell Ausserrhoden and Schaffhausen display effective average tax rates for companies far below the Swiss average. However, their position is less marked with respect to the effective tax burden on highly skilled manpower where they show higher tax levels than six other cantons.
- Eastern Europe (marked in green) shows somewhat ambiguous developments which become clear when looking at the relative positions of these respective countries. While Poland and Slovakia range around the Swiss average for both indicators and the Czech Republic makes a far leap to the left-hand side of Figure 5 as compared to its position in 2007, Hungary and Slovenia remain considerably above the Swiss averages. However, in the international comparison all East European countries remain competitive from a tax perspective at least if company taxation is considered.
- Among the Scandinavian countries (marked in light blue) there has not been much movement in their positions relative to the Swiss averages for both indicators. Taken as an example, Sweden could not approach the Swiss average in the effective average tax burden of companies despite its moderate cut in the corporate income tax rate. What is more, it even lost slightly with respect to its relative position in the effective taxation of highly skilled manpower. Denmark also lost with regard to the latter indicator. However, it slightly moved closer to the Swiss average in the field of business taxation.

- Considering the Continental European countries plus Ireland and the United Kingdom, Germany clearly moved most significantly. The country's major business tax reform brought it from almost 200% of the Swiss average EATR on company investments to around 170%. Its relative position in the taxation of highly skilled labour, however, improved only slightly since 2007. Also Italy benefited from its business tax reform and moved closer to the Swiss average EATR for companies. As a result, France and Spain turn out to be somewhat isolated, showing a moderate effective tax burden on highly skilled manpower in combination with very high company taxes.
- Comparable to most continental European countries, the United States (marked in brown) did not have substantial changes. They still tax companies on a high level and highly skilled manpower on a rather low or moderate level.
- The last remark shall be made on the Asian locations (marked in yellow). Hong Kong and Singapore are in unique positions as they are the only non-Swiss jurisdictions considered in this report, which display below Swiss average values both for the effective average tax burden of companies and on highly skilled manpower. While for Hong Kong the position is very detached for both indicators, Singapore taxes companies higher than six Swiss cantons. In return, it has by far lower effective tax levels on highly skilled manpower.

Outlook 2010

As tax reforms are usually agreed upon in advance, it is possible to present an outlook on confirmed changes in tax regulations for 2010 and beyond. Very generally, the countries face opposing goals between attracting investors and restoring their public finances which were considerably disequibrated in the course of the current international financial crisis. In 2010, the effective tax rate on companies and/or highly qualified manpower is going to be lowered in many cantons of Switzerland, in the three East European countries Hungary, Slovenia and the Czech Republic and in Singapore. The Continental European countries rely on on many small changes addressing the crisis, but no profound measures influencing the effective tax burden in either way are announced.

The following cantons serve as examples for changes in **Switzerland**. Generally, the downward trend of effective tax levels in Switzerland will continue despite the economic crisis. The canton of Appenzell Ausserrhoden plans to reduce the individual net wealth tax rate from 0.6‰ to 0.55‰ by 2010. Basel-Stadt aims at successively reducing the cantonal corporate income tax rate from 22% today to 20%. The first step with a reduction of 0.5pp should be made in 2011. Nidwalden is going to reduce its profit tax rate from 9% to 6% and its capital tax rate from 1‰ to 0.1‰ in 2011. The top rate of the individual income tax is planned to be reduced from 3% to 2.85% then. In addition, Nidwalden plans to raise child allowances. By 2010, the canton of Schaffhausen is going to implement a compensation for the fiscal drag on the individual level. The canton of Schwyz plans to replace its current stepped tariff system of the profit tax with a rate up to 4% by a uniform profit tax rate of 2.25% from 2010 on. Schwyz is also going to introduce a profit tax credit against the capital tax. Moreover, personal allowances will increase in Schwyz. St. Gallen plans to reduce the top income tax rate from 9% to 8.5% by 2010. Furthermore, the canton is going to implement a compensation for the fiscal drag. The canton of Zurich has plans to reduce the top personal income tax rate from 13% to 11% and raise personal allowances by 2010.

In **Continental Europe**, the following aspects are remarkable for 2010 and beyond. For the tax years 2011 and 2012, Belgium will cap the notional interest deduction at a rate of 3.8% (in 2009 4.5%) and by doing so increase its EMTR. France will abolish its local business tax ("la taxe professionnelle") in 2010. However, a new contribution, "la contribution économique territoriale – CET", will replace it. In Germany, the reversal or attenuation of some base broadening aspects of the 2008 business reform has partly been realised in response to the crisis and the federal government plans to perpetuate or even extend some of these measures. A large reform, however, seems unlikely at the moment. Regarding employment taxation, Germany will raise the personal allowances in 2010 and increase income ceilings for social security contributions. Ireland will show changes only regarding employment taxation in so far as it is going to reform the taxation of retirement savings. The Netherlands will keep up the accelerated depreciation scheme granting a bi-annual depreciation for newly purchased assets at a rate of 50% each. In the United Kingdom, the top personal income tax rate will rise by ten percentage-points to 50% with effect to April 2010.

This is going to increase the effective tax burden on the shareholder level. Furthermore, there will be additional changes in the UK regarding employment taxation: personal allowances, child benefits, and child tax credits will increase next year and contributions to social security will be raised, too.

The **East European countries** on average further reduce their corporate income taxes. The profit tax rate will be reduced by one percentage-point both in the Czech Republic (from 20% to 19%), Slovenia (from 21% to 20%) and Hungary (from 20% to 19%). Hungary will do so by increasing the rate from 16% to 19% and at the same time abolishing the special profit tax (previously 4%). Hungary is also going to profoundly change its taxation of employees in 2010 by abolishing the deductibility of expenditures to derive employment income and social security and by reducing the top income tax rate from 40% to 32%. In tendency, the effective tax burden on the employment of highly skilled labour will decline in Hungary because the tax rate cut presumably will outweigh the non-deductibility of social security contributions.

Regarding **Asia**, the biggest change can be seen in Singapore's cutting its corporate tax rate from 18% to 17% with effect from January 2010.

With regard to the **United States** it is unclear on how the announced reforms will change taxation and social security in 2011. High income earners might be taxed at higher rates, however, the income levels considered in this study seem to belong to the medium income group which is expected to receive tax rebates.