

# Locational quality: Basel-City temporarily takes over top spot

Locational quality 2019 | October 2019



LQI 2019  
**Basel-City edges  
ahead of Zug**

Page 3

Cantonal tax strategies  
**Significant differences in tax  
instruments and tax burdens**

Page 7

Outlook LQI 2025  
**Zug likely to reclaim top  
spot from Basel-City**

Page 7

# Imprint

---

**Publisher: Credit Suisse AG, Investment Solutions & Products**

Nannette Hechler-Fayd'herbe  
Head of Global Economics & Research  
+41 44 333 17 06  
nannette.hechler-fayd'herbe@credit-suisse.com

Dr. Oliver Adler  
Chief Economist Switzerland  
+41 44 333 09 61  
oliver.adler@credit-suisse.com

**Press date**

September 3, 2019

**Orders**

Electronic copies via  
[www.credit-suisse.com/locationquality](http://www.credit-suisse.com/locationquality).

**Copyright**

The publication may be quoted providing that it is cited as the source.  
Copyright © 2019 Credit Suisse Group AG and/or its affiliated companies.  
All rights reserved.

**Author**

Dr. Jan Schüpbach  
+41 44 333 77 36  
jan.schuepbach@credit-suisse.com

**Input**

Tomasz Limberger

# Basel-City edges ahead of Zug

**For the first time in the history of the Locational Quality Indicator, the Canton of Zug does not top the rankings. The top spot in the cantonal rankings is now occupied by Basel-City, which has dramatically cut its corporate tax rates with retroactive effect from the start of 2019. The Canton of Vaud has also recently cut its taxes for legal entities, which has propelled it nine positions up the rankings to 8th place. Switzerland's corporate tax reform can be expected to result in further changes in the rankings over the next few years.**

## The Locational Quality Indicator by Credit Suisse

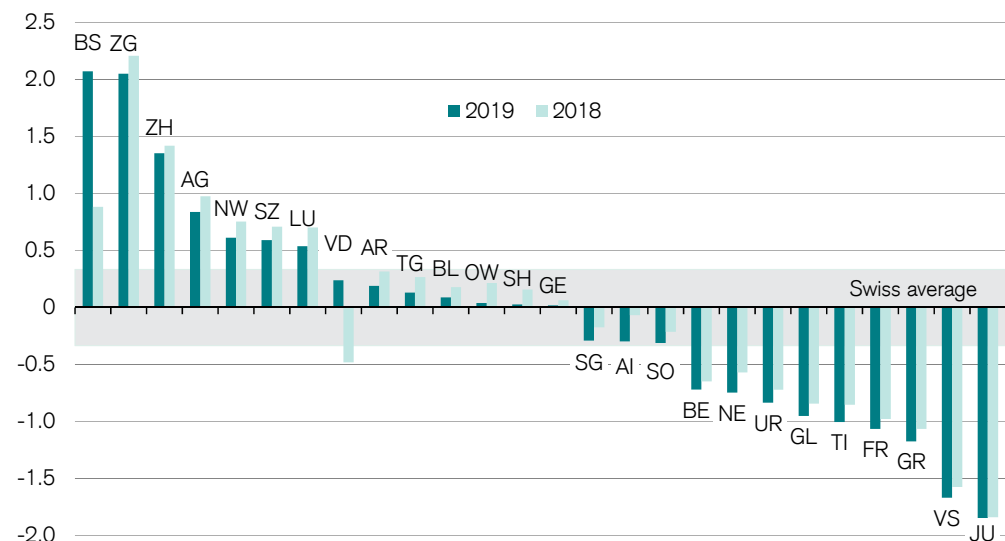
The long-term economic potential of the Swiss cantons is largely determined by the overall conditions for businesses. Firms tend to invest primarily in attractive locations, thus creating jobs and bringing added value and prosperity. Intense competition between different locations is forcing the Swiss cantons and regions to take steps to optimize their appeal to the greatest extent possible. The annual Credit Suisse Locational Quality Indicator (LQI) measures the attractiveness of the Swiss cantons and regions to companies compared to the Swiss average (see appendix for detailed results). Figures between -0.3 and +0.3 can be considered mid-pack territory, with higher figures signifying above-average appeal and lower figures signifying less appeal. The indicator is based on the following seven quantitative sub-indicators (cf. box on page 6): tax burden on legal entities and private individuals, availability of specialized labor and highly qualified personnel, population accessibility, employee accessibility, and access to airports. In this way, the LQI serves on the one hand as a guide to companies that are in the process of evaluating potential locations, and on the other as a benchmarking tool for the optimization of cantonal or regional location policy.

## Basel-City now ahead of Zug and Zurich, Vaud climbs nine places

The Canton of Zug has been the undisputed leader of the cantonal rankings ever since the analysis of locational quality began back in 1997. This year, however, it is the Canton of Basel-City that has claimed top ranking (cf. Fig.). Thanks to a significant cut in its rate of profit tax to 13.04% (with retroactive effect from the start of the year), Basel-City has surged up the rankings from last year's fourth place, and now boasts the most favorable combination of appeal factors, closely followed by Zug and Zurich.

### Locational quality of Swiss cantons

Locational Quality Indicator (LQI), synthetic index, CH = 0



Source: Credit Suisse

The results for the Cantons Aargau, Nidwalden, Schwyz, and Lucerne are also well above the average. The Canton of Vaud has surged up the rankings from 17th place to 8th place thanks to a significant reduction in corporate taxes (profit tax rate now 13.79%). The rise puts this canton in the forefront of the mid-pack, which also includes various cantons with urban agglomerations and the city canton of Geneva. With their challenging topography, the peripheral cantons of Jura and Valais exhibit the lowest locational quality. Compared to last year, there have been a number of minor changes in the rankings. Among others, Cantons Obwalden and Appenzell Innerrhoden each fall back two places, while Canton Bern rises one place.

### The reform of corporate taxation has begun

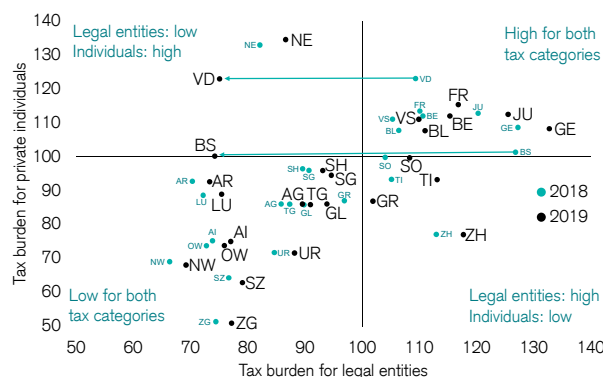
The most significant changes in the rankings are primarily attributable to changes in the taxation of companies. Tax policy is a key component of location development, and one of the easiest LQI sub-indicators to influence. In 2018, the lowest rates of corporation tax were levied in Nidwalden, Appenzell Ausser rhoden, and Lucerne, closely followed by Obwalden, Appenzell Innerrhoden, Zug, and Schwyz. As a result of the significant tax cuts already implemented, Basel-City and Vaud now occupy third and fourth positions in 2019 in the tax index for legal entities (cf. Fig.). However, the majority of cantons are planning to reduce their corporate tax rates in order to remain attractive in the tax competition. We can therefore expect to see further changes in the locational quality ranking over the next few years (cf. next section).

### Accessibility and education can only be changed slowly

Unlike the local tax burden, the remaining LQI sub-indicators can only be influenced to a limited extent. The aspect of transport accessibility can only be improved with prolonged and costly investments in road and rail networks. Even a multi-billion-franc project such as the New Railway Link through the Alps (NRLA) only increases the accessibility of the Gotthard region slightly, as travel times to Switzerland's main urban centers remain significant, despite the gains achieved. The development of the two indicators that measure the availability of skilled labor is likewise fairly slow. Although the level of education in Switzerland generally has risen consistently in recent years, regional differences remain significant. With 55% of its working-age population classified as highly qualified, the city of Zurich leads among Switzerland's 110 economic regions (cf. Fig.). The regions containing the other key urban centers (Geneva, Lausanne, Bern, Basel, Zug) and the nearby conurbations along Lake Zurich and Lake Geneva can also draw on a relatively large pool of workers who have been through tertiary education. A key role here is played by local sector clusters, which in the major centers are heavily geared around knowledge-based activities. Universities and other higher education institutions have an additional impact.

### Basel-City and Vaud slash corporate taxes with effect from start of 2019

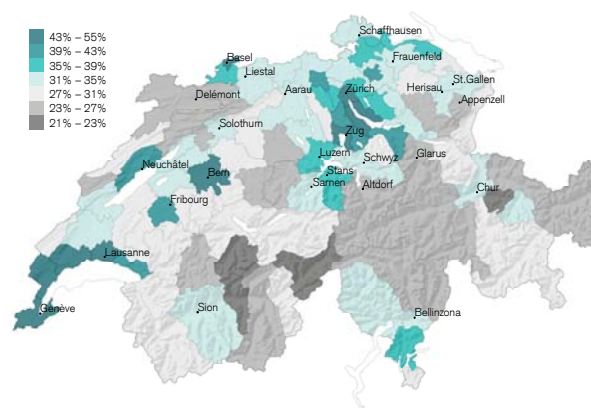
Development of tax burden 2018 – 2019, tax burden on private individuals (income and wealth taxes) and legal entities (profits and capital taxes), synthetic indices, CH = 100



Source: TaxWare, Credit Suisse

### Highly-qualified personnel clustered in regions with major urban centers

Percentage of working-age population with tertiary education, 2013 – 2017



Source: Swiss Federal Statistical Office, Credit Suisse, Geostat

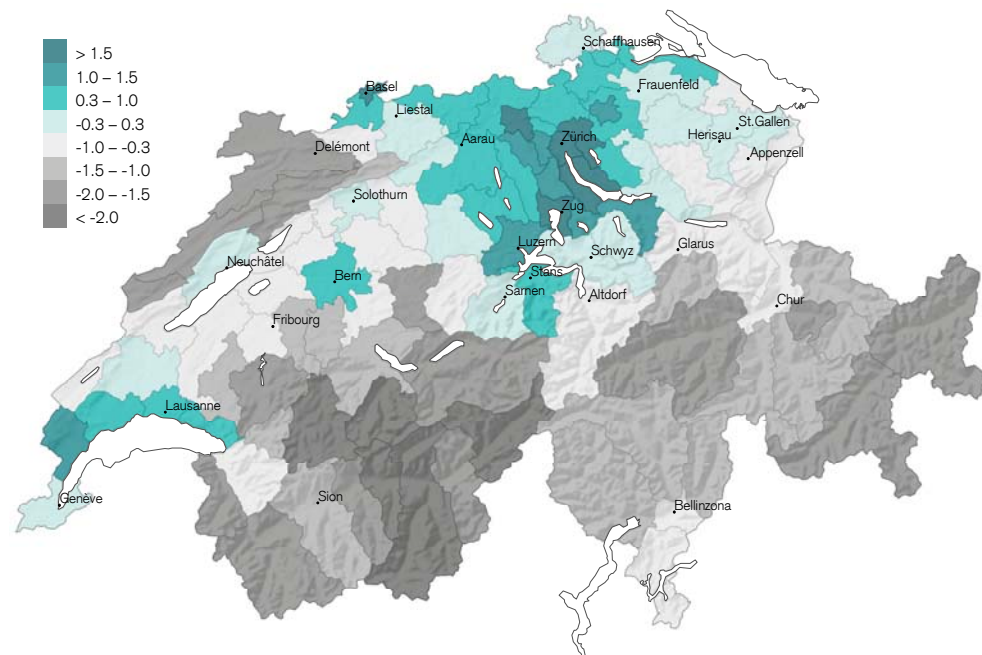
**Regional view:  
significant  
differences within  
the cantons**

For the larger, heterogeneous cantons – such as Bern, Vaud, Ticino or Graubünden – an analysis solely at cantonal level is too superficial. We therefore also analyze locational quality at the level of Switzerland's 110 economic regions. The highest degree of attractiveness is exhibited by the centers of Zurich, Zug, Basel, Baden, Lucerne, and Bern, as well as their wider agglomerations, thanks not least to their transport accessibility. Basel-City now occupies third place, an improvement of 13 places. With ranking gains of between 12 and 30 places, the regions of the Canton of Vaud have performed even more impressively: Nyon (13th place), Lausanne (20th place), and Morges/Rolle (24th place) have all now moved into the top quartile, thereby setting themselves apart from the other regions of French-speaking Switzerland. Over in Ticino, the Lugano region and in particular the Mendrisio region exhibit a higher locational quality than their neighbor regions. The regions of the Alpine and Jura arcs are clearly less attractive from the perspective of companies, which can be explained by their topography and the often significant travel time involved to reach the main centers. These different regional characteristics make it difficult for the cantons in question to gear their locational policy optimally around their individual strengths and weaknesses. For example, an above-average tax burden in an urban center is less disadvantageous from a corporate perspective than an equivalent burden in a peripheral region. Why? Because state services and infrastructures are for the most part widely available in urban centers, which outweighs the higher tax burden from a cost/benefit perspective. An overview of the locational quality of Switzerland's 110 economic regions and the individual location factors can be found in the Appendix starting on page 11.

---

### Locational quality of Swiss economic regions 2019

Locational Quality Indicator (LQI), synthetic index, CH = 0



Source: Credit Suisse, Geostat

## The Credit Suisse Locational Quality Indicator (LQI)

Quantitative analysis of the locational quality of Switzerland's cantons and regions has been part of the Credit Suisse research offering since 1997. The LQI is calculated on the basis of current data. Compared with the revision in 2013, however, the methodology remains largely unchanged.

The tax burden on private individuals is calculated on the basis of taxes on income and wealth at federal, cantonal, and municipal level, as well as taking account of the normal deductions. The tax burden on legal entities examines taxes on profit and capital. The calculations are based on the statutory tax rates and municipal tax rates for 2019, where available. Special tax systems such as lump-sum taxation or tax privileges for special status companies cannot be taken into account, as these privileges are not published in a suitable statistical form.

The availability of specialist labor and highly qualified personnel is based on the level of education of the residents, inbound commuters, and cross-border commuters of a region. Specialist labor refers to persons with vocational or higher training, while highly qualified personnel have completed tertiary education at a higher technical college, university of applied sciences or university. The database is the 2013–2017 structural survey conducted by the Swiss census. The level of education of cross-border commuters is estimated on the basis of the wage structure survey of the Swiss Federal Statistical Office.

Population accessibility, employee accessibility, and access to airports is based on data for 2016. The indicators are calculated for each populated square kilometer and are based on the entire road network and all public transportation connections. The opening of the Gotthard base tunnel is likely to have slightly improved the accessibility of the Gotthard region. According to our analysis, the opening of the New Railway Link through the Alps (NRLA) will add 0.04 LQI index points to Ticino's score, due particularly to the Monte Ceneri tunnel (opening in 2020), while Canton Uri will gain an additional 0.01 points.

Further information: "Locational quality: Basel-City set to overtake Canton Zurich", Credit Suisse, September 2016.

Regional locational quality: Clients of Credit Suisse can order fact sheets on individual economic regions from their client advisor.

# Zug likely to reclaim top spot from Basel-City

The fundamental restructuring of corporate taxation in Switzerland has begun. The first cantons have now reduced their corporate tax rates significantly. The privileged tax regimes that apply to status companies will be abolished in 2020. In addition, the accessibility of Ticino in particular will improve next year with the opening of the Ceneri base tunnel. The latest outlook for locational quality in 2025 sees Zug reclaiming the top spot, followed by Basel-City and Zurich. Canton Geneva climbs ten positions to 4th place.

## Abolition of tax privileges for status companies

On May 19, 2019, the Swiss electorate formally accepted the Federal Act on Tax Reform and AHV Financing (TRAF). The reform of corporate taxation is designed to restore international acceptance of Swiss tax regimes and preserve locational appeal, among other things. The majority of measures will enter into force at the start of 2020. The privileged taxation of status companies (holding companies, management companies, domiciliary companies, and mixed companies) is being abolished. In the future, the same tax rules will apply to all companies.

## Support for research and development

In order to preserve Switzerland's appeal as a business location, new and internationally accepted measures will be introduced at cantonal level to support innovative activities. The following table provides an overview of the current intentions of the Swiss cantons when it comes to the design of tax instruments. For example, all cantons must introduce privileged tax treatment for profits from

### Zurich fully exploits potential of new tax instruments

Overview of cantonal design of key new tax instruments, as at 05.09.2019

	Relief restriction	Patent box	Additional R&D deduction	Dividend taxation exemption	Interest deduction on equity capital
ZH*	70%	90%	50%	50%	☑
OW	70%	90%	50%	50%	☒
AG	70%	90%	50%	50%	☒
SZ*	70%	90%	50%	50%	☒
ZG	70%	90%	50%	50%	☒
BE	70%	90%	50%	50%	☒
TI	70%	90%	50%	30%	☒
JU	70%	90%	50%	30%	☒
SO	70%	90%	50%	30%	☒
SH	70%	90%	25%	40%	☒
NW	70%	90%	0%	50%	☒
GR	70%	70%	0%	30%	☒
TG	70%	40%	not yet known	30%	☒
LU	70%	10%	0%	40%	☒
VS	50%	90%	50%	40%	☒
BL	50%	90%	20%	40%	☒
AR	50%	50%	50%	40%	☒
UR	50%	30%	0%	50%	☒
AI	50%	10%	0%	50%	☒
BS*	40%	90%	0%	20%	☒
SG*	40%	50%	40%	30%	☒
NE*	40%	20%	50%	40%	☒
FR*	20%	90%	50%	30%	☒
GL*	10%	10%	0%	30%	☒
GE*	9%	10%	50%	30%	☒
VD		Implementation not yet known			
Maximum permissible	70%	90%	50%	50%	

Source: BDO, Credit Suisse

\* Implementation confirmed as per 01.01.2020



patents (“patent box”) – although the amount of tax relief may not exceed 90% of the profit in question. Cantons will also have the option of introducing additional deductions for expenditures incurred in R&D. Finally, a canton can grant an interest deduction for self-financing, as long as the effective profit tax burden in the cantonal capital amounts to at least 18.03%. Overall, however, the tax relief obtained through these three tax instruments may not exceed the threshold of 70% (relief restriction), i.e. every company must be taxed on at least 30% of its taxable profit prior to the application of the special rules.

### Increase in dividend taxation and the cantons’ share

Among the measures being introduced to counterfinance this reform, a higher rate of income tax will be levied on revenue from participations: Such income will in the future be taxed at 70% at federal level (currently 60% for private assets and 50% for commercial assets), and at a rate of at least 50% at cantonal level (currently lower in four Swiss cantons). Furthermore, the cantons’ share of direct federal tax revenue will in the future amount to 21.2% (currently 17%), not least with a view to giving the cantons greater fiscal policy leeway to reduce their ordinary tax rates.<sup>1</sup>

### Major cantonal differences in the design of new tax instruments

Within these statutory parameters, the cantons can put together their preferred overall package of ordinary corporate tax rates and customized fiscal policy measures. A canton’s fiscal policy strategy will depend on the significance of status companies in that canton, the relevance of corporate taxation for the canton’s appeal as a business location, the intensity of intercantonal and international tax competition, and the financial freedom of maneuver available to each canton.

### Trend toward competition via lower ordinary tax rates persists

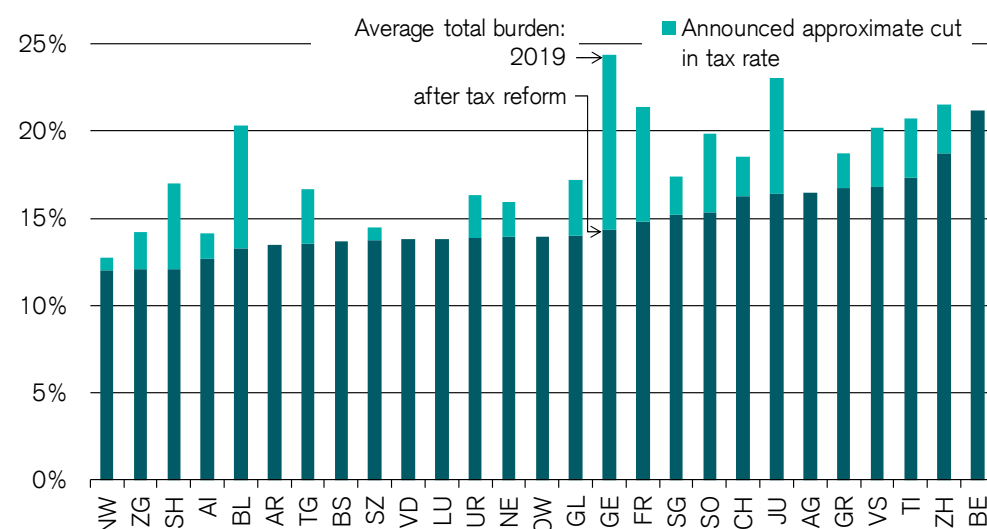
Despite the newly introduced tax privileges, the options available to companies for reducing their tax assessment basis will be more restricted when viewed in overall terms. Furthermore, many companies are unlikely to be able to benefit from the planned new tax instruments. In order to remain attractive in the tax competition, the majority of cantons are therefore planning to reduce their ordinary corporate tax rates (cf. Fig.). A few cantons such as Vaud and Basel-City have already significantly reduced their tax rates with effect from the start of 2019. In other cantons, the tax strategies elaborated still have to be approved by the cantonal electorates.

### Significant repercussions for locational quality

Subject to acceptance by the Swiss people, the corporate tax reform and the cantonal adjustments will have the effect of “reshuffling the cards” in the cantonal competition for companies. In other words, one of the seven components of Credit Suisse’s Locational Quality Indicator is likely to change significantly. Based on the intended corporate taxation adjustments of the cantonal

#### Nidwalden, Zug, and Schaffhausen planning the lowest corporate taxes

Overall burden\* (in % of net profit) through profit and capital taxes 2019, taking into account corporate taxation adjustments already communicated by the cantonal governments (as at September 5, 2019)



\* Average effective burden for a joint-stock company with capital of CHF 2 mn and net profit of between CHF 80,000 and CHF 1,040,000

Source: TaxWare, BDO, Credit Suisse

<sup>1</sup> In addition to the measures cited above, the reform includes a number of other tax measures for both companies (adjustments to capital tax, rules on the disclosure of hidden reserves, etc.) and shareholders (restrictions in respect of the capital contribution principle). Moreover, the process of fiscal equalization between the cantons will be adjusted. More detailed information available at: [www.efd.admin.ch/efd/en/home/dokumentation/gesetzgebung/abstimmungen/staf.html](http://www.efd.admin.ch/efd/en/home/dokumentation/gesetzgebung/abstimmungen/staf.html).



governments, which in many cases will be implemented in stages between now and 2025 or so, we looked into the future in November 2018 and in April 2019 to predict locational quality in 2025.<sup>2</sup> This has involved us recalculating the locational quality sub-indicator “tax attractiveness for legal entities.” This measures the tax burden on ordinary profit and capital taxes, but not the planned design of the new tax instruments. It also involved taking into account changes in the “accessibility” indicators as a result of the completion of the New Rail Link through the Alps (NRLA) in 2020. As cantons have made further changes to their planned tax strategies in the meantime, we have updated our hypothetical ranking.

### Locational quality in 2025: Zug back at the top, followed by Basel-City, Zurich, and up-and-coming Geneva

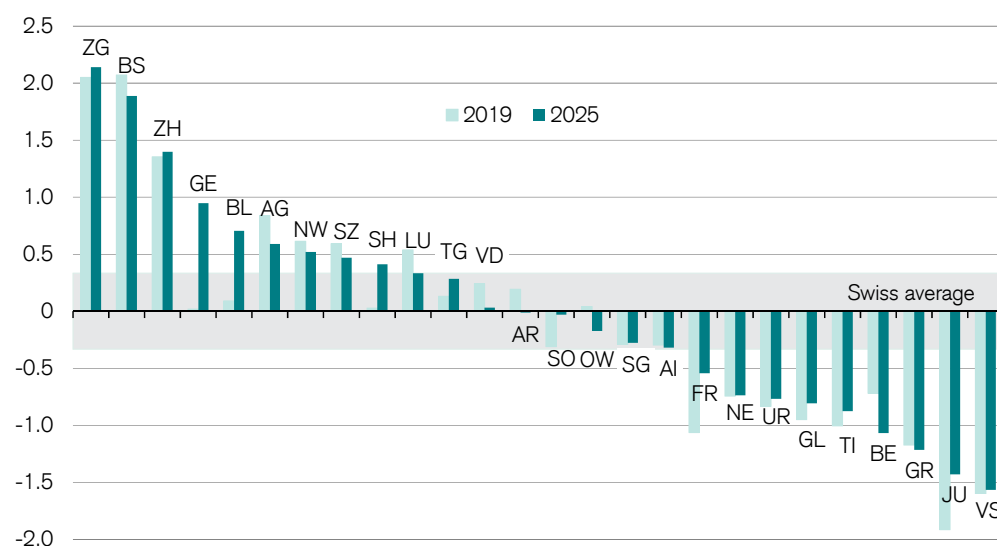
In this hypothetical Locational Quality Indicator (LQI) for 2025, Canton Zug finds itself back at the top of the rankings (cf. Fig). With its planned profit tax reduction to around 12%, it could relegate Canton Basel-City back to 2nd place. With the local electorate having already approved a profit tax reduction to 18.19%, Canton Zurich remains in third place. On the basis of the latest information, Cantons Geneva and Basel-Country are set to occupy positions 4 and 5 (planned profit tax burdens of 13.99% and 13.45%) – which represents a significant leap of ten and six places respectively compared to 2019. Canton Aargau, which ranked as high as 3rd as recently as 2018, is expected to fall back to 6th place due to its decision not to reduce its ordinary profit tax rate.

### Relative advantage of low corporate taxes diminished

Reductions in corporate tax rates will increase locational quality. Due to the relative view of locational quality, however, cantons can still slip down the Locational Quality Indicator rankings despite introducing tax relief measures. The current leaders in the sphere of corporate taxation will lose at least some of their relative advantage, as the differences will narrow overall, while a number of cantons are seeking to position themselves even more attractively from a tax standpoint. With the exception of Zug and Uri, the indicator figure declines for all central Swiss cantons, as well as the two Appenzell cantons. Here, the most significant ranking decline – a full four places – is suffered by Cantons Appenzell Ausserrhoden and Obwalden. With the local electorate having rejected the cantonal tax legislation revision in November 2018, Canton Bern looks set to fall the furthest down the locational quality rankings, namely five places to 23rd place. After years of stability, there are now set to be other changes at the bottom end of the rankings too: With a profit tax rate of 15%, Canton Jura is set to replace Canton Valais at the bottom of the rankings.

### Locational quality in 2025: Zug back on top, Basel-Country and Geneva set to enjoy strong rises

Locational Quality Indicator (LQI), synthetic index, CH = 0, 2019 and recalculation of sub-indicators of accessibility and tax burden for legal entities



Source: Credit Suisse

<sup>2</sup> Cf. “Locational quality in 2025: outlook after the tax reform,” Credit Suisse, November 2018, and “TRAF: cantonal strategies in the competition to attract businesses,” Credit Suisse, April 2019.

# LQI 2019 results in detail

## Factors of locational quality at cantonal level

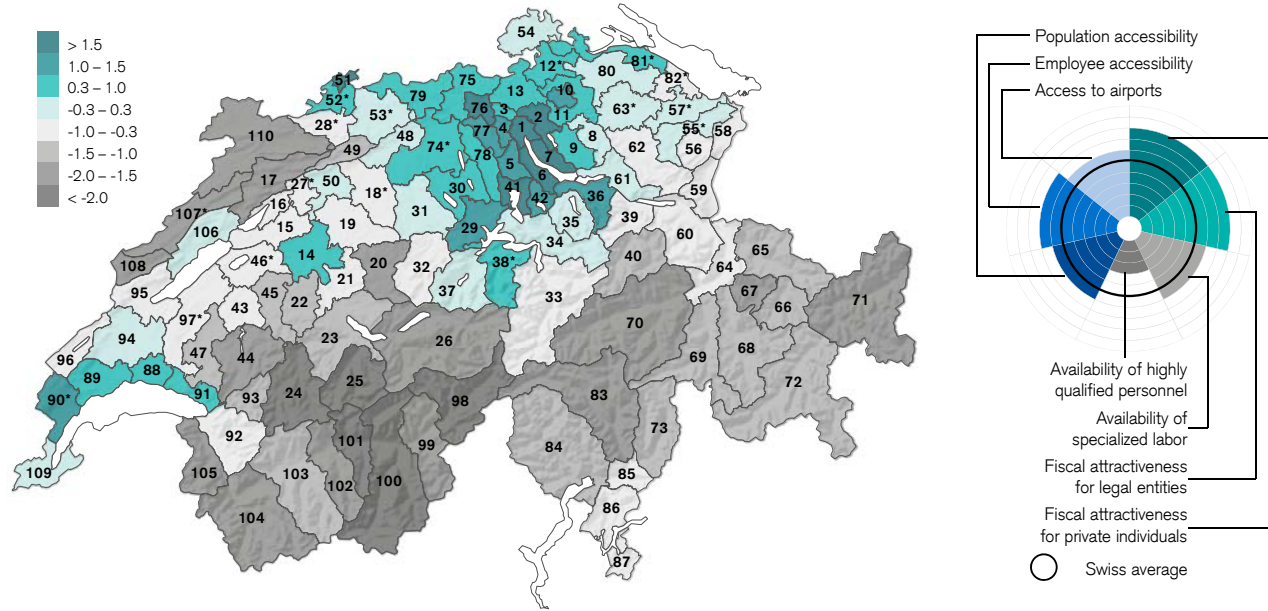
Ordered by rank, + / + + more attractive than the Swiss average; - / - - less attractive than the Swiss average; = CH average

Canton	Fiscal attractiveness		Availability		Accessibility			Locational quality 2019		
	Private individuals	Legal entities	Specialized labor	Highly qualified personnel	Population	Employees	Airports	LQI 2019		Rank 2019 (vs. 2018).
BS	=	++	=	+	++	++	+	2.07	++	1 (+3)
ZG	++	++	++	++	+	+	+	2.05	++	2 (-1)
ZH	++	- -	+	+	++	++	++	1.35	++	3 (-1)
AG	+	+	+	-	+	++	+	0.84	+	4 (-1)
NW	++	++	+	-	-	=	-	0.61	+	5 (=)
SZ	++	++	=	-	=	=	=	0.59	+	6 (=)
LU	+	++	+	-	=	=	=	0.54	+	7 (=)
VD	- -	++	-	+	=	-	=	0.24	=	8 (+9)
AR	+	++	+	-	-	=	-	0.19	=	9 (-1)
TG	+	+	=	-	=	+	=	0.13	=	10 (-1)
BL	-	-	+	-	+	++	=	0.09	=	11 (=)
OW	++	++	=	-	-	-	-	0.04	=	12 (-2)
SH	=	+	+	-	=	=	=	0.03	=	13 (-1)
GE	-	- -	- -	++	+	=	++	0.02	=	14 (-1)
SG	+	+	=	-	=	=	=	-0.29	=	15 (=)
AI	++	++	=	- -	-	-	-	-0.30	=	16 (-2)
SO	=	-	=	-	+	+	=	-0.31	-	17 (-1)
BE	-	-	+	-	=	=	-	-0.72	-	18 (+1)
NE	- -	+	- -	-	-	-	-	-0.74	-	19 (-1)
UR	++	+	-	- -	-	-	-	-0.83	-	20 (=)
GL	+	+	-	- -	-	-	-	-0.95	-	21 (=)
TI	+	-	- -	-	-	-	-	-1.00	- -	22 (=)
FR	-	- -	- -	-	=	=	-	-1.06	- -	23 (=)
GR	+	=	=	- -	- -	- -	-	-1.17	- -	24 (=)
VS	-	-	- -	- -	-	- -	-	-1.67	- -	25 (=)
JU	-	- -	- -	- -	-	-	-	-1.92	- -	26 (=)

Source: Credit Suisse

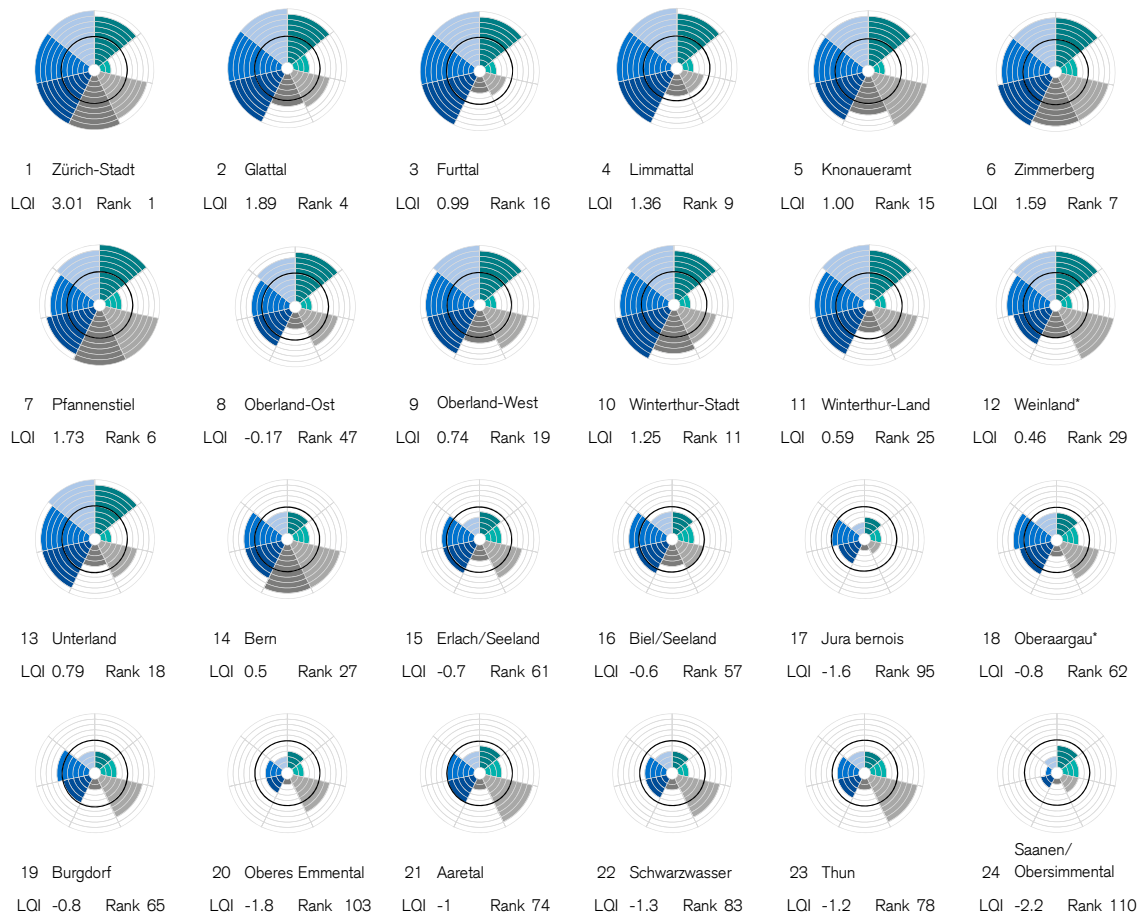
## Locational quality of Swiss economic regions\*, 2019

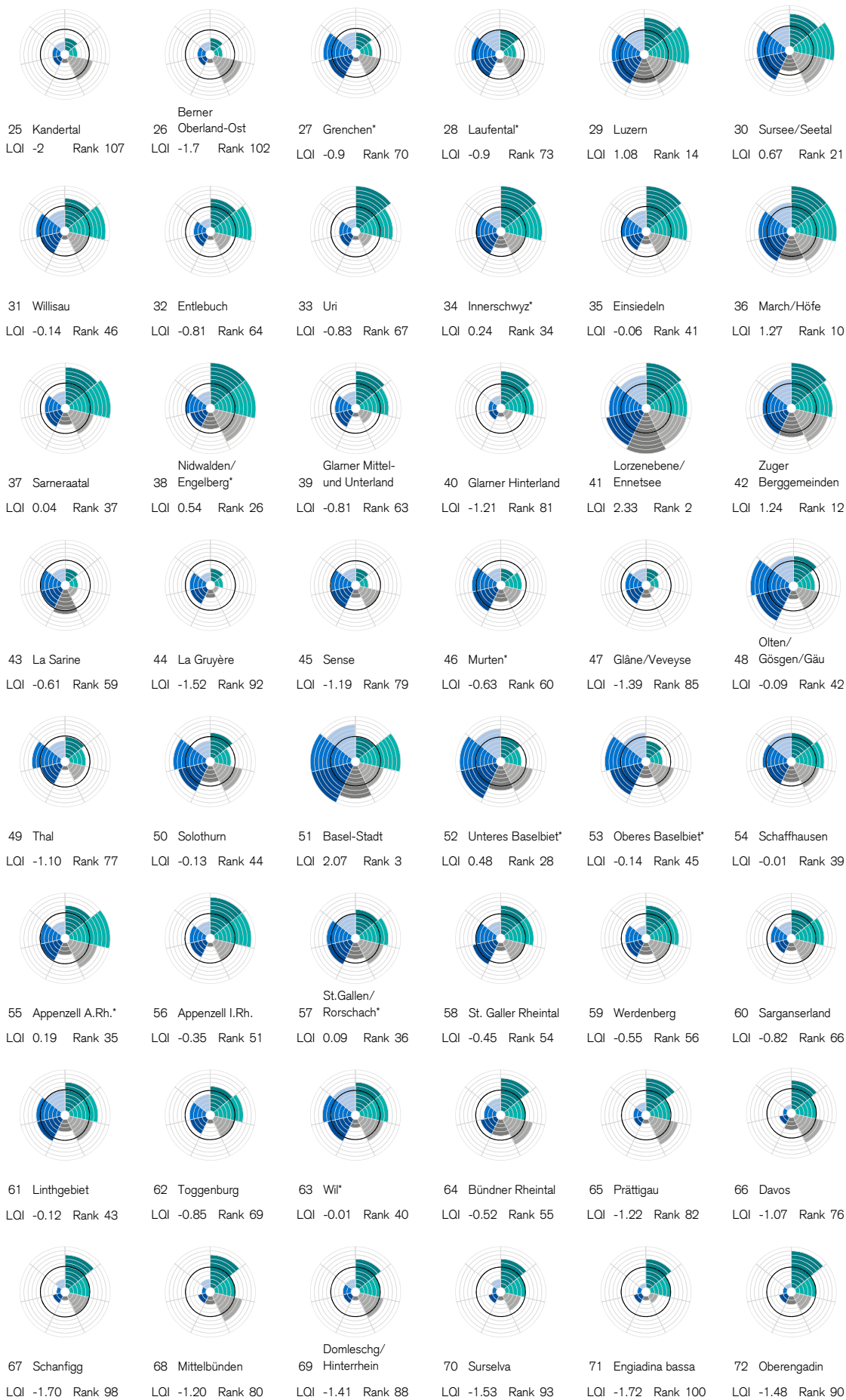
Locational Quality Indicator (LQI), synthetic index, CH = 0, use the identification number to view the detailed profile (see chart at right) of each economic region below



Source: Credit Suisse, Geostat

\* The 110 Swiss economic regions reflect the economic conditions in the best possible way and do not always follow political borders. The economic regions that comprise more than one canton are marked with an asterisk.







73 Mesolcina  
LQI -1.43 Rank 89



74 Aarau\*  
LQI 0.63 Rank 23



75 Brugg/Zürich  
LQI 0.83 Rank 17



76 Baden  
LQI 1.82 Rank 5



77 Mutschellen  
LQI 1.45 Rank 8



78 Freiamt  
LQI 0.39 Rank 31



79 Fricktal  
LQI 0.63 Rank 22



80 Thurgau  
LQI 0.29 Rank 33



81 Untersee/Rhein\*  
LQI 0.31 Rank 32



82 Oberthurgau\*  
LQI -0.37 Rank 52



83 Tre Valli  
LQI -1.83 Rank 104



84 Locarno  
LQI -1.41 Rank 87



85 Bellinzona  
LQI -0.99 Rank 75



86 Lugano  
LQI -0.57 Rank 58



87 Mendrisio  
LQI -0.43 Rank 53



88 Lausanne  
LQI 0.68 Rank 20



89 Morges/Rolle  
LQI 0.62 Rank 24



90 Nyon\*  
LQI 1.22 Rank 13



91 Vevey/Lavaux  
LQI 0.41 Rank 30



92 Aigle  
LQI -0.92 Rank 72



93 Pays d'Enhaut  
LQI -1.31 Rank 84



94 Gros-de-Vaud  
LQI -0.21 Rank 48



95 Yverdon  
LQI -0.34 Rank 50



96 La Vallée  
LQI -0.85 Rank 68



97 La Broye\*  
LQI -0.92 Rank 71



98 Goms  
LQI -2.14 Rank 109



99 Brig  
LQI -1.71 Rank 99



100 Visp  
LQI -2.01 Rank 106



101 Leuk  
LQI -2.07 Rank 108



102 Sierre  
LQI -1.57 Rank 94



103 Sion  
LQI -1.41 Rank 86



104 Martigny  
LQI -1.72 Rank 101



105 Monthey/  
St-Maurice  
LQI -1.63 Rank 97



106 Neuchâtel  
LQI -0.26 Rank 49



107 La-Chaux-de-  
Fonds\*  
LQI -1.52 Rank 91



108 Val-de-Travers  
LQI -1.63 Rank 96



109 Genève  
LQI 0.02 Rank 38



110 Jura  
LQI -1.92 Rank 105

## Important Information

This report represents the views of the Investment Strategy Department of CS and has not been prepared in accordance with the legal requirements designed to promote the independence of investment research. It is not a product of the Credit Suisse Research Department even if it references published research recommendations. CS has policies in place to manage conflicts of interest including policies relating to dealing ahead of the dissemination of investment research. These policies do not apply to the views of Investment Strategists contained in this report.

## Risk warning

Every investment involves risk, especially with regard to fluctuations in value and return. If an investment is denominated in a currency other than your base currency, changes in the rate of exchange may have an adverse effect on value, price or income.

For a discussion of the risks of investing in the securities mentioned in this document, please refer to the following Internet link:  
<https://investment.credit-suisse.com/gr/riskdisclosure/>

This document may include information on investments that involve special risks. You should seek the advice of your independent financial advisor prior to taking any investment decisions based on this document or for any necessary explanation of its contents. Further information is also available in the information brochure "Special Risks in Securities Trading" available from the Swiss Bankers Association.

**Past performance is not an indicator of future performance. Performance can be affected by commissions, fees or other charges as well as exchange rate fluctuations.**

### Financial market risks

Historical returns and financial market scenarios are no reliable indicators of future performance. The price and value of investments mentioned and any income that might accrue could fall or rise or fluctuate. Past performance is not a guide to future performance. If an investment is denominated in a currency other than your base currency, changes in the rate of exchange may have an adverse effect on value, price or income. You should consult with such advisor(s) as you consider necessary to assist you in making these determinations.

Investments may have no public market or only a restricted secondary market. Where a secondary market exists, it is not possible to predict the price at which investments will trade in the market or whether such market will be liquid or illiquid.

### Emerging markets

Where this document relates to emerging markets, you should be aware that there are uncertainties and risks associated with investments and transactions in various types of investments of, or related or linked to, issuers and obligors incorporated, based or principally engaged in business in emerging markets countries. Investments related to emerging markets countries may be considered speculative, and their prices will be much more volatile than those in the more developed countries of the world. Investments in emerging markets investments should be made only by sophisticated investors or experienced professionals who have independent knowledge of the relevant markets, are able to consider and weigh the various risks presented by such investments, and have the financial resources necessary to bear the substantial risk of loss of investment in such investments. It is your responsibility to manage the risks which arise as a result of investing in emerging markets investments and the allocation of assets in your portfolio. You should seek advice from your own advisers with regard to the various risks and factors to be considered when investing in an emerging markets investment.

### Alternative investments

Hedge funds are not subject to the numerous investor protection regulations that apply to regulated authorized collective investments and hedge fund managers are largely unregulated. Hedge funds are not limited to any particular investment discipline or trading strategy, and seek to profit in all kinds of markets by using leverage, derivatives, and complex speculative investment strategies that may increase the risk of investment loss.

Commodity transactions carry a high degree of risk, including the loss of the entire investment, and may not be suitable for many private investors. The performance of such investments depends on unpredictable factors such as natural catastrophes, climate influences, hauling capacities, political unrest, seasonal fluctuations and strong influences of rolling-forward, particularly in futures and indices.

Investors in real estate are exposed to liquidity, foreign currency and other risks, including cyclical risk, rental and local market risk as well as environmental risk, and changes to the legal situation.

### Private Equity

Private Equity (hereafter "PE") means private equity capital investment in companies that are not traded publicly (i.e. are not listed on a stock exchange), they are complex, usually illiquid and long-lasting. Investments in a PE fund generally involve a significant degree of financial and/or business risk. Investments in private equity funds are not principal-protected nor guaranteed. Investors will be required to meet capital calls of investments over an extended period of time. Failure to do so may traditionally result in the forfeiture of a portion or the entirety of the capital account, forego any future income or gains on investments made prior to such default and among other things, lose any rights to participate in future investments or forced to sell their investments at a very low price, much lower than secondary market valuations. Companies or funds may be highly leveraged and therefore may be more sensitive to adverse business and/or financial developments or economic factors. Such investments may face intense competition, changing business or economic conditions or other developments that may adversely affect their performance.

### Interest rate and credit risks

The retention of value of a bond is dependent on the creditworthiness of the Issuer and/or Guarantor (as applicable), which may change over the term of the bond. In the event of default by the Issuer and/or Guarantor of the bond, the bond or any income derived from it is not guaranteed and you may get back none of, or less than, what was originally invested.

## Investment Strategy Department

Investment Strategists are responsible for multi-asset class strategy formation and subsequent implementation in CS's discretionary and advisory businesses. If shown, Model Portfolios are provided for illustrative purposes only. Your asset allocation, portfolio weightings and performance may look significantly different based on your particular circumstances and risk tolerance. Opinions and views of Investment Strategists may be different from those expressed by other Departments at CS. Investment Strategist views may change at any time without notice and with no obligation to update. CS is under no obligation to ensure that such updates are brought to your attention.

From time to time, Investment Strategists may reference previously published Research articles, including recommendations and rating changes collated in the form of lists. The recommendations contained herein are extracts and/or references to previously published recommendations by Credit Suisse Research. For equities, this relates to the respective Company Note or Company Summary of the issuer. Recommendations for bonds can be found within the respective Research Alert (bonds) publication or Institutional Research Flash/Alert – Credit Update Switzerland. These items are available on request or from <https://investment.credit-suisse.com>. Disclosures are available from [www.credit-suisse.com/disclosure](http://www.credit-suisse.com/disclosure).

## Global disclaimer/important information

This document is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or which would subject CS to any registration or licensing requirement within such jurisdiction.

References in this document to CS include Credit Suisse AG, the Swiss bank, its subsidiaries and affiliates. For more information on our structure, please use the following link: <http://www.credit-suisse.com>



**NO DISTRIBUTION, SOLICITATION, OR ADVICE:** This document is provided for information and illustrative purposes and is intended for your use only. It is not a solicitation, offer or recommendation to buy or sell any security or other financial instrument. Any information including facts, opinions or quotations, may be condensed or summarized and is expressed as of the date of writing. The information contained in this document has been provided as a general market commentary only and does not constitute any form of regulated financial advice, legal, tax or other regulated service. It does not take into account the financial objectives, situation or needs of any persons, which are necessary considerations before making any investment decision. You should seek the advice of your independent financial advisor prior to taking any investment decisions based on this document or for any necessary explanation of its contents. This document is intended only to provide observations and views of CS at the date of writing, regardless of the date on which you receive or access the information. Observations and views contained in this document may be different from those expressed by other Departments at CS and may change at any time without notice and with no obligation to update. CS is under no obligation to ensure that such updates are brought to your attention. **FORECASTS & ESTIMATES:** Past performance should not be taken as an indication or guarantee of future performance, and no representation or warranty, express or implied, is made regarding future performance. To the extent that this document contains statements about future performance, such statements are forward looking and subject to a number of risks and uncertainties. Unless indicated to the contrary, all figures are unaudited. All valuations mentioned herein are subject to CS valuation policies and procedures. **CONFLICTS:** CS reserves the right to remedy any errors that may be present in this document. CS, its affiliates and/or their employees may have a position or holding, or other material interest or effect transactions in any securities mentioned or options thereon, or other investments related thereto and from time to time may add to or dispose of such investments. CS may be providing, or have provided within the previous 12 months, significant advice or investment services in relation to the investments listed in this document or a related investment to any company or issuer mentioned. Some investments referred to in this document will be offered by a single entity or an associate of CS or CS may be the only market maker in such investments. CS is involved in many businesses that relate to companies mentioned in this document. These businesses include specialized trading, risk arbitrage, market making, and other proprietary trading. **TAX:** Nothing in this document constitutes investment, legal, accounting or tax advice. CS does not advise on the tax consequences of investments and you are advised to contact an independent tax advisor. The levels and basis of taxation are dependent on individual circumstances and are subject to change. **SOURCES:** Information and opinions presented in this document have been obtained or derived from sources which in the opinion of CS are reliable, but CS makes no representation as to their accuracy or completeness. CS accepts no liability for a loss arising from the use of this document. **WEBSITES:** This document may provide the addresses of, or contain hyperlinks to, websites. Except to the extent to which the document refers to website material of CS, CS has not reviewed the linked site and takes no responsibility for the content contained therein. Such address or hyperlink (including addresses or hyperlinks to CS's own website material) is provided solely for your convenience and information and the content of the linked site does not in any way form part of this document. Accessing such website or following such link through this document or CS's website shall be at your own risk. **DATA PRIVACY:** Your Personal Data will be processed in accordance with the Credit Suisse privacy statement accessible at your domicile through the official Credit Suisse website <https://www.credit-suisse.com>. In order to provide you with marketing materials concerning our products and services, Credit Suisse Group AG and its subsidiaries may process your basic Personal Data (i.e. contact details such as name, e-mail address) until you notify us that you no longer wish to receive them. You can opt-out from receiving these materials at any time by informing your Relationship Manager.

#### Distributing entities

Except as otherwise specified herein, this report is distributed by Credit Suisse AG, a Swiss bank, authorized and regulated by the Swiss Financial Market Supervisory Authority. **Austria:** This report is distributed by CREDIT SUISSE (LUXEMBOURG) S.A. Zweigniederlassung Österreich (the "Austria branch") which is a branch of CREDIT SUISSE (LUXEMBOURG) S.A., a duly authorized credit institution in the Grand Duchy of Luxembourg with registered address 5, rue Jean Monnet, L-2180 Luxembourg. The Austria branch is subject to the prudential supervision of the Luxembourg supervisory authority, the Commission de Surveillance du Secteur Financier (CSSF), 283, route d'Arlon, L-2991 Luxembourg, Grand Duchy of Luxembourg, as well as of the Austrian supervisory authority, the Financial Market Authority (FMA), Otto-Wagner Platz 5, A-1090 Vienna, Austria. **Bahrain:** This report

is distributed by Credit Suisse AG, Bahrain Branch, authorized and regulated by the Central Bank of Bahrain (CBB) as an Investment Business Firm Category 2. Related financial services or products are only made available to professional clients and Accredited Investors, as defined by the CBB, and are not intended for any other persons. The Central Bank of Bahrain has not reviewed, nor has it approved, this document or the marketing of any investment vehicle referred to herein in the Kingdom of Bahrain and is not responsible for the performance of any such investment vehicle. Credit Suisse AG, Bahrain Branch, a branch of Credit Suisse AG, Zurich/Switzerland, is located at Level 21-22, East Tower, Bahrain World Trade Centre, Manama, Kingdom of Bahrain. **DIFC:** This information is being distributed by Credit Suisse AG (DIFC Branch). Credit Suisse AG (DIFC Branch) is licensed and regulated by the Dubai Financial Services Authority ("DFSA"). Related financial services or products are only made available to Professional Clients or Market Counterparties, as defined by the DFSA, and are not intended for any other persons. Credit Suisse AG (DIFC Branch) is located on Level 9 East, The Gate Building, DIFC, Dubai, United Arab Emirates. **France:** This report is distributed by Credit Suisse (Luxembourg) S.A. Succursale en France (the "France branch") which is a branch of Credit Suisse (Luxembourg) S.A., a duly authorized credit institution in the Grand Duchy of Luxembourg with registered address 5, rue Jean Monnet, L-2180 Luxembourg. The France branch is subject to the prudential supervision of the Luxembourg supervisory authority, the Commission de Surveillance du Secteur Financier (CSSF), and of the French supervisory authority, the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and of the Autorité des Marchés Financiers. **Germany:** This report is distributed by Credit Suisse (Deutschland) Aktiengesellschaft regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht ("BaFin"). **Guernsey:** This report is distributed by Credit Suisse AG Guernsey Branch, a branch of Credit Suisse AG (incorporated in the Canton of Zurich), with its place of business at Helvetia Court, Les Echelons, South Esplanade, St Peter Port, Guernsey. Credit Suisse AG Guernsey Branch is wholly owned by Credit Suisse AG and is regulated by the Guernsey Financial Services Commission. Copies of the latest audited accounts are available on request. **India:** This report is distributed by Credit Suisse Securities (India) Private Limited (CIN no. U67120MH1996PTC104392) regulated by the Securities and Exchange Board of India as Research Analyst (registration no. INH 000001030), as Portfolio Manager (registration no. INP000002478) and as Stock Broker (registration no. INZ000248233), having registered address at 9th Floor, Ceejay House, Dr. Annie Besant Road, Worli, Mumbai – 400 018, India, T-+91-22 6777 3777. **Italy:** This report is distributed in Italy by Credit Suisse (Italy) S.p.A., a bank incorporated and registered under Italian law subject to the supervision and control of Banca d'Italia and CONSOB. **Lebanon:** This report is distributed by Credit Suisse (Lebanon) Finance SAL ("CSLF"), a financial institution incorporated in Lebanon and regulated by the Central Bank of Lebanon ("CBL") with a financial institution license number 42. Credit Suisse (Lebanon) Finance SAL is subject to the CBL's laws and regulations as well as the laws and decisions of the Capital Markets Authority of Lebanon ("CMA"). CSLF is a subsidiary of Credit Suisse AG and part of the Credit Suisse Group (CS). The CMA does not accept any responsibility for the content of the information included in this report, including the accuracy or completeness of such information. The liability for the content of this report lies with the issuer, its directors and other persons, such as experts, whose opinions are included in the report with their consent. The CMA has also not assessed the suitability of the investment for any particular investor or type of investor. Investments in financial markets may involve a high degree of complexity and risk and may not be suitable to all investors. The suitability assessment performed by CSLF with respect to this investment will be undertaken based on information that the investor would have provided to CSLF and in accordance with Credit Suisse internal policies and processes. It is understood that the English language will be used in all communication and documentation provided by CS and/or CSLF. By accepting to invest in the product, the investor confirms that he has no objection to the use of the English language. **Luxembourg:** This report is distributed by Credit Suisse (Luxembourg) S.A., a duly authorized credit institution in the Grand Duchy of Luxembourg with registered address 5, rue Jean Monnet, L-2180 Luxembourg. Credit Suisse (Luxembourg) S.A. is subject to the prudential supervision of the Luxembourg supervisory authority, the Commission de Surveillance du Secteur Financier (CSSF). **Mexico:** Banco Credit Suisse (México), S.A., Institución de Banca Múltiple, Grupo Financiero Credit Suisse (México) and C. Suisse Asesoría México, S.A. de C.V. ("Credit Suisse Mexico"). This document is elaborated for information purposes only and does not constitute a recommendation, advice or an invitation to execute any operation and does not replace direct communication with your relationship manager at Credit Suisse Mexico before the execution of any investment. The people who elaborated this document do not receive payment or compensation from any entity of the Credit Suisse Group other



than the one employing them. The prospectuses, offering documentation, term sheets, investment regimes, annual reports and periodical financial information contained useful information for investors. Such documents can be obtained without any cost, directly from the issuer of securities and investment fund managers or at the securities and stock market web page, as well as from your relationship manager at Credit Suisse Mexico. The information herein does not substitute the Account Statements, the INFORME DE OPERACIONES or/ and confirmations you receive from Credit Suisse Mexico pursuant to the General Rules applicable to financial institutions and other persons that provide investment services. C. Suisse Asesoría México, S.A. de C.V., is an investment advisor duly incorporated under the Securities Market Law ("LMV") and is registered before the National Banking and Securities Commission ("CNBV") under folio number 30070 and therefore is not a bank, is not authorized to receive deposits nor to custody any securities, is not part of Grupo Financiero Credit Suisse (México), S.A. de C.V.. Under the provisions of the LMV, C. Suisse Asesoría México, S.A. de C.V. is not an independent investment advisor pursuant to its relationship with Credit Suisse AG, a foreign financial institution, and its indirect relationship with Grupo Financiero Credit Suisse (Mexico), S.A. de C.V. The people who produced this document do not receive payment or compensation from any entity of the Credit Suisse Group other than the one employing them.

**Netherlands:** This report is distributed by Credit Suisse (Luxembourg) S.A., Netherlands Branch (the "Netherlands branch") which is a branch of Credit Suisse (Luxembourg) S.A., a duly authorized credit institution in the Grand Duchy of Luxembourg with registered address 5, rue Jean Monnet, L-2180 Luxembourg. The Netherlands branch is subject to the prudential supervision of the Luxembourg supervisory authority, the Commission de Surveillance du Secteur Financier (CSSF), and of the Dutch supervisory authority, De Nederlandsche Bank (DNB), and of the Dutch market supervisor, the Autoriteit Financiële Markten (AFM). **Portugal:** This report is distributed by Credit Suisse (Luxembourg) S.A., Sucursal em Portugal (the "Portugal branch") which is a branch of Credit Suisse (Luxembourg) S.A., a duly authorized credit institution in the Grand Duchy of Luxembourg with registered address 5, rue Jean Monnet, L-2180 Luxembourg. The Portugal branch is subject to the prudential supervision of the Luxembourg supervisory authority, the Commission de Surveillance du Secteur Financier (CSSF), and of the Portuguese supervisory authority, the Comissão do Mercado dos Valores Mobiliários (CMVM). **Qatar:** This information has been distributed by Credit Suisse (Qatar) L.L.C., which is duly authorized and regulated by the Qatar Financial Centre Regulatory Authority (QFCRA) under QFC License No. 00005. All related financial products or services will only be available to Business Customers or Market Counterparties (as defined by the QFCRA), including individuals, who have opted to be classified as a Business Customer, with net assets in excess of QR 4 million, and who have sufficient financial knowledge, experience and understanding to participate in such products and/or services. Therefore this information must not be delivered to, or relied on by, any other type of individual. **Saudi Arabia:** This information is being distributed by Credit Suisse Saudi Arabia (CR Number 1010228645), duly licensed and regulated by the Saudi Arabian Capital Market Authority pursuant to License Number 08104-37 dated 23/03/1429H corresponding to 21/03/2008AD. Credit Suisse Saudi Arabia's principal place of business

is at King Fahad Road, Hay Al Mhamadiya, 12361-6858 Riyadh, Saudi Arabia. Website: <https://www.credit-suisse.com/sa>. **South Africa:** This information is being distributed by Credit Suisse AG which is registered as a financial services provider with the Financial Sector Conduct Authority in South Africa with FSP number 9788 and / or by Credit Suisse (UK) Limited which is registered as a financial services provider with the Financial Sector Conduct Authority in South Africa with FSP number 48779. **Spain:** This report is distributed in Spain by Credit Suisse AG, Sucursal en España, legal entity registered at Comisión Nacional del Mercado de Valores. **Turkey:** The investment information, comments and recommendations contained herein are not within the scope of investment advisory activity. The investment advisory services are provided by the authorized institutions to the persons in a customized manner taking into account the risk and return preferences of the persons. Whereas, the comments and advices included herein are of general nature. Therefore recommendations may not be suitable for your financial status or risk and yield preferences. For this reason, making an investment decision only by relying on the information given herein may not give rise to results that fit your expectations. This report is distributed by Credit Suisse Istanbul Menkul Değerler Anonim Şirketi, regulated by the Capital Markets Board of Turkey, with its registered address at Levazim Mahallesi, Kuru Sokak No. 2 Zorlu Center Terassever No. 61 34340 Besiktas/ Istanbul-Turkey. **United Kingdom:** This material is distributed by Credit Suisse (UK) Limited. Credit Suisse (UK) Limited, is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Where this material is distributed into the United Kingdom by an offshore entity not exempted under the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 the following will apply: To the extent communicated in the United Kingdom ("UK") or capable of having an effect in the UK, this document constitutes a financial promotion which has been approved by Credit Suisse (UK) Limited which is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority for the conduct of investment business in the UK. The registered address of Credit Suisse (UK) Limited is Five Cabot Square, London, E14 4QR. Please note that the rules under the UK's Financial Services and Markets Act 2000 relating to the protection of retail clients will not be applicable to you and that any potential compensation made available to "eligible claimants" under the UK's Financial Services Compensation Scheme will also not be available to you. Tax treatment depends on the individual circumstances of each client and may be subject to changes in future.

**UNITED STATES: NEITHER THIS REPORT NOR ANY COPY THEREOF MAY BE SENT, TAKEN INTO OR DISTRIBUTED IN THE UNITED STATES OR TO ANY US PERSON (within the meaning of Regulation S under the US Securities Act of 1933, as amended).**

This report may not be reproduced either in whole or in part, without the written permission of Credit Suisse. Copyright © 2019 Credit Suisse Group AG and/or its affiliates. All rights reserved.

19C013A\_IS



## Other publications from Credit Suisse

---

---

### **Private retirement provision:**

#### **Mind the Gap: part time, timeout, pension shortfalls**

The study examines the pension behavior of the Swiss population. It focuses on the tied private pension provision (pillar 3a) of women and families.

**April 11, 2019**

---

### **Swiss SME economy 2019:**

#### **Export hurdles in practice**

As part of the series of SME studies, this year's issue surveyed about 560 SMEs in Switzerland on different aspects relating to the theme of protectionism and trade barriers.

**August 27, 2019**

---

### **Monitor Switzerland**

#### **Q3 2019**

Monitor Switzerland analyzes and forecasts developments in the Swiss economy.

**September 17, 2019**

---

### **Real Estate Monitor**

#### **Q3 2019**

The Real Estate Monitor issues three updates a year relating to all market developments relevant to real estate, complementing the annual fundamental analyses and special themes of the Credit Suisse real estate study.

**September 26, 2019**

---



#### **CREDIT SUISSE AG**

Investment Solutions & Products

Postfach 300

CH-8070 Zurich

**credit-suisse.com**