KOF Stringency Indices

The KOF Stringency Index and KOF Stringency-Plus Index record the stringency of Covid-19 policy measures in Switzerland. The indices are composite measures including different lockdown policies, such as school and workplace closure. The values range from 0 (= no measures) to 100 (= full lockdown).

The data is available at the national level and for all individual 26 cantons of Switzerland from January 2020 onwards. The construction largely follows the codebook of the Oxford Covid-19 Government Response Tracker:

https://github.com/OxCGRT/covid-policy-tracker/blob/master/documentation/codebook.md
https://github.com/OxCGRT/covid-policy-tracker/blob/master/documentation/index_methodology.md

Despite cantonal differences, the Oxford Stringency index is only available for Switzerland at the national level and, hence, not at the cantonal level. This is where the KOF Stringency Indices show their value. The Oxford Stringency index incorporates the most stringent measures in a country even if it is only effective in a region. In contrast, the KOF Stringency Indices include only nation-wide measures for Switzerland and provide individual canton-level indices. By construction, national measures constitute the minimal level for cantonal measures. Cantons have to implement the national measures but can introduce stricter measures if preferred.

The construction of the KOF Stringency index is similar to the Oxford stringency index. In particular, we use the following revised formula:

$$KOF\ Stringency\ Index = \frac{1}{9} \sum_{j=1}^{9} \left(100 * \frac{v_{j,t}}{N_j}\right),$$

where $v_{j,t}$ is the policy value and N_j is the maximum possible value for the sub-indicators. The KOF and Oxford Stringency indices have 9 sub-indicators, namely school closing, workplace closing, cancellation of public events, restrictions on gatherings, closure of public transport, stay-at-home requirements, restrictions on internal movement, international travel controls and public info campaigns. Please refer to the Codebook above for detailed information on the sub-indicators.

For the KOF Stringency-Plus Index, we adapt the original KOF Stringency Index in two ways. First, we include facial coverings as an additional sub-indicator, which is also collected by the Oxford Covid-19 Government Response Tracker and which Oxford uses to construct other additional indices. The categories are provided in the Oxford Codebook mentioned earlier. Second, we transform the sub-indicator on workplace closure (c2_workplaceclosing) by adding another category to the sub-indicator. The goal is to incorporate restaurant policies more precisely than in the original stringency index. In particular, we use the following categories:

0 – No measures
1 – recommend closing (or work from home)
2 – reduction in opening hours (NEW!)
3 – require closing (or work from home) for some sectors or categories of workers
4 – require closing (or work from home) all-but-essential workplaces (e.g. grocery stores, doctors)

Using these 10 sub-indicators, the formula above changes to:

$$KOF\ Stringency\ Plus\ Index\ = \frac{1}{10} \sum_{j=1}^{10}(100 * \frac{v_{j,t}}{N_j}),$$

where $v_{j,t}$ is the policy value and N_j is the maximum possible value for the sub-indicators.

We collect the data for each sub-indicator from various sources (see source list at the end of this document) and calculate the KOF Stringency Index and KOF Stringency-Plus Index for Switzerland and all its 26 cantons.

Source list for national and cantonal sub-indicator data:

- Oxford COVID-19 Government Response Tracker:

https://github.com/OxCGRT/covid-policy-tracker/blob/master/documentation/codebook.md

https://github.com/OxCGRT/covid-policy-tracker/blob/master/documentation/index_methodology.md

- BAG website on national measures:

https://www.bag.admin.ch/bag/de/home/krankheiten/ausbrueche-epidemien-pandemien/aktuelle-ausbrueche-epidemien/novel-cov/massnahmen-des-bundes.html)

- GDK on cantonal measures:

https://www.gdk-cds.ch/de/praevention-und-gesundheitsfoerderung/neues-coronavirus

- SEM on International Travel:

https://www.sem.admin.ch/sem/de/home/sem/aktuell/einreisebeschraenkungen-drittstaaten.html

- Additional Information for the canton of Ticino:

https://www.htr.ch/story/ab-sofort-nur-noch-100-personen-in-tessiner-discos-erlaubt-28212.html

- Information for public info campaigns:

https://www.bag.admin.ch/bag/de/home/das-bag/aktuell/medienmitteilungen.msg-id-78273.html

https://de.wikipedia.org/wiki/COVID-19-Pandemie_in_der_Schweiz#Februar_2020

- Information on public transport:

https://company.sbb.ch/de/medien/medienstelle/medienmitteilungen/detail.html/2020/3/1803-1

https://news.sbb.ch/artikel/95719/die-neusten-informationen-zum-coronavirus-2-4-2020

https://news.sbb.ch/artikel/95750/coronavirus-diese-schutzmassnahmen-machen-reisen-moeglichst-sicher

- Further input was received from the ETH-Rat and the BAG.