

# Cantonal Competitiveness Indicator

2018



# Contents

03 Editorial

04 High concentration of growth potential

06 The eight pillars of competitiveness

09 Cantonal competitiveness profiles

13 List of variables

## **Cantonal Competitiveness Indicator 2018**

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# Editorial

Dear reader,

The strong Swiss franc has been causing headaches for this country's exporters for some time. As soon as the exchange rate weakens a little, events such as the turbulent election results in Italy or the collapse of the Turkish lira lift the Swiss currency again. At the same time, the trade conflict between the USA and China or a possible failure of the negotiations for a framework agreement with the European Union is likely to have a negative effect on the Swiss export sector.

The impact of these developments on the economies of the different cantons varies. The cantons that are more heavily focused on exports feel events in the currency markets more than those with a domestic orientation. And cantons with a broadly based export sector are generally better equipped for turbulent times than ones dependent on demand from just a few trading partners or that concentrate on a small number of economic sectors. What's more, changes to the structure of the economy as a consequence of declining exports can result in repercussions for the labor markets in the cantons concerned.

A diversified economic structure and a flexible labor market are two central elements for increasing the long-term growth potential of the cantonal economies. In this *Cantonal Competitiveness Indicator 2018*, we also draw attention to other factors influencing the relative competitiveness of the 26 cantons in Switzerland over the long term, highlighting the challenges the cantons face when confronted with stiff international competition.

We hope you find it an interesting and informative reading.

Claudio Saputelli  
Head Global Real Estate



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Head Swiss Regions



# High concentration of growth potential

The cantons of Zug, Zurich and Basel-Stadt occupy the top three spots in the Cantonal Competitiveness Indicator (CCI) 2018. Once again, they have the highest long-term growth potential compared to the other cantons. Very good growth prospects are apparent for the group on their heels, consisting of Aargau, Schwyz, Lucerne and Vaud. There is solid growth potential in a large, closely bunched group of 11 cantons; at the top of this group is Nidwalden, in central Switzerland, while at the bottom is Obwalden. Ranked in between are the cantons of Eastern Switzerland (Thurgau, Schaffhausen, St. Gallen, Appenzell Ausserrhoden) and the Mittelland region (Fribourg, Bern, Solothurn). Basel-Landschaft and Geneva are also in this group. The laggards in the CCI 2018 are the two large mountainous cantons, Graubünden and Valais, and the canton of Jura.

## Alpine cantons improve their relative position

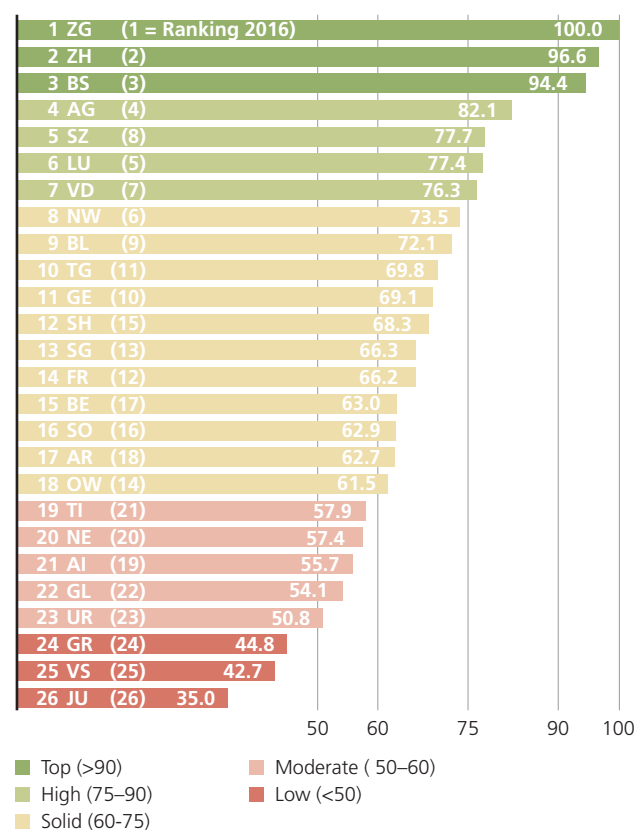
The ranking of the cantons is largely stable compared to 2016. Fourteen of them, more than half, retained the same position, though six climbed up the table. Schwyz and Schaffhausen rose three places in 2018. Bern and Ticino each climbed two notches, and Thurgau and Appenzell Ausserrhoden one. The sharpest decline was Obwalden, down four places. Nidwalden, Fribourg and Appenzell Innerrhoden fell two places, and Lucerne and Geneva one each. However, the gaps between the cantons in the middle of the ranking are small, which can result in positions changing rapidly.

Traditionally, the Alpine cantons of Uri, Glarus, Graubünden, Ticino and Valais display relatively moderate or low growth potential. However, they made up ground on the leader Zug in 2018.

## Regions in the top-ranked cantons also shine

Zug sits at the top of the rankings both by *canton* and by *region*. All of the regions in the next-best cantons of Zurich, Basel-Stadt and Aargau also feature in the top 25 regions. The regions in the top four cantons benefit from their central geographic positions, which is reflected in their very good accessibility and catchment area. The regions of the cantons of Zug, Zurich and Basel-Stadt also have high potential in terms of their economic structure and human capital.

## Cantonal Competitiveness Indicator (CCI) 2018



Source: UBS

### Interpretation

The Cantonal Competitiveness Indicator (CCI) shows the long-term relative competitiveness of a canton. It describes the potential of a canton to sustainably increase its economic output. Cantons with high relative competitiveness are likely to grow faster than the overall Swiss economy over the long term. Cantons with low relative competitiveness can expect below-average growth.

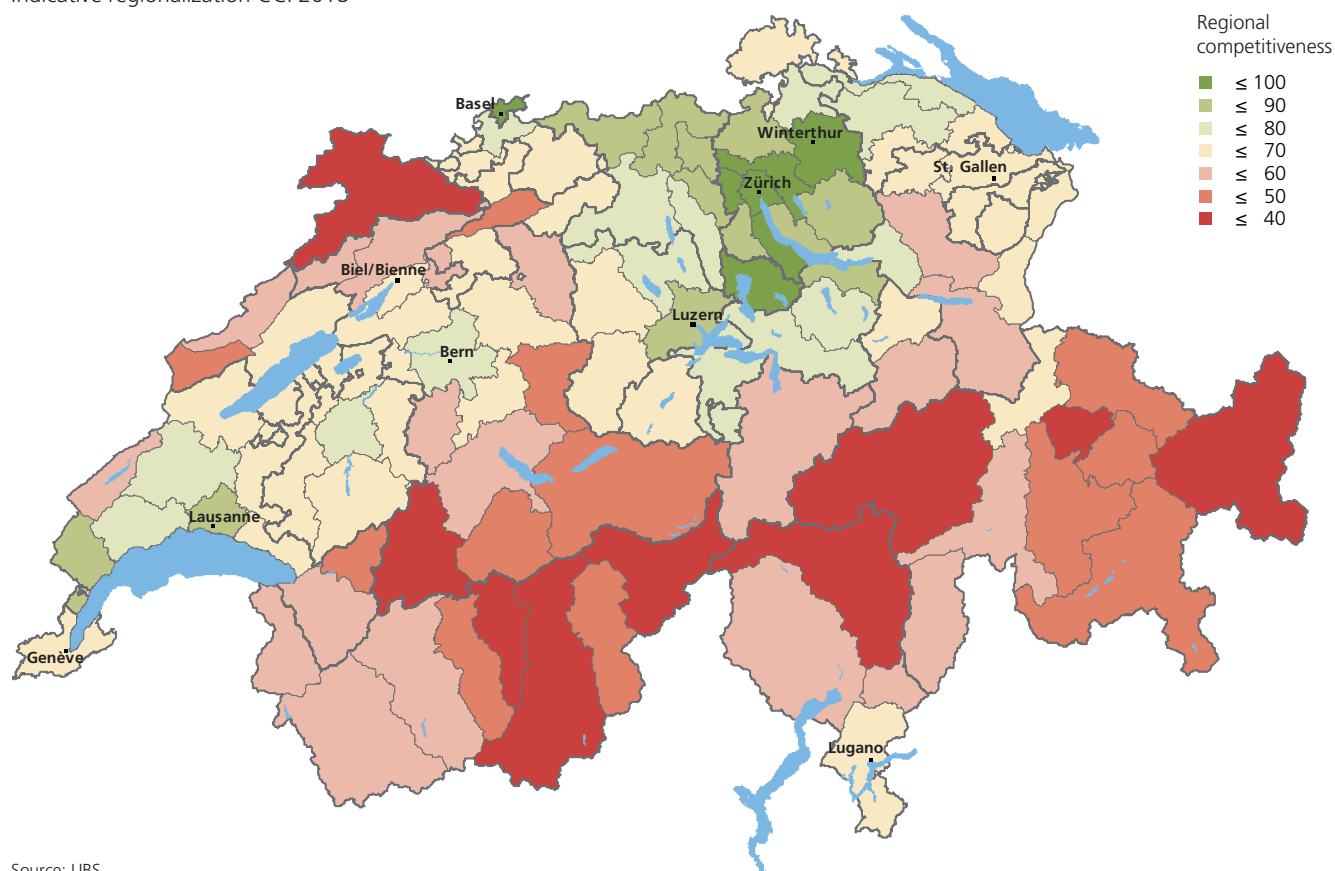
### Methodology

The CCI is based on a comparative analysis of eight thematic pillars with a total of 55 variables (see page 13). The variables are weighted and aggregated so that each canton receives a point value between 0 and 100 for each pillar. To determine the CCI for each canton, the average of the number of points from the eight pillars is calculated and standardized so that the highest cantonal figure is 100.



## Strong regional centers

Indicative regionalization CCI 2018



Source: UBS

### Bern and Vaud with largest regional differences

The regions are relatively homogenous in the cantons at the top of the ranking, but some cantons have large regional differences, as seen most clearly in Bern and Vaud. The urban regions of Bern and Lausanne, both with a strong economic structure and good accessibility, feature in the top third of the ranking. On the other hand, the weakest regions in both cantons, Saanen-Obersimmental and Pays-d'Enhaut, are at the bottom.

centers have a much better economic structure than the other regions in their cantons. With respect to economic structure, Lugano and Neuchâtel even figure in the top fifth of the regional ranking.

In Valais, Lower Valais does better than Upper Valais, and all regions of Valais have improved since 2016. Unlike Graubünden, Ticino and Neuchâtel, however, the canton lacks a driving regional center.

### Stronger regional centers in cantons with weaker growth potential

Within the cantons with relatively low or moderate growth potential, some regions are distinct from the rest of the canton. The Chur region stands out clearly in Graubünden, the Lugano region in Ticino and Neuchâtel in the canton of the same name. All three regional

# The eight pillars of competitiveness

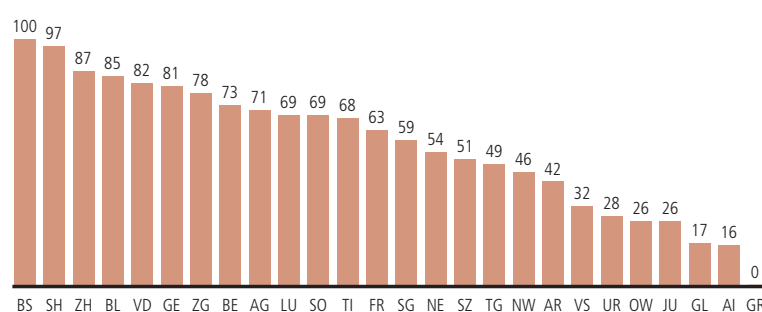
The Cantonal Competitiveness Indicator (CCI) covers 55 individual indicators of cantons' competitiveness. The individual indicators are grouped into eight competitive pillars: economic structure, innovation, human capital, labor market, accessibility, catchment area, cost environment and government finances. For each competitive pillar, cantons are given a relative score between 0 and 100. This eight-dimensional view enables a detailed analysis of the relative strengths and weaknesses of a canton's economy and serves as the basis for regional strategic decisions.

## Economic structure

The future economic dynamism of a canton depends on its economic structure. The most important indicator is our competitiveness and market positioning of the various industries. International trade is also included in the cantonal comparison, with growth potential taken into consideration based on export intensity (exports as a percentage of economic output) and the growth prospects of the main trading partners. The economic structure can also exhibit cluster risks if, for example, growth is driven by just a few industries. Broadly diversified cantonal economies are better placed to make up for weakness in one industry or a crisis in an export destination. A measure of concentration (the Herfindahl-Hirschmann index) assesses the extent to which cantonal economic output is dependent on individual sectors and trading partners.

## Strong economic structure in city agglomerations

Cantons on a scale of 1 to 100

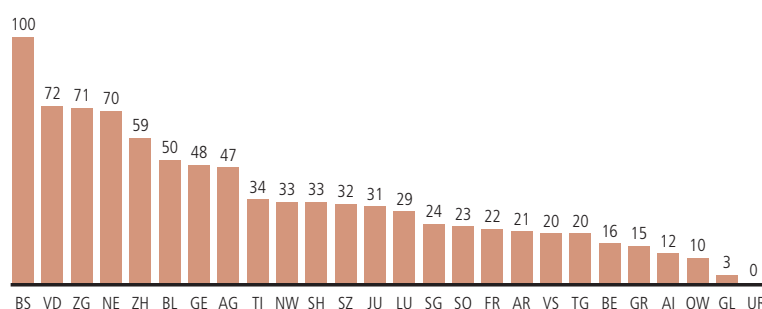


## Innovation

Entrepreneurial progress and maintaining economic competitiveness are based on innovation – the ability to create and market new products and services. Industry clusters (high regional concentrations of people working in related industries) offer an optimal environment for innovation. A canton's level of innovation also depends on the percentage of people engaged in research and development. The number of patent filings and the amount of venture capital investments highlight the potential for future competitive advantages arising from innovation. Other indicators of innovation include the number of successful startups, newly founded companies and jobs created at these companies.

## Innovation concentrated in just a few cantons

Cantons on a scale of 1 to 100

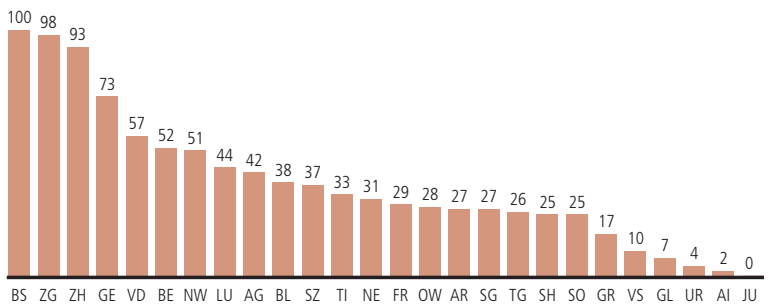


### Human capital

The level of education of the population and the human capital available are key drivers of economic growth. A better-educated population normally generates more added value. Local availability of a skilled workforce also makes the canton more attractive for companies. To compare the level of education among cantons, the percentage of the population with a university degree or higher professional qualification is determined. Another indicator used is net migration of graduates between cantons.

### City cantons have the highest human capital

Cantons on a scale of 1 to 100

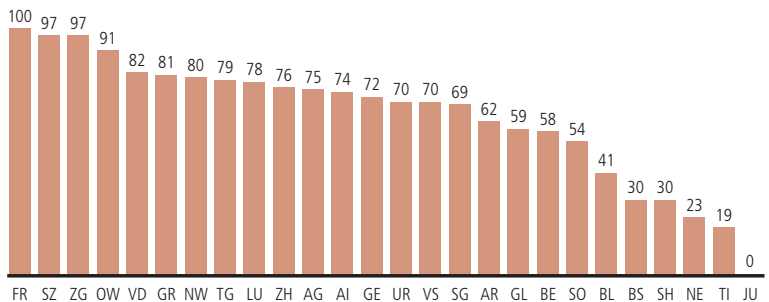


### Labor market

The more heavily the population participates in the labor market, the better use is being made of a canton's economic potential. However, the percentage of pensioners, people on disability benefits and the unemployed reduces participation in the labor market. Youth and long-term unemployment are considered particularly bad, as these can permanently reduce the labor force potential. By contrast, expected growth in the working population (growth in the cohort of 16- to 65-year-olds) has a positive effect on a canton's score, as it implies a higher percentage of the population is potentially productive.

### Labor market weak in small border cantons

Cantons on a scale of 1 to 100

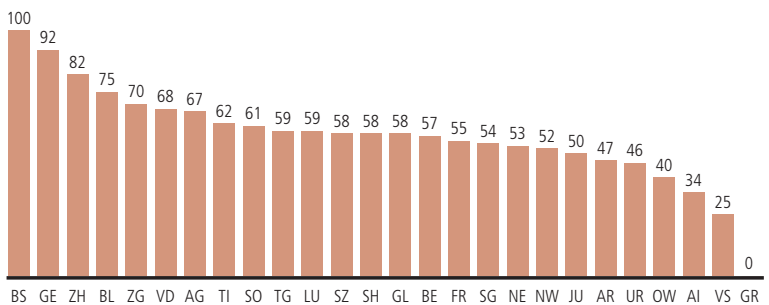


### Ease of access

Good accessibility means infrastructure as well as procurement and sales markets can be reached quickly. Accessibility describes the average time needed to reach airports, universities or regional centers. The calculation is based on travel times using public transport and private car. All Swiss universities, the nearest metropolitan area and the closest regional center as defined by the Federal Office for Spatial Development (FOSD) are taken into consideration. The four international airports of Basel, Geneva, Zurich and Milan are taken into account when assessing accessibility to flight connections, along with regional airports.

### Accessibility limited in Alpine cantons

Cantons on a scale of 1 to 100

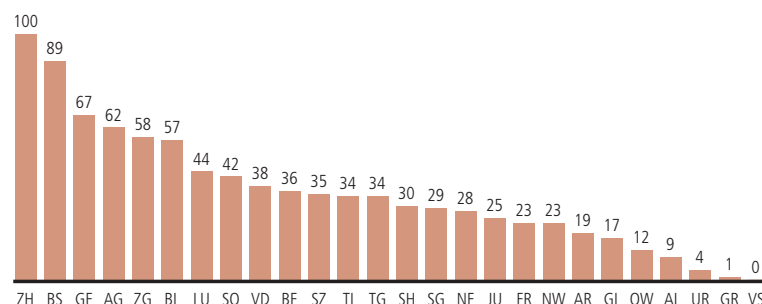


### Catchment area

The catchment area refers to the number of people that can reach an area within a certain time. A large catchment area is doubly advantageous for companies: they enjoy greater availability of suppliers and potential employees, and the sales market is larger. The catchment area is determined based on travel time by private car and public transport. The number of cross-border commuters in a canton indicates the catchment area from neighboring countries.

### Large catchment area in city cantons

Cantons on a scale of 1 to 100

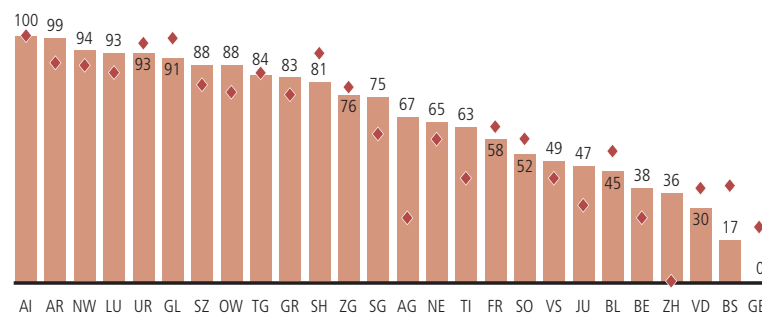


### Cost environment

Local costs are a key variable when companies are deciding where to locate. Location costs matter both for new companies moving in and for retaining existing companies. They include commercial rents, energy prices, wages and tax rates. The tax rates for high-income individuals are taken into account, as well as income and capital tax rates on legal entities.

### Attractive cost environment in Appenzell and in Central Switzerland

Cantons on a scale of 1 to 100



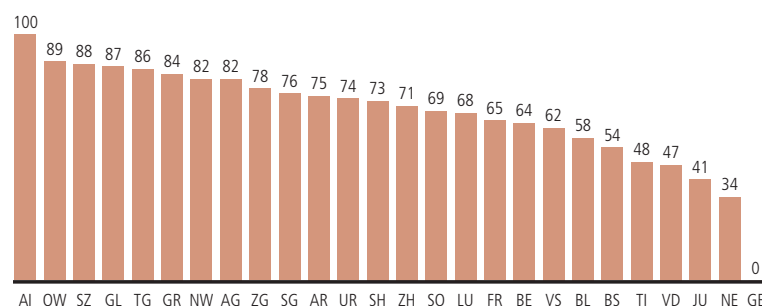
♦ Hypothetical values for the cost environment pillar based on the effective income tax burden as shown in the cantons' implementation plans in Tax Proposal 17. For cantons with two reform scenarios, the average of the scenarios was used. Source: FDF, SFTA; as at March 2018.

### State finances

Sound state finances are essential for a growth-oriented fiscal and economic policy. Sustainable use of scarce financial resources is reflected in a lean administration and a high percentage of capital investment. A canton's scope to improve its competitiveness through fiscal policy measures (such as tax cuts or infrastructure investments) is reduced as the level of debt rises. In addition to the debt level, net investments, average interest costs and coverage of the public-law pension funds of a canton are taken into account.

### Eastern and Central Switzerland with top rankings

Cantons on a scale of 1 to 100





# Cantonal competitive profiles



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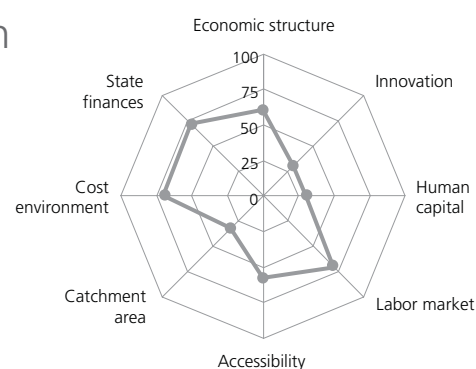
The *median canton* is a reference canton made up of the median values of the eight pillars of competitiveness.

The median value of each pillar divides the ranking list of the cantons into an upper and a lower half, each consisting of 13 cantons.

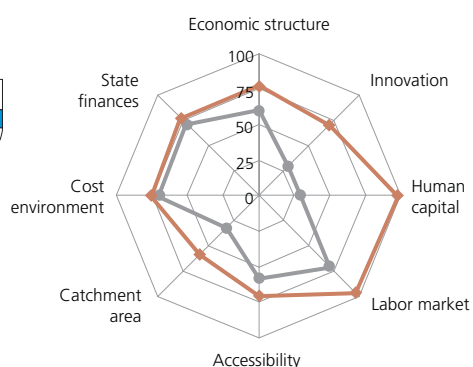
When it comes to interpreting the cantonal competitiveness profiles, the higher a canton's score, the better its relative ranking.

- Cantonal value
- Median canton

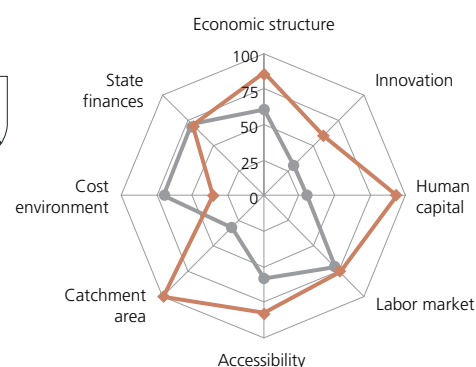
## Median canton



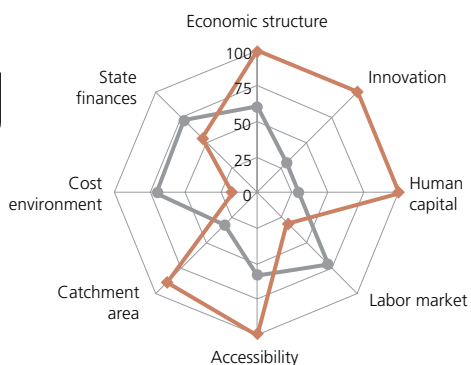
## 1 ZG



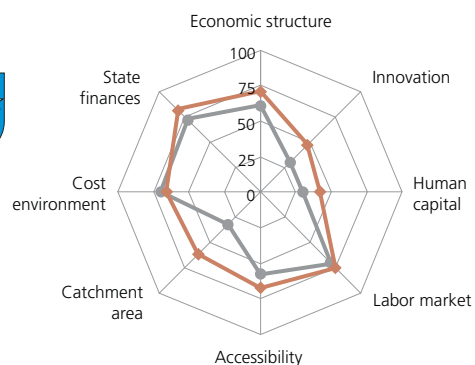
## 2 ZH



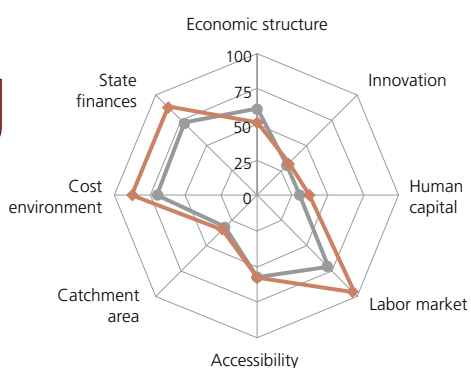
3 **BS**



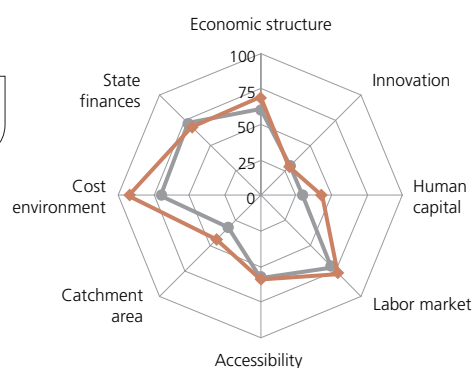
4 **AG**



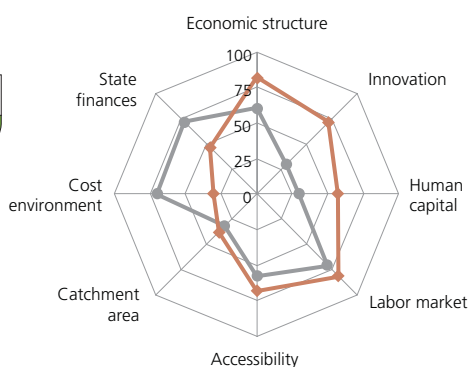
5 **SZ**



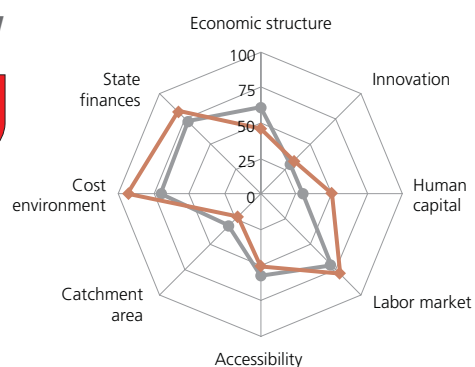
6 **LU**



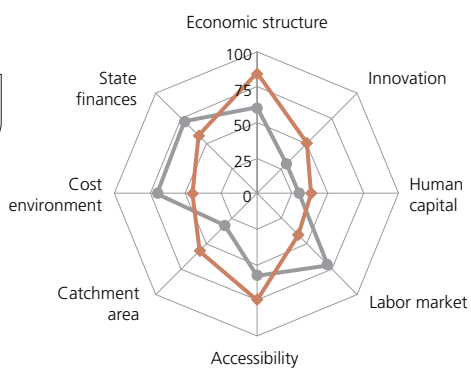
7 **VD**



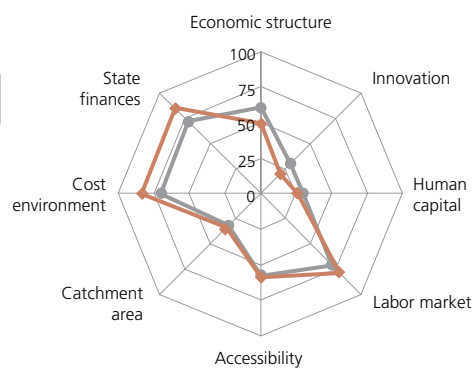
8 **NW**



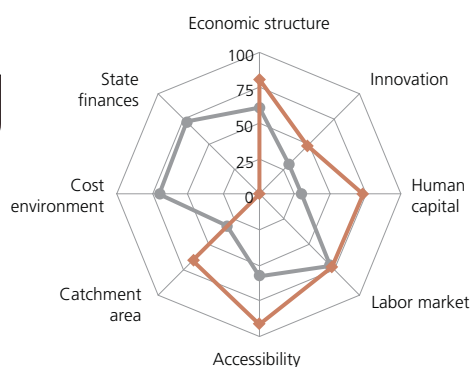
9 **BL**



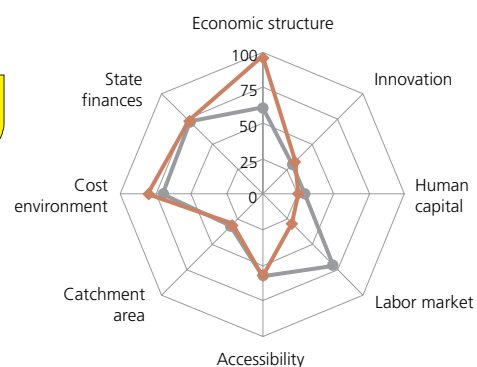
10 **TG**



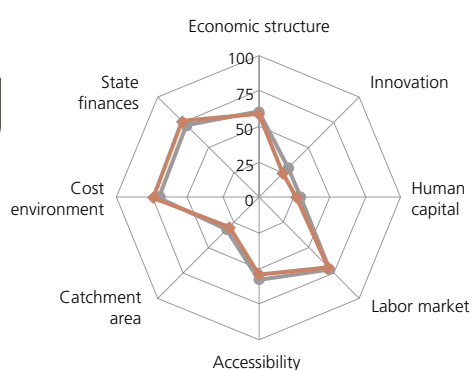
## 11 GE



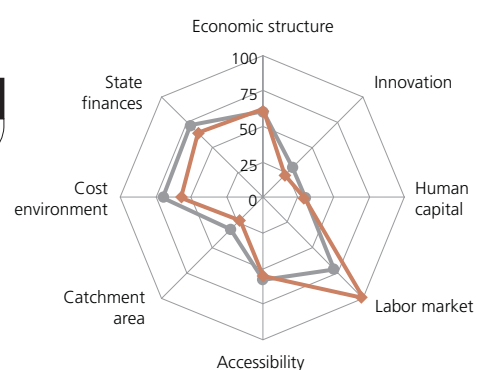
## 12 SH



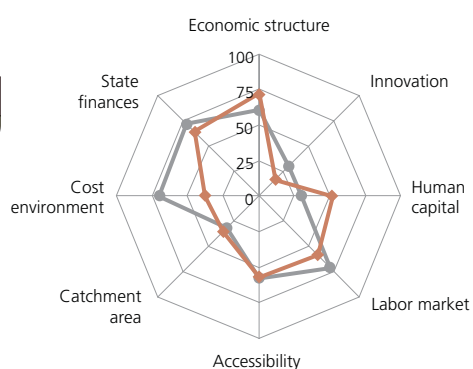
## 13 SG



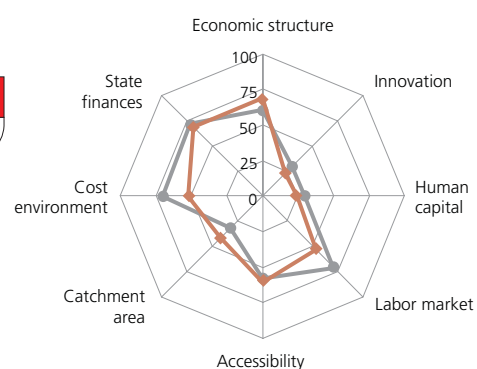
## 14 FR



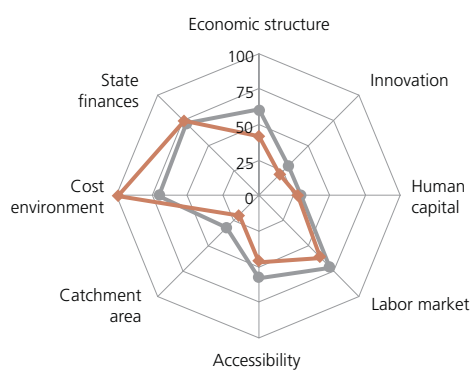
## 15 BE



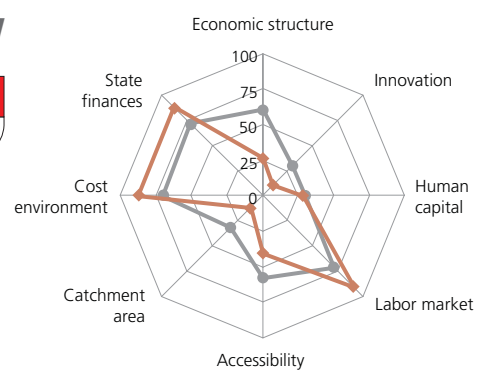
## 16 SO



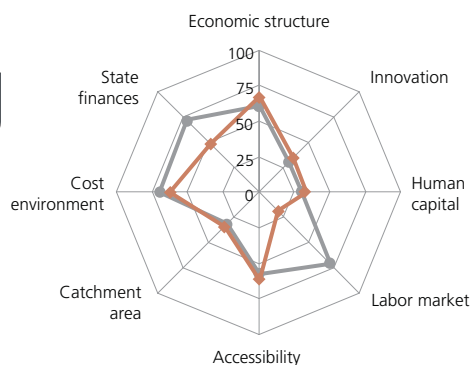
## 17 AR



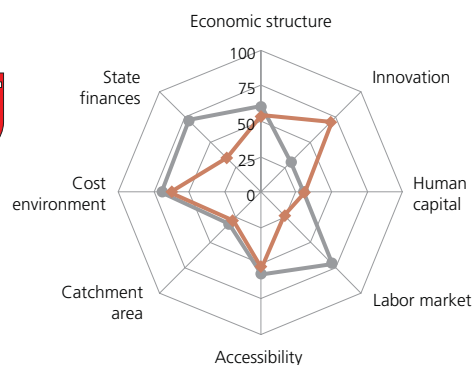
## 18 OW



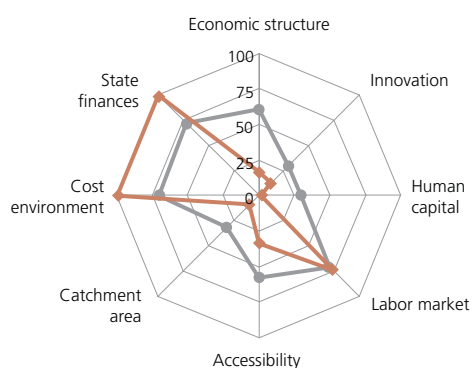
19 TI



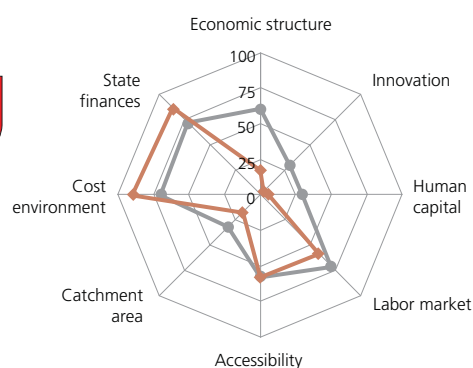
20 NE



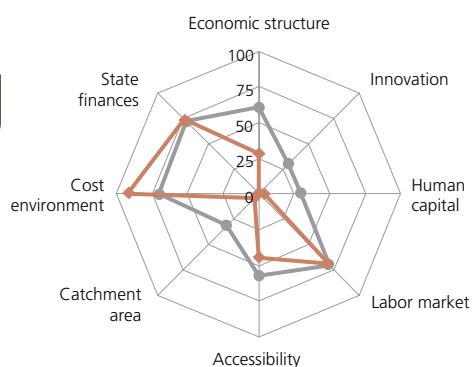
21 AI



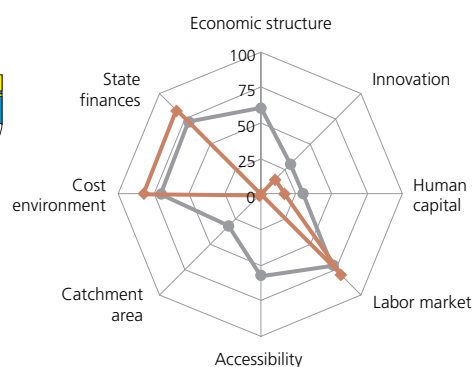
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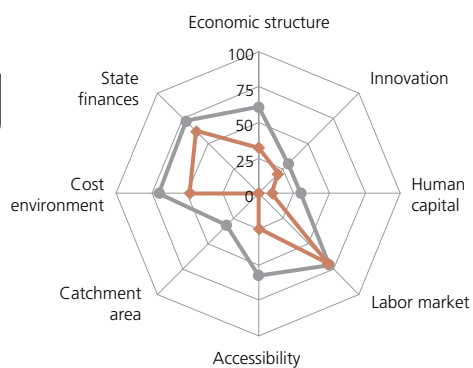
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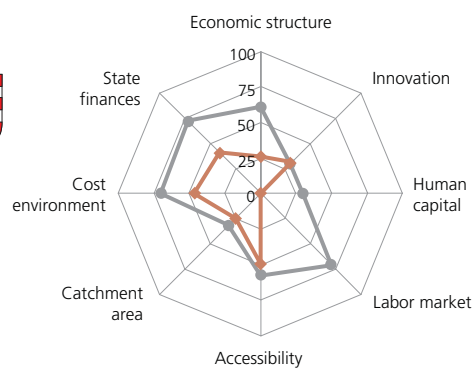
24 GR



25 VS



26 JU



## List of variables

		+/- <sup>1</sup>	Sources:
Economic structure	Sector positioning by market attractiveness	+	BAK, SFSO, KOF, UBS
	Sector positioning by competitive position	+	BAK, SFSO, KOF, UBS
	Export intensity	+	SCA, UBS
	Percentage of export-intensive sectors	+	SFSO, UBS
	Average economic growth in international trading partners	+	SCA, IMF, UBS
	Average economic growth in country of origin of guests, weighted by overnight stays	+	SFSO, IMF, UBS
	Diversification of jobs within growth sectors	+	BAK, SFSO, KOF, UBS
	Diversification of jobs within all sectors	+	BAK, SFSO, KOF, UBS
	Export diversification by country	+	SCA, UBS
	Diversification of overnight stays by country	+	SFSO, UBS
Innovation	Percentage of FTEs <sup>2</sup> in sector clusters	+	SFSO, UBS
	Percentage of FTEs <sup>2</sup> in research and development	+	SFSO, UBS
	Patent filings per inhabitant and FTE <sup>2</sup>	+	OECD, SFSO, UBS
	Venture capital investments per FTE <sup>2</sup> and financing rounds	+	SECA, University of Basel, UBS
	Number of startups per inhabitant and FTE <sup>2</sup>	+	Startup.ch, UBS
	Newly started companies compared to number of existing companies	+	SFSO, UBS
	Jobs in newly started companies compared to overall employment	+	SFSO, UBS
Human capital	Percentage of new entries in commercial register	+	BFS, Dun & Bradstreet, UBS
	Percentage of population with higher professional education	+	SFSO, UBS
	Percentage of population with tertiary education	+	SFSO, UBS
	Net migration rate of graduates one year after graduation	+	SFSO, UBS
Labor market	Net migration rate of graduates five years after graduation	+	SFSO, UBS
	Unemployment rate	-	SECO, UBS
	Long-term unemployed as a percentage of total unemployed	-	SECO, UBS
	Youth unemployment rate compared to unemployment rate	-	SECO, UBS
	People receiving disability benefits as a percentage of the total population	-	SFSO, UBS
	People over age 65 as a percentage of the total population	-	SFSO, UBS
	Cohort potential of 16- to 65-year-olds out to 2025	+	SFSO, UBS
Accessibility	Cohort potential of 16- to 65-year-olds out to 2030	+	SFSO, UBS
	Travel time to nearest international airport by private transport	-	TranSol, FOCA, UBS
	Travel time to nearest regional airport by private transport	-	TranSol, FOCA, UBS
	Travel time to nearest metropolitan area by private and public transport	-	TranSol, SFSO, UBS
	Travel time to regional center by private and public transport	-	TranSol, SFSO, UBS
Catchment area	Travel time to nearest university by private transport	-	TranSol, SFSO, UBS
	Catchment area (people) by private transport with/without traffic congestion	+	TranSol, SFSO, UBS
	Catchment area (people) by public transport	+	TranSol, SFSO, UBS
	Catchment area (people) from abroad by private transport with/without traffic congestion	+	TranSol, foreign statistics auth., UBS
Cost environment	Percentage of cross-border commuters	+	SFSO, UBS
	Income tax burden for legal entities	-	Hinny, cantonal tax offices, UBS
	Capital tax burden for legal entities	-	Hinny, cantonal tax offices, UBS
	Income tax burden for high-income individuals	-	Hinny, cantonal tax offices, UBS
	Office rents	-	Wüest & Partner, UBS
	Energy prices	-	ElCom, UBS
State finances	Wages	-	SFSO, UBS
	Average debt interest rate	-	SFFA, UBS
	Net interest charges	-	SFFA, UBS
	Gross debt per inhabitant (cantonal and municipal debts)	-	SFFA, SFSO, UBS
	Gross debt ratio (cantonal and municipal debts)	-	SFFA, SFSO, UBS
	Net debt per inhabitant (cantonal and municipal debts)	-	SFFA, SFSO, UBS
	Net debt ratio (cantonal and municipal debts)	-	SFFA, SFSO, UBS
	Public-sector pension fund shortfall	-	Various pension funds, SFSO, UBS
	Investment efforts	+	SGSPA, SFFA, UBS
	Net investment per inhabitant and FTE <sup>2</sup>	+	SFSO, SFFA, UBS
	Administrative expenses per inhabitant and FTE <sup>2</sup>	-	SFFA, UBS
	Employees in public administration (canton, district and municipalities) per inhabitant and FTE <sup>2</sup>	-	SFSO, UBS

<sup>1</sup> "+" = positive impact on KWI score; "-" = negative impact on KWI score<sup>2</sup> FTE = full-time equivalent



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