

# Cantonal Competitiveness Indicator

2021



# Contents

- 03 Editorial
- 04 Cantonal competitiveness
- 07 The eight pillars of competitiveness
- 10 Cantonal competitiveness profiles
- 14 List of variables

# **Cantonal Competitiveness** Indicator 2021

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# Publisher

UBS Switzerland AG Chief Investment Office WM PO Box, CH-8098 Zurich

# **Editorial deadline**

20 August 2021

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# **Desktop Publishing**

CIO Design

# Cover photo

Getty Images

# Languages

German, French and English

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# **Editorial**

Dear Reader,

Some things don't change. Grant me the serenity to accept the things I cannot change is the first request in the Serenity Prayer, which is attributed to theologian Reinhold Niebuhr. Other things can change, however. The second request is for the courage to change the things that can be changed. But all the drive in the world won't help if there is no awareness of what can be changed and which factors can be influenced. That's why the last section of the prayer asks for the wisdom to know the difference.

Mountains, for example, cannot be moved. But the geography of a canton has a significant influence on its long-term economic competitiveness based on the speed of its transport connections and how densely populated it is. Thus, some cantons, thanks to their central location or easily accessible terrain, have an advantage over those that are mountainous and have valleys that are difficult to access, at least from an economic perspective. This is unlikely to change. However, politicians in all cantons have levers available to them – in the form of the promotion of innovation, labor market measures and tax rates – for improving growth prospects.

The Cantonal Competitiveness Indicator analyzes a number of key factors for the long-term competitiveness of a canton, thus determining the relative growth potential for each of the cantons. This year's issue also shows how unchangeable factors affect the overall result and which cantons successfully take advantage of the potential of aspects that can be influenced.

We hope you find it interesting and informative reading.

Claudio Saputelli Head Swiss and Global Real Estate Katharina Hofer Head Swiss Regional Research

# Cantonal competitiveness

According to the Cantonal Competitiveness Indicator (CCI), the canton of Zug is the most competitive canton. The cantons of Basel-Stadt and Zurich come in second and third, respectively. The top three cantons are well ahead of the other cantons. But Aargau, Schwyz and Vaud have a high level of competitiveness nevertheless. There are ten cantons in the middle range with solid long-term growth prospects. This group is led by Basel-Landschaft, followed by Lucerne and Geneva. It also includes the two central Swiss cantons of Nidwalden and Obwalden, Schaffhausen, the eastern cantons of Thurgau and St. Gallen, and Solothurn and Fribourg. We see moderate growth potential for the cantons of Appenzell Ausserrhoden, Appenzell Innerrhoden, Glarus, Uri, Bern, Ticino and Neuchâtel. The mountain cantons of Graubünden and Valais as well as Jura have lower competitive potential compared with the other cantons.

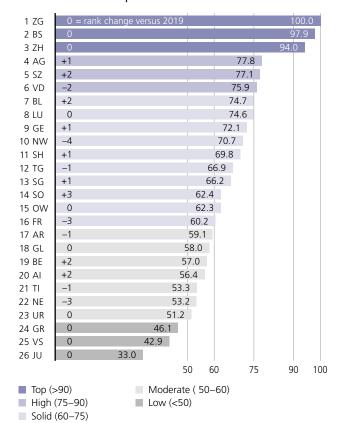
# Changes as a result of demographics and sector positioning

The canton of Solothurn posted the best improvement in the rankings, climbing three spots. The canton benefited from the reduction in the income tax for legal entities – after the corresponding referendum failed in 2019. However, there were two main reasons for the changes in the assessment of competitiveness for most cantons.

First, the assessment of the demographic trend in individual cantons by the Swiss Federal Statistical Office changed significantly compared with 2019. This trend is decisive for the expected size of the working-age population and thus the potential labor force. The forecast for the change in working-age population improved substantially in Appenzell Innerrhoden and Uri. In Graubünden and Ticino, the population will likely continue to age faster than previously expected and the potential workforce is expected to shrink. In the canton of Fribourg, the expected growth of the working-age population is less than it was previously because of lower immigration, which led to a deterioration in the canton's relative competitive position.

Second, changes in sector prospects affected growth potential. Sectors with strong growth grew even stronger despite the crisis, while, for example, services for companies and the chemical and pharmaceutical industry continued to see strong growth, the prospects for publishers and travel agencies were muted. The same applies for vehicle manufacturers and the watch industry. The deterioration of the outlook for sectors that are

# Cantonal Competitiveness Indicator 2021



Source: UBS

# Interpretation and methodology

The CCI provides insight into a canton's long-term relative competitiveness. In the long run, cantons with a high relative competitiveness are likely to grow more than the Swiss economy as a whole. By contrast, cantons with a low relative competitiveness are expected to undergo below-average growth. A low CCI score only means that a canton has below-average growth opportunities relative to the other cantons, not that it necessarily has low absolute growth potential. Since many highly regarded studies rank Switzerland among the most competitive countries in the world, even low-CCI cantons are still competitive in an international comparison.

To determine the CCI, an average is calculated from eight thematic pillars for each canton and scaled so that the highest cantonal score is 100. Competitiveness calculated at the cantonal level conceals the various regional differences within the cantons. The map on page 6 shows a regionalized view of CCI 2021 featuring the 106 economic regions defined by the Federal Statistical Office.

important locally has, for example, dampened the outlook for the canton of Nidwalden. The cantons of Neuchâtel and Jura are affected as well. By contrast, an improvement in sector positioning helped Basel-Stadt to close the gap to the canton of Zug. As a result, the canton cemented its second-place position, which it took over from Zurich in 2019.

## Coronavirus is not a game-changer

Overall, the coronavirus will likely only have a minor impact on the long-term relative competi-

tiveness of the cantons. A worsening of public finances is likely to be the greatest impact on growth prospects. However, potential tax shortfalls in cantonal financial budgets will not occur until this year. But the cantons are optimistic: The 2021 budgets for most cantons do not show major deficits. The exceptions here are the canton of Geneva and, to a lesser extent, the canton of Ticino, where the expected deficits are substantial, at between 5 and 10% of expenditures.

# Competitiveness not set in stone

The relative competitiveness of a canton does not usually change much from year to year. This is because the factors that influence competitiveness hardly change, especially in the short term, but to some extent in the long term as well. One example is geographic location, which determines the accessibility of key infrastructure or the size of the catchment area. Similarly, the economic situation of foreign trading partners is outside the sphere of cantonal influence.

However, several factors that are significant for long-term growth can be influenced directly and relatively quickly – during one legislative period. For others, though, the course can be set within a period that is more relevant for politics. The former include cantonal tax rates and government spending on investments and administration. The factors that are influenced over the long term include, for example, the youth and long-term unemployment rates, which can be addressed with an active labor market policy; young and dynamic companies can be promoted with innovation programs.

# Potential not being fully exploited everywhere

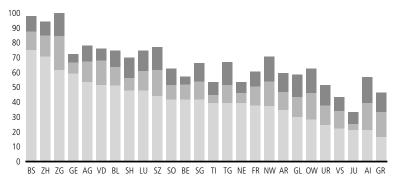
The total number of CCI points can be divided into variables that can be influenced over the short or long term and factors that are exogenous, i.e. those that generally cannot be influenced. As is the case with the overall rankings, the canton of Zug is clearly at the top when it comes to factors that can be influenced. This result is driven by the top values in the area of innovation. Zug is followed by the central Swiss cantons of Appenzell Innerrhoden, Obwalden, Nidwalden and Schwyz, as well as Graubünden, which stand out with their particularly good performance in the areas of cost environment and government finances.

By contrast, the urban cantons, like Basel-Stadt, Zurich and Geneva, benefited from factors that cannot be influenced. They have the best accessibility of essential infrastructure as well as large catchment areas, thanks to dense metropolitan areas and thus a large pool of potential employees and significant sales markets for companies.

In the overall ranking, some cantons lag behind their potential due to factors that cannot be changed. The greatest difference between the relative positioning in the CCI and the factors that cannot be changed can be found in the cantons of Ticino, Bern, Geneva and Neuchâtel. Some of the room for improvement in these cantons is not being utilized.

# Competitiveness can be influenced at least partially

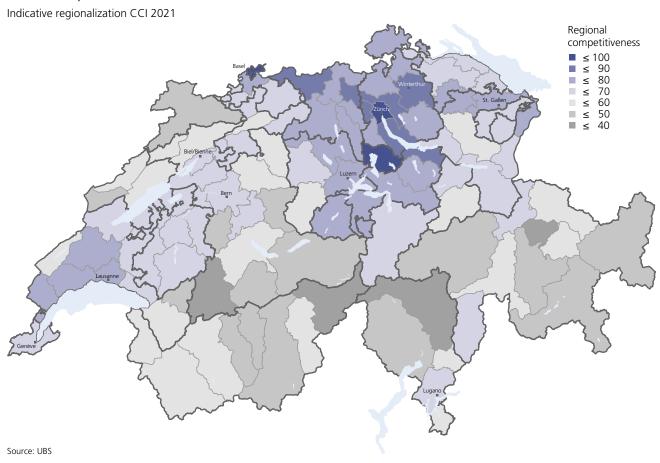
CCI values by factors that can be influenced over a short period (a legislative period) or long period and factors that cannot be directly influenced, sorted by factors that cannot be influenced



- Cannot be changed
- $\hfill \blacksquare$  Can be influenced over the long term
- Can be influenced over the short term

Source: UBS

# Different potential within the cantons



# Regions in the top-ranked cantons also shine

Zug is at the top of the rankings both by canton and by region. With few exceptions, all regions in the next-best cantons of Zurich, Basel-Stadt, Aargau and Schwyz are also among the best 25 regions as well. The regions in these cantons benefit greatly from their central location. However, there are differences in terms of relative growth potential. For example, the Zurich Unterland and Oberland regions are, in relative terms, quite far behind the overall canton. Conversely, the region of March is more competitive than the rest of the canton of Schwyz.

# Bern and Vaud with largest regional differences

There are very large regional differences in the cantons of Bern and Vaud. On the one hand, the urban regions of Bern and Lausanne, with a strong economic structure and good accessibi-

lity, clearly have above-average competitiveness. On the other hand, the weakest regions in both cantons, Saanen-Obersimmental and Pays d'Enhaut, are ranked at the bottom.

# Stronger regional centers in cantons with weaker growth potential

Within the cantons with relatively low or moderate growth potential, some regions stand out 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 centers have a much better economic infrastructure than the other regions in their canton. In this respect, Lugano and Neuchâtel are in the top third of the regional rankings. In Valais, Lower Valais does better than Upper Valais. Unlike Graubünden, Ticino and Neuchâtel, however, the canton lacks a driving regional center.

# The eight pillars of competitiveness

The Cantonal Competitiveness Indicator (CCI) covers 56 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.

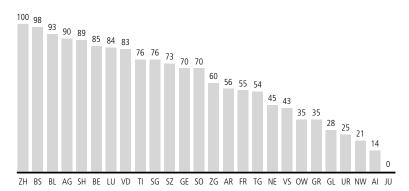


# Economic structure

The future economic dynamism of a canton depends on its economic structure. The most important indicator is our sector positioning. International trade is also included

in the cantonal comparison, with growth potential taken into consideration based on export intensity and the growth prospects of the main trading partners. The economic structure can also exhibit cluster risks if, 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 assesses the extent to which cantonal economic output is dependent on individual sectors and trading partners.

# Cantons on a scale of 1 to 100



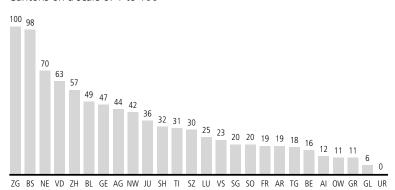


## Innovation

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.

# Cantons on a scale of 1 to 100

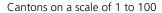


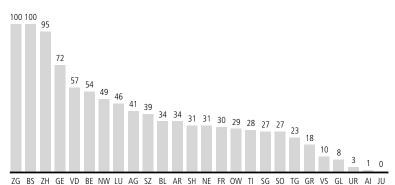


# Human capital

The level of education of the population and the human capital 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.





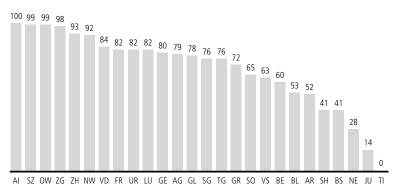


# Labor market

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 64-year-olds) has a positive effect on a canton's score, as it implies a higher percentage of the population is potentially productive.

### Cantons on a scale of 1 to 100



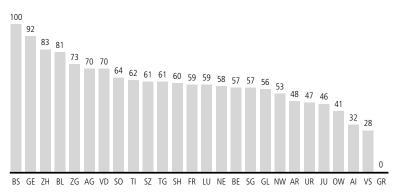


## Ease of access

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 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.

# Cantons on a scale of 1 to 100



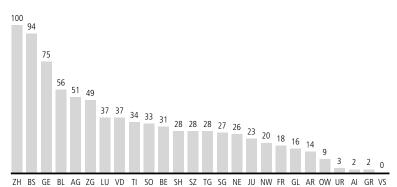


## Catchment area

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.





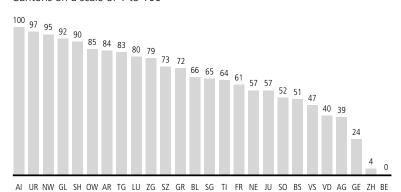


# Cost environment

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 office rents, energy prices, wages and tax rates, exemptions from patent boxes and excess deductions for research and development.

## Cantons on a scale of 1 to 100



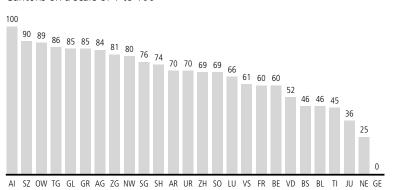


## State finances

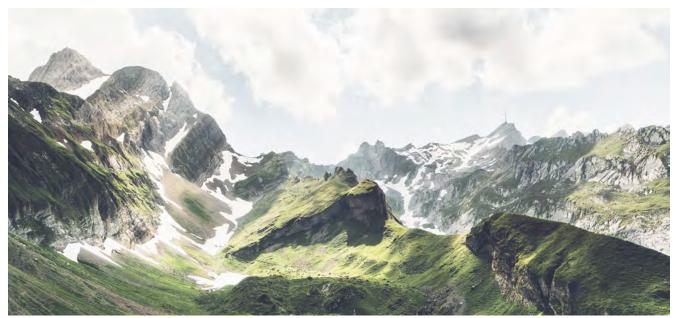
Sound state finances are essential for a growth-oriented fiscal and economic policy. Sustainable use of scarce financial resources is reflected in a lean administration and a high percentage of

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.

# Cantons on a scale of 1 to 100



# Cantonal competitive profiles



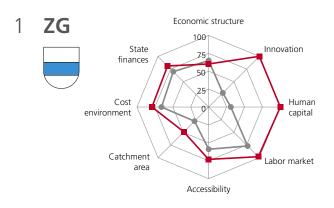
Getty Images

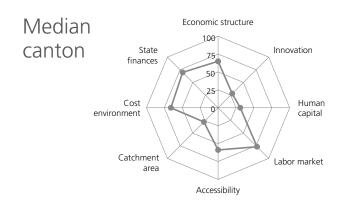
The cantonal competitiveness profiles show the values of the eight pillars of competitiveness for each canton in comparison with the median canton.

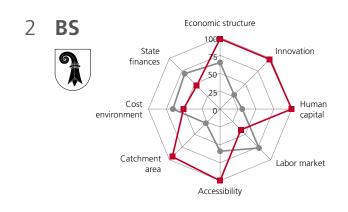
The *median canton* is a reference canton made up of the median values of the eight pillars of competitiveness. The median value of each pillar divides the ranking list of the cantons into an upper and a lower half, each consisting of 13 cantons.

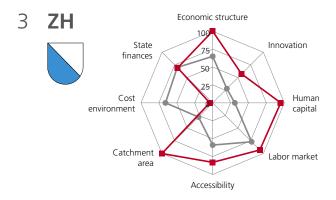
When it comes to interpreting the cantonal competitiveness profiles, the higher a canton's score, the better its relative ranking.

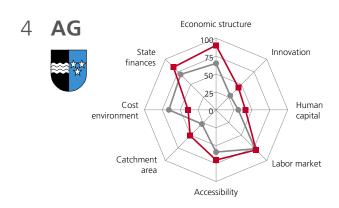


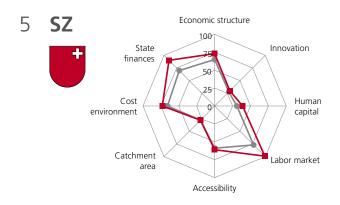


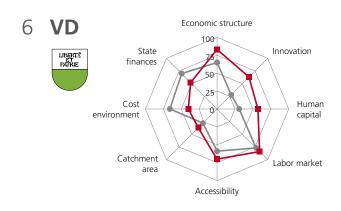


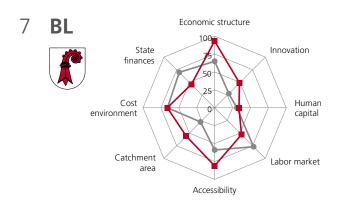


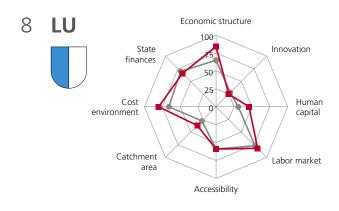


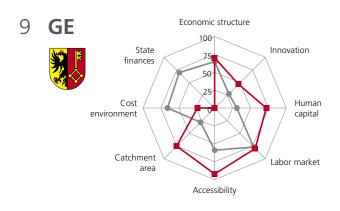


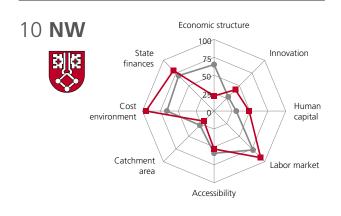


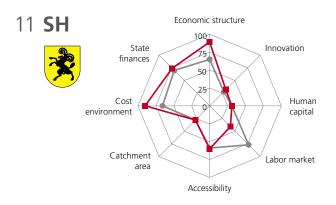


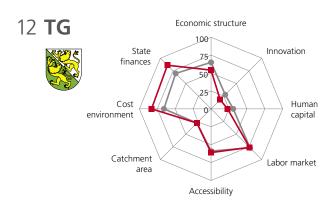


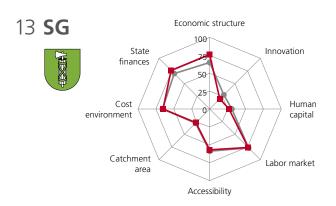


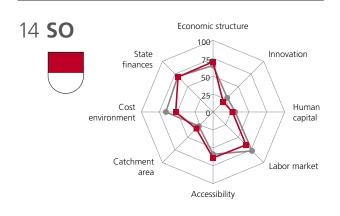


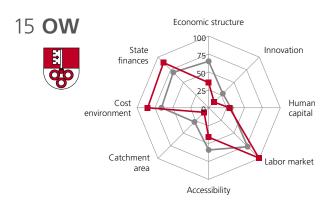


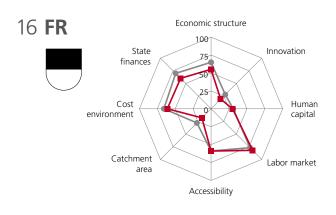


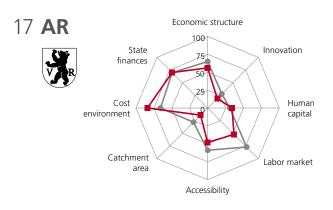


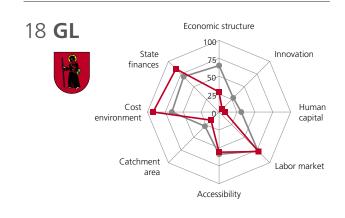


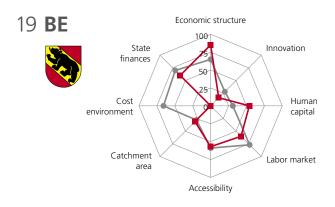


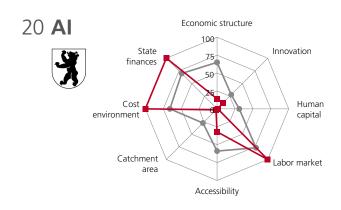


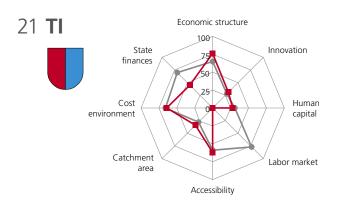


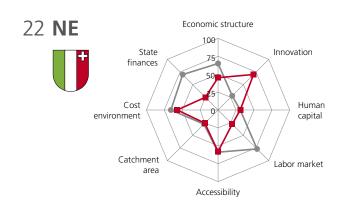


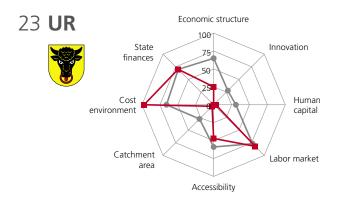


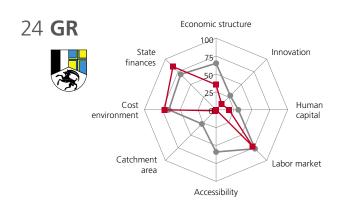


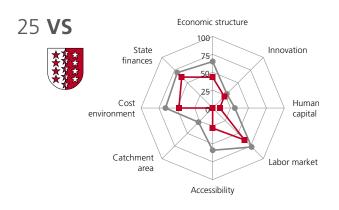


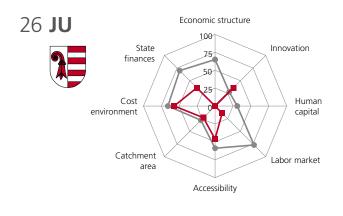












# List of variables

	List of Variables	+/-1	Sources:
	Sector positioning according to growth potential	+	SFSO, UBS
	Export intensity	+	SCA, UBS
φ	Percentage of export-intensive sectors	+	SFSO, UBS
Economic structure	Average economic growth in international trading partners	+	SCA, IMF, UBS
ĕ	Average economic growth in international trading partners  Average economic growth in country of origin of guests, weighted by overnight stays		SFSO, IMF, UBS
ts	Diversification of jobs within growth sectors	+	
ĕĮ	Diversification of jobs within all sectors	+	SFSO, UBS SFSO, UBS
ᅙ	Export diversification by country	+	
Ŝ		+	SCA, UBS
ш.	Diversification of overnight stays by country	+	SFSO, UBS
	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
Innovation	Number of startups per inhabitant and FTE <sup>2</sup>	+	Startup.ch, UBS
/at	Newly started companies compared to number of existing companies	+	SFSO, UBS
်	Jobs in newly started companies compared to overall employment	+	SFSO, UBS
<u>=</u>	Percentage of new entries in commercial register	+	BFS, Bisnode, EHRA, UBS
	Percentage of population with higher professional education	+	SFSO, UBS
	Percentage of population with tertiary education	+	SFSO, UBS
Human capital	Net migration rate of graduates one year after graduation	+	SFSO, UBS
효료	Net migration rate of graduates five years after graduation	+	SFSO, UBS
_ 0 .	Net migration rate of graduates live years after graduation		
	Unemployment rate	_	SECO, UBS
	Long-term unemployed as a percentage of total unemployed	_	SECO, UBS
	Youth unemployment rate compared to unemployment rate	_	SECO, UBS
et et	People receiving disability benefits as a percentage of the total population	_	SFSO, UBS
ar	People over age 65 as a percentage of the total population	_	SFSO, UBS
Ε [	Cohort potential of 16- to 64-year-olds out to 2025	+	SFSO, UBS
Labor market	Cohort potential of 16- to 64-year-olds out to 2030	+	SFSO, UBS
Га			
₹	Travel time to nearest international airport by private transport	_	DETEC, FOCA, UBS
≣	Travel time to nearest regional airport by private transport	_	DETEC, FOCA, UBS
ssi	Travel time to nearest metropolitan area by private and public transport	_	DETEC, SFSO, UBS
Accessibility	Travel time to regional center by private and public transport	_	DETEC, SFSO, UBS
ěΙ	Travel time to nearest university by private transport	-	DETEC, SFSO, UBS
ŧ.	Catchment area (people) by private transport with/without traffic congestion	+	DETEC, SFSO, UBS
tchment sa	Catchment area (people) by public transport	+	DETEC, SFSO, UBS
g tch	Catchment area (people) from abroad by private transport with/without traffic congestion	+	DETEC, foreign statistics auth., UBS
are Gar	Percentage of cross-border commuters	+	SFSO, UBS
	Exemptions from patent boxes	+	Hinny, cantonal tax offices, UBS
Cost environment	Excess deductions for R&D	+	Hinny, cantonal tax offices, UBS
	Income tax burden for legal entities	_	Hinny, cantonal tax offices, UBS
Ĕ	Capital tax burden for legal entities	_	Hinny, cantonal tax offices, UBS
ē	Income tax burden for high-income individuals	_	Hinny, cantonal tax offices, UBS
Cost	Office rents	_	Wüest & Partner, UBS
o ₽	Energy prices	_	ElCom, UBS
	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 per inhabitant (cantonal and municipal debts)  Net debt ratio (cantonal and municipal debts)		
S		_	SFFA, SFSO, UBS
ğ	Public-sector pension fund shortfall		Cantonal pension funds, SFSO, UBS
i.	Investment efforts	+	SGSPA, SFFA, UBS
e F	Net investment per inhabitant and FTE <sup>2</sup>	+	SFSO, SFFA, UBS
State finances	Administrative expenses per inhabitant and FTE <sup>2</sup>	_	SFFA, UBS
S	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  $^{2}$  FTE = full-time equivalent

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Version B / 2021. CIO82652744

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