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Sustainable
development,
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Neuchâtel 2019

Labour market areas 2018

Explanatory report



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Labour market areas 2018

Explanatory report

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Summary

In 2014, the Federal Statistical Office conducted a review of Switzerland's urban areas and the delineation of its agglomerations (Areas with urban character 2012, published in 2014). The revision of the typology of municipalities was completed in 2017 (Gemeindetypologie und Stadt/Land-Typologie 2012, published in 2017). The FSO is now continuing its revision work with regard to the MS regions and labour market areas.

The MS regions (MS for the French term “Mobilité spatiale” (spatial mobility)) and the labour market areas are regions where most employed persons live and work. The two geographic subdivisions differ in size: the MS regions are relatively small and the labour market areas are much larger. These two subdivisions, developed in the 1980s, are widely used for regional analyses and in cartographic representations.

The FSO's aim is to produce (or enable others to produce) statistics at different relevant geographical levels: national, cantonal, municipal, at neighbourhood level or other analysis regions. For analyses conducted at other regional levels, the FSO has put forward geographic subdivisions that allow spatial and temporal comparisons to be made between entities that are more or less similar. Because the past 40 years have seen considerable change in the way Switzerland's territory is inhabited, a revision of the perimeters of the regions of analysis (in this case the MS regions and the labour market areas) was necessary in order to reflect the country's current situation.

The new statistical method for delineation uses a matrix describing commuter flows between all of Switzerland's municipalities. The first step creates regions for the whole country based on standardised criteria. In an iterative process, the algorithm gradually groups the municipalities together into regions where the majority of employed persons live and work. The second step breaks down the largest urban areas (identified based on the number of inhabitants, jobs and overnight hotel stays) into subdivisions to make the labour market areas spatially as comparable as possible. In total, 101 labour market areas have been defined. These are then grouped together into 16 large labour market areas. Lastly, the cross-border labour market areas are calculated at the same time. There are 10 of these.

This new method has several advantages: it is simple and easy to follow; it uses a single variable, commuter flows between municipalities; it allows uniform criteria to be applied to the whole country, and it is also the same method used in several European countries and by Eurostat, the European Union's statistical office.

1 Introduction

Geographic divisions enable statistical studies to be carried out at different levels – from local to national. Depending on the purpose of an analysis, it can be interesting to process and represent data at national level. However, national averages do not reflect the diversity of Switzerland's territory and the situations at local level. Whether to convey the population's standard of living, to measure regional economic development or for political reasons, data is often needed at a finer scale.

Spatialised data or statistical analyses are therefore crucial when emphasis needs to be placed on regional phenomena. The FSO's population and business censuses, for example, contain a large amount of data that can be drawn on in a spatial context. Several geographic divisions are based on the boundaries of administrative units. The institutional levels themselves (municipalities, cantons and country) present interesting possibilities for getting the most out of data. The typologies (such as the typology of municipalities) and the analysis regions (such as the labour market areas or agglomerations), enable statistics to be used according to another regional logic. They are produced and updated by the FSO and used by a large number of internal and external partners.

Non-institutional divisions must be kept up to date in order to take municipal mergers into account. Furthermore, the geographic divisions must reflect the changes affecting Switzerland's territory. For this reason the FSO regularly reassesses and reviews¹ all divisions. This work is based on the latest research conducted in Switzerland and abroad. The labour market areas, whose boundaries were established in the early 1980s, are being revised to meet these requirements.

The terminology and definition behind the concept of labour market areas are presented in chapter 2. Chapter 3 introduces methodological aspects by giving a step-by-step description of the calculation process and the few adjustments that had to be made. The results are shown in chapter 4 and examples of use in chapter 5. The main differences between the previous version (MS regions) and the new one (labour market areas) are discussed in chapter 6. Lastly, chapter 7 tackles the question of future revisions.

Box 1: Terminology

Until the current revision, the labour market areas and large labour market areas published by the FSO were known as "MS regions" and "labour market areas". Henceforth, the following terminology will be used: **Labour market areas** for MS regions and **large labour market areas** for labour market areas. Although the term "MS regions" has been recognised by Swiss users since this geographic division was created, it does not, however, correspond to the terminology generally used in this field. Furthermore, the acronym "MS" for spatial mobility is not particularly intuitive.

¹ **Updates** are limited to regularly updating the perimeters of non-institutional divisions to the changes taking place at institutional level (e.g. municipal mergers). **Reassessment** uses the same calculation method but with new data. **A revision**, on the other hand, reviews the calculation methods and definitions (see chapter 7).

2 Concepts and definitions

2.1 The analysis regions

The production of statistics at different levels allows more in-depth knowledge of a territory and its different components. The information they can provide enables the strengths and weaknesses of a region to be measured or different spatial entities to be compared with one another.

The analysis regions established many years ago by the FSO (labour market areas and agglomerations) are examples of such spatial entities, built with the help of statistical methods. They serve as a basis for spatial analyses and enable the visual illustration of phenomena (cartography).

A statistical definition of these analysis regions must be based on harmonised criteria and target thresholds for the whole of the territory concerned (in this case, Switzerland). This is a fundamental condition to ensure that the designated regions can be compared with one another.

2.2 Functional urban areas

According to the OECD definition, a *functional urban area* comprises a densely populated urban core and a contiguous area whose labour market is highly integrated with the central urban core (OECD 2012). *Functional areas* are zones characterised by a high level of cohesion that is the consequence of historic development, of

geography (natural regions or river basins) or a specialisation related to the region's economic development for example. More specifically, *functional urban areas* are territories composed of an urban core and the zone from which its commuters come. They are defined based on statistics on commuter flows towards an urban core (commuter flows in one direction). As an example, the agglomerations are functional urban areas (G1).

Functional urban areas do not cover the whole of the territory but only those areas close to an urban core.

2.3 Labour market areas

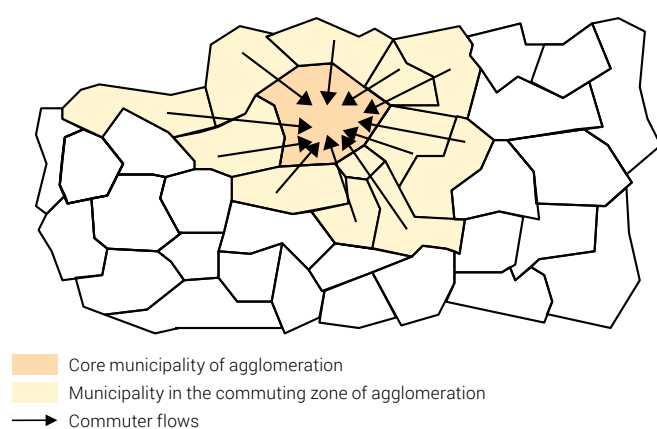
The concept of *labour market areas* describes the functional areas in which *the majority of employed persons live and work*. A place to both live and work, a labour market area is therefore not necessarily tied to a major urban core. In a labour market area, it is not the movements towards a particular place that are taken into account, but the relationships between the entities that make up a region. A region is defined as a labour market area if the majority of employed persons remain within that region when they go to work (G1).

To create labour market areas, a matrix of commuter flows (of the employed population) is used between spatial entities (starting point: place of residence; destination: place of work). Territory divisions are defined by grouping together these spatial

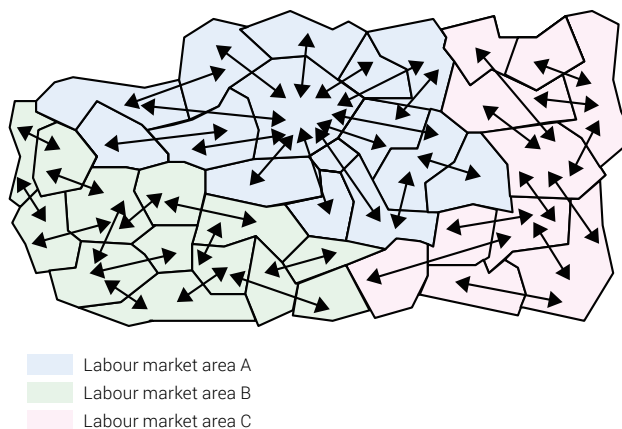
Functional urban area and labour market areas

G1

Functional urban area



Labour market area



Source: FSO – Territorial typologies of Switzerland

© FSO 2019

entities by an iterative process so that the entities that share the greatest number of commuter exchanges are then grouped into regions.

In order to define the boundaries of these areas, thresholds must be defined, such as the minimum number of employed persons that a region must contain, or the percentage of employed persons that must live and work in the same region.

Until now, these geographic divisions were known as “MS regions” and “labour market regions”. As part of the revision, and in order to adapt our classification term to the one used elsewhere, it was decided to alter the terminology as follows (see also box 1):

Labour market areas → **large labour market areas**

MS regions → **labour market areas**

3 Method for defining labour market areas

3.1 General considerations and principles

To decide upon the general framework for the revision and the needs it should fulfil, the new delineation method for labour market areas was drawn up by working closely together with a group of experts and representatives of the users of this geographic division.

The following principles emerged from the talks:

- The criteria and statistical thresholds used to determine labour market areas are uniform throughout the country.
- The definition is based on scientific and analytical criteria.
- The basic statistical unit is the municipality.
- The definition can cross borders (but complies with a Swiss perspective) and is compatible at international level.
- The number of labour market areas must be close to the current number of MS regions.
- Commuter flows (number of commuters between the different
- Large labour market areas are formed by grouping together labour market areas.
- Generally speaking, institutional criteria (e.g. cantonal borders) play only a secondary role.

3.2 Methodology

The new definition takes inspiration from those developed in other European countries. In particular, it draws on work conducted in Great Britain (Coombes et al. 1986, Coombes and Bond 2008, Coombes et al. 2012), in Italy (Franconi, D'Alò and Ichim 2016) and in Eurostat (Eurostat 2015). This work led to an adaptation by Istat (Italy's national statistics institute) of the algorithm developed by Coombes and Bond and its implementation in the R software. This method has recently been tested in several countries (Italy, France, Portugal and Poland to name but a few). A harmonised solution for calculating labour market areas has been sought through dialogue at international level, and several partners, including Switzerland, have been able to test it in different territorial contexts.

The method consists in grouping together municipalities based on the size of the commuter flows between them. In this way, the municipalities that have the strongest relationships with one another from this point of view are grouped together into labour market areas. Different thresholds have been applied to calculate the large labour market areas. Lastly, a cross-border approach is adopted as labour market areas are not confined everywhere to national borders.

Settings

T1

	Variables ¹	Définition
1	minSZ	Minimum number of employed persons by region
2	tarSZ	Target number of employed persons by region
3	minSC	Minimum share of employed persons living and working, by region
4	tarSC	Target share of employed persons living and working, by region

¹ see box 2

Source: FSO – Territorial typologies of Switzerland

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Box 2: The Coombes and Bond algorithm adapted by Istat

The method joins together municipalities that meet certain conditions (internal cohesion principle and external differentiation). It is based on the functional relationships that the municipalities have with one another, measured in terms of commuter flows. The main attributes of the method are the **number of employed persons** and **its self-containment**, expressed as a ratio of persons that live and work in a region. For each of these attributes, two values are defined: a minimum number and a target number, which means that 4 parameters have to be defined (T1).

A region's self-containment is measured from the point of view of both supply and demand:

Supply: number of persons living and working in a region divided by the total number of employed persons living in that region.

Demand: number of persons living and working in a region divided by the total number of jobs in that region.

A group of municipalities constitutes a labour market area if the following condition is met:

$$\frac{\text{minSC}}{\text{tarSC}} \leq \left(1 - \left(1 - \frac{\text{minSC}}{\text{tarSC}}\right) \cdot \text{MAX}\left(\frac{\text{tarSZ} - \text{SZ}}{\text{tarSZ} - \text{minSZ}}, 0\right)\right) \cdot \left(\frac{\text{MIN}(\text{SC}, \text{tarSC})}{\text{tarSC}}\right)$$

By means of an iterative process, the algorithm will test each of the spatial entities to see whether they meet the criteria set out above.

This method requires a commuter matrix between spatial entities (in our case, the municipalities) as well as fixing thresholds for the variables described in table T 1 (see box 2).

3.3 Defining labour market areas

Step 1: Defining regions for the whole of Switzerland

The first step uses the algorithm to make an initial division of the whole of the Swiss territory using the commuter flow matrix from 2014. The entities grouped together during this first step are the municipalities according to their structure on 1.1.2018. Threshold values are shown in table T 2.

Variables and thresholds for the first step

T 2

Variable ¹	Thresholds by region
minSZ	3 000
tarSZ	5 000
minSC	0.57
tarSC	0.75

¹ see table T 1

Source: FSO – Territorial typologies of Switzerland

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These thresholds are determined on the basis of empirical evidence and are intended to fulfil the wish of most users to keep the number of labour market areas close to the current one (106).

The calculation process requires different validation and consolidation stages. The gross results are adjusted by excluding enclaves, which are attributed to the region surrounding them. If an enclave lies between two regions, it is attributed to the neighbouring region towards which it has the greatest commuter flows. In our case, five municipalities are concerned.

Furthermore, to test how robust the results were, the 2011 commuter flow matrix was used with the same method and the thresholds as those used with the 2014 commuter matrix. Based on the 2014 matrix, one large area joining together Lucerne and Zug is defined whereas with the 2011 matrix, two distinct regions appear. As this was the only region containing two major urban cores, it was decided to keep the result obtained using the 2011 commuter flow matrix. In addition to this, a few corrections were made, mostly for municipalities that had been "isolated" by their canton or district and which had undergone a change in classification between the results for the 2011 and 2014 matrices. Ten municipalities are concerned by these adjustments.

This step led to the identification of **79 regions (G2)**.¹

¹ Detailed maps and a list of the labour market areas are presented in chapter 4.

The 79 regions from the first computation step

G 2



Source: FSO – Territorial typologies of Switzerland

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Step 2: Subdividing the large urban areas and definitive labour market areas.

By applying the chosen thresholds, it was shown that very large regions appeared around large urban cores (map G3, perimeters in colours). This result is correct and also relevant: the attractiveness of large agglomerations is reflected in particular by the density of commuter flows. However, in order to assure a certain spatial homogeneity for the whole of the national territory, these large urban zones have been divided up. Furthermore, separate labour market areas have been created for the largest municipalities.

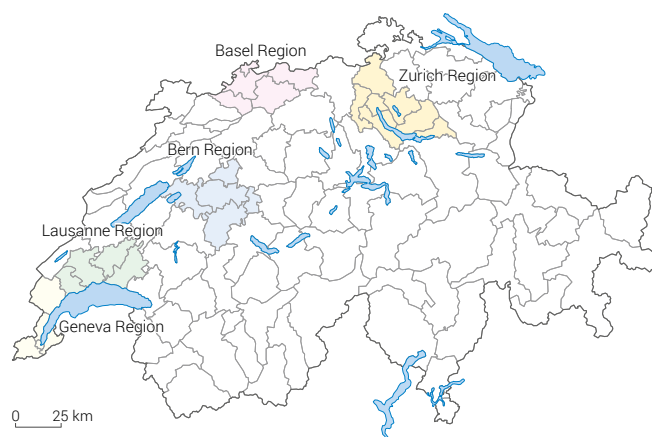
To select the regions that have to be subdivided and those municipalities likely to become a separate labour market region on their own, the reference measures are: the number of inhabitants, the number of jobs and the number of overnight stays in hotels converted into inhabitant equivalents (abbreviation IJO, see box 3) for the year 2014. Large urban areas that are sub-divided account for more than **5% of all IJO** in Switzerland; municipalities that constitute a labour market area themselves account for more than **2.5% of all IJO** in Switzerland.

The application of these thresholds led to the subdivision of the regions of Zurich, Geneva, Basel, Bern and Lausanne (T3) and to the creation of separate labour market areas for the municipalities of Zurich, Geneva and the half-canton of Basel-Stadt (because beside Basel the two other municipalities of this canton, Riehen and Bettingen, would otherwise have been isolated) (T4).

As the algorithm used in step 1 did not give satisfactory results for the subdivision of the five large urban areas, a hierarchical classification algorithm was used. Each of the municipalities that belong to a large urban area is an outbound municipality for commuters. All of the inbound municipalities are maintained, regardless of whether they are in a large urban area or not. For each outbound municipality, the relative shares of commuters in the inbound municipalities are then calculated. This matrix then serves as a base to calculate a Bray-Curtis dissimilarity index (Legendre & Legendre 1998). A hierarchical classification according to the Ward method (Saporta 2006) is subsequently applied. In this way,

The 5 large urban regions with their labour market areas

G3



Source: FSO – Territorial typologies of Switzerland

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Box 3: The IJO measure

The acronym IJO stands for the total number of inhabitants (INH, permanent resident population), jobs (JOB) and overnight stays in hotels (hotels and health establishments) converted into inhabitant equivalents. Regarding overnight stays, equivalences are calculated as follows: a hypothetical guest staying in a given municipality's hotel for every night throughout one year (= 365 overnight stays), is deemed the equivalent of an inhabitant working in that municipality. Tourists are therefore taken into account in the daytime population (= employed persons, counted at place of work) and in the night time population (= inhabitants, counted at place of residence). The mathematical formula is as follows: $IJO = INH + JOB + (\text{overnight stays} \times 2) / 365$. The factor of 2 results from the double-counting of day- and night-time population.

the municipalities are grouped together depending on the similarity of outbound commuter flows. Any exclaves are corrected so as to form contiguous sub-regions. The number of labour market area for each large urban area was empirically determined. Different tests were conducted so that the result for each area satisfied not only functional but also morphological criteria.

The large urban areas were subdivided according to the results in table T5 and the map G3. Altogether, 27 labour market areas were defined in the large urban areas. Steps 1 and 2 enabled **101 labour market areas** to be defined in Switzerland, replacing the 106 MS regions dating back to 1980.

The 10 biggest regions by the number of IJO, 2014 T3

Urban region ¹	IJO 2014 ²	
Zürich	2 274 000	
Basel	976 000	more than 5% of the total amount of IJO in Switzerland = Large urban region
Genève	956 000	
Bern	789 000	
Lausanne	705 000	
Aarau	509 000	
St. Gallen	425 000	
Luzern	423 000	
Baden	417 000	
Zug	322 000	

¹ Name of the greatest municipality in the region² see box 3

Sources: FSO – STATENT, STATPOP, HESTA

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The 10 biggest municipalities by the number of IJO, 2014 T4

Municipality	IJO 2014 ¹	
Zürich	867 000	more than 2.5% of the total amount of IJO in Switzerland = labour market area
Genève	382 000	
Basel	361 000	
Bern	317 000	
Lausanne	255 000	
Winterthur	178 000	
Luzern	168 000	
St. Gallen	157 000	
Lugano	122 000	
Biel/Bienne	94 000	

¹ see box 3

Sources: FSO – STATENT, STATPOP, HESTA

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Subdivision of the large urban regions T5

Large urban region	Subdivision
Zürich	8 Labour market areas (7 + 1 for the core municipality)
Genève	5 Labour market areas (4 + 1 for the core municipality)
Basel	5 Labour market areas (4 + 1 the half-canton Basel-Stadt)
Bern	5 Labour market areas
Lausanne	4 Labour market areas

Source: FSO – Territorial typologies of Switzerland

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3.4 Defining large labour market areas

Once the labour market areas were defined, they were grouped together into larger regions. To do this, the 2014 commuter flow matrix between the 101 labour market areas was calculated and the algorithm used in step 1 (see ch. 3.3) was used by raising the thresholds (T6). In this way, 16 large labour market areas were defined (G4).

Variables and thresholds for the definition of the large labour market areas

T6

Variable ¹	Threshold by region
minSZ	50 000
tarSZ	80 000
minSC	0.7
tarSC	0.9

¹ see table T1

Source: FSO – Territorial typologies of Switzerland

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The 16 large labour market areas

G4



Source: FSO – Territorial typologies of Switzerland

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3.5 Defining transboundary labour market areas

In certain zones, relations between Switzerland and neighbouring regions are very important. The new agglomerations defined as a result of the FSO's work on areas with urban character (FSO 2014) identified 12 transboundary agglomerations.

The transboundary dimension is also relevant to the current labour market area revision. Tests were conducted based on a commuter flow matrix that included both Swiss and foreign municipalities next to Switzerland. However, no satisfactory results were achieved. In several cases, regions were formed that contained only a small number of Swiss municipalities. This poses a problem because the majority of users carry out spatial analyses that are limited to Swiss national territory.

An alternative approach was therefore developed so as to add a transboundary dimension while maintaining the regions that are relevant to analyses of only Swiss municipalities. In order to keep the perimeters defined in Switzerland, a commuter flow matrix was created between the 79 regions calculated during the first step (see ch. 3.3) and municipalities abroad. Transboundary labour market areas were calculated on the basis of this commuter flow matrix, with the same algorithm and the same thresholds as for step 1. Enclaves were eliminated, as they had been during step 1. Furthermore, transboundary regions that only had one or two foreign municipalities ("isolated" municipalities) were not selected and were reallocated to the neighbouring region in their country.

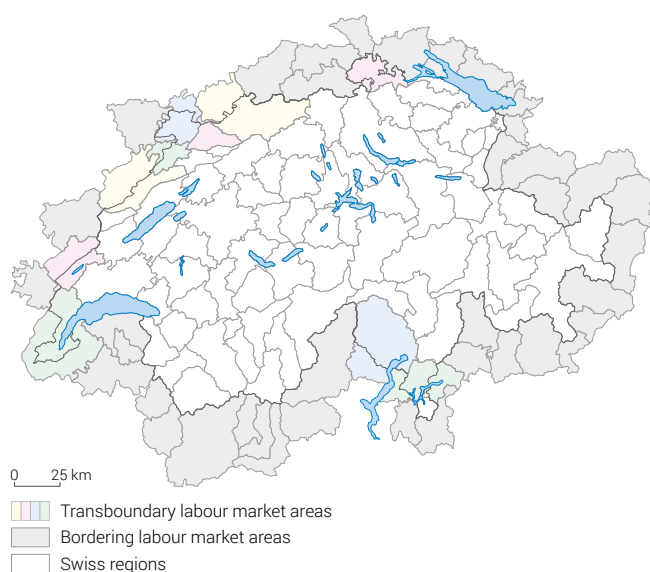
Ten transboundary labour market areas were thus defined in Geneva, the Jura mountains region, Basel, Schaffhausen and Ticino. In all other regions, the labour market areas do not cross the national border (G5). In order to paint a comprehensive picture of the situation, neighbouring regions were also included in the calculations. However, it does not fall within the FSO's remit to define labour market areas that lie wholly outside Switzerland. They are shown in this document as a guide only.

There are several reasons why no labour market areas appear for the transboundary labour market areas in south Ticino, the Rhine valley or the Basel-Lörrach region (D):

- In the above-mentioned regions, the urban cores are situated abroad and close to the border (Lörrach in the region of Basel, Como and Varese to the south of Ticino, Vaduz/Schaan, Bregenz, Dornbirn or Feldkirchen to the east of the Rhine valley). The relatively low thresholds used explain the creation of labour market areas around these urban cores.
- In accordance with the method used, the Swiss labour market areas calculated in step 1 cannot be changed for the calculation of transboundary labour market areas. This means that a Swiss municipality cannot be attached to a labour market area that would be mainly abroad, regardless of the Swiss labour market areas that it might belong to.
- Lastly, in three cases (Buchs (SG), Monthey and Val-de-Travers), the labour market areas encompass only one or two municipalities abroad. They were not selected (handled in the same way as the "isolated" municipalities described above in step 1).

Transboundary labour market areas

G 5



Source: FSO – Territorial typologies of Switzerland

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Although the transboundary dimension is also relevant to the large labour market regions, it has not been taken into account in their calculation. Taking them into account would mean including a very large area around Switzerland in the calculations. Such an effort could only be carried out in the context of a joint project with other national statistical institutes or a European project.

3.6 Determining names and codes

Each of the new labour market areas was given the name of the main municipality or municipalities. The name given is thus that of the main municipality which, in the labour market area concerned, has the greatest number of IJO (box 3). If another municipality has 75% of that number, its name is included in the denomination. But if a third commune also fulfils this criteria, it is not included in order to avoid names becoming too long.

Two exceptions should be pointed out in which the second municipality has less than 75% of the first municipality's IJO but is nevertheless used: the labour market area of Aarau which has been given the name of Aarau-Olten and that of Saanen, called Saanen-Château-d'Éx.

The large labour market areas either take the name of the main municipality, preceded by the word "region", or the name of the geographic region with a similar perimeter.

The list of names for the labour market areas and the large labour market areas is found in chapter 4.

To allow regions to be identified rapidly, codes have been introduced for each one. For the 16 large labour market areas a 2-digit code is used ranging from 01 to 16, from west to east.

For the 101 labour market areas, a 5-digit code is used. The first two digits correspond to the code of the large labour market area to which they belong. For the digits 3 to 4, the 79 regions (i.e. before the large urban areas have been subdivided, see step 1, ch. 3.3) are numbered within each large labour market area starting with 01 and also from west to east. Lastly, in the 5th digit, the sub-regions of the major urban areas (see step 2, ch. 3.3), are numbered from 1 and from west to east. If an area is not in a major urban area the 5th digit is 0.

This way of coding enables users to easily extract the 79 regions from step 1 by removing the last digit.

"T_" is placed before the code of the area to indicate transboundary areas.

3.7 Data used

The data used to calculate the delineation of labour market areas are presented in table T 7.

The data necessary for the delineation of transboundary areas comes from abroad; they are available in sufficient quality to allow comparisons with the Swiss data.

Data used

T 7

Data	Source
Commuter flows 2011 and 2014	FSO, AVS, STATPOP and STATENT (linked)
Permanent residential population as at 31/12/2014	FSO, STATPOP
Number of employed persons (12/2014)	FSO, STATENT
Overnight stay in hotels and health establishments (2014)	FSO, HESTA
Municipal boundaries: as at 1/1/2018	FSO, SWISSTOPO

Source: FSO – Territorial typologies of Switzerland

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4 Results

4.1 Labour market areas

Map G7 shows the 101 labour market areas defined using the method described in point 3. The table T9 lists the large labour market areas and the labour market areas with their population and the number of jobs. The allocation of each municipality to the labour market areas is available in the Swiss municipalities application (<https://www.agvchapp.bfs.admin.ch>).

The number of inhabitants varies greatly from one labour market area to another (T8), which is a reflection of a growing polarisation around large urban cores. This also shows that peripheral regions are complete living areas that are relatively independent.

Labour market areas by size 2017

T8

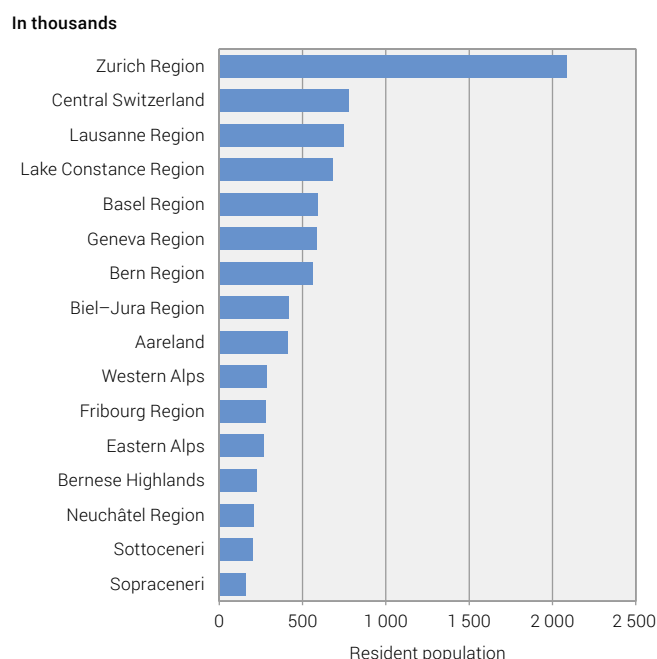
Number of inhabitants	Number of labour market areas	As % of total Swiss population
200 000 and more	10	31.4
from 100 000 to 199 999	21	36.7
from 50 000 to 99 999	26	20.5
from 20 000 to 49 999	20	7.7
from 10 000 to 19 999	18	3.1
9 999 or fewer	6	0.6

Sources: FSO – Territorial typologies of Switzerland, STATPOP

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Population by large labour market area 2017

G6



Sources: FSO – Territorial typologies of Switzerland, STATPOP

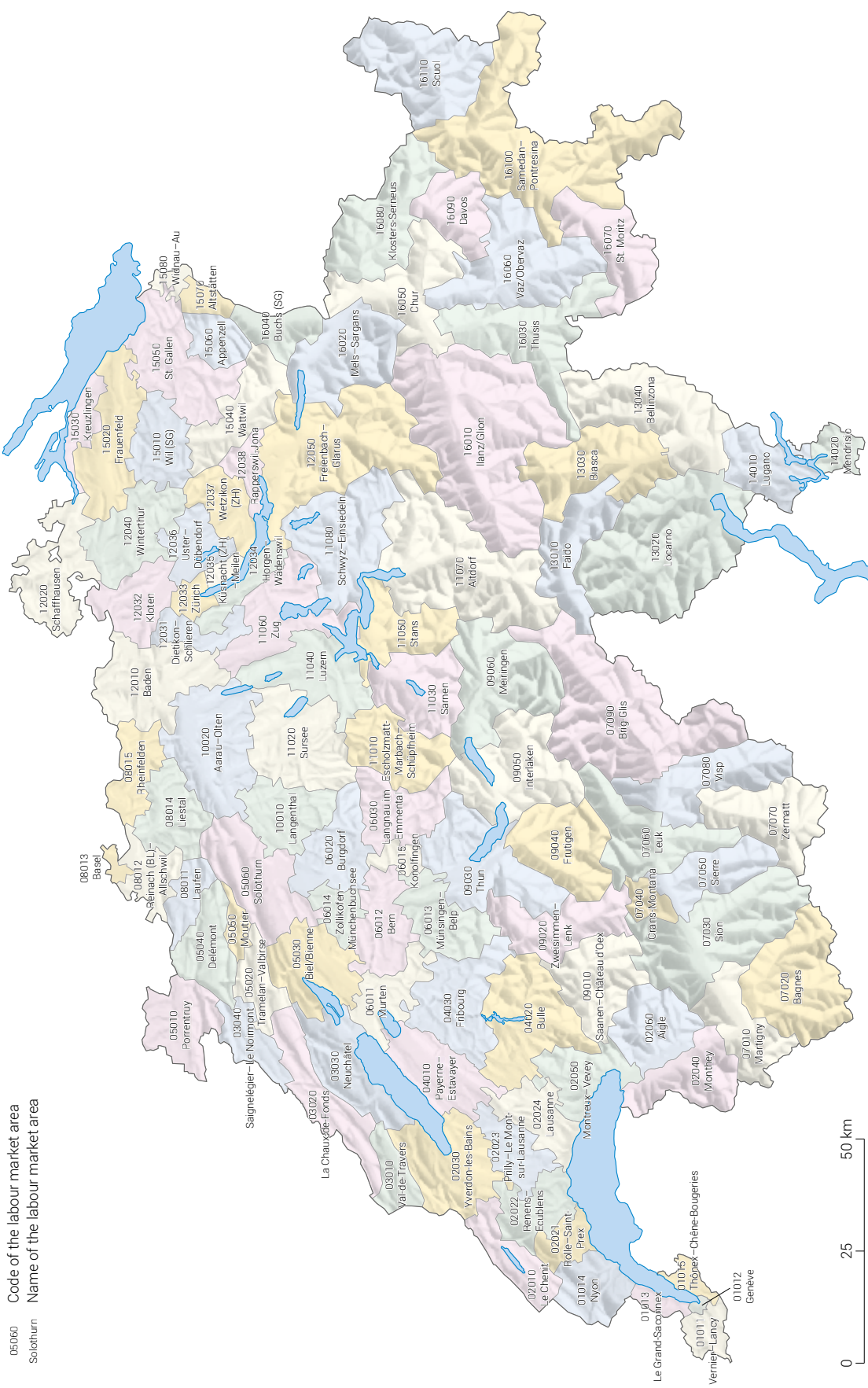
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4.2 Large labour market areas

The new definition of large labour market areas shows that the large labour market area of the Zurich region, with over 2 million inhabitants, is by far the most populated (G6) followed by Central Switzerland (750 000) and the Lausanne region (710 000). The smallest, Sopraceneri, has only just over 150 000 inhabitants. With regard to the regions of Basel and Geneva, it should be mentioned that at the level of large labour market areas, their area of influence extends way beyond the national boundaries, a fact that cannot be deduced from these figures.

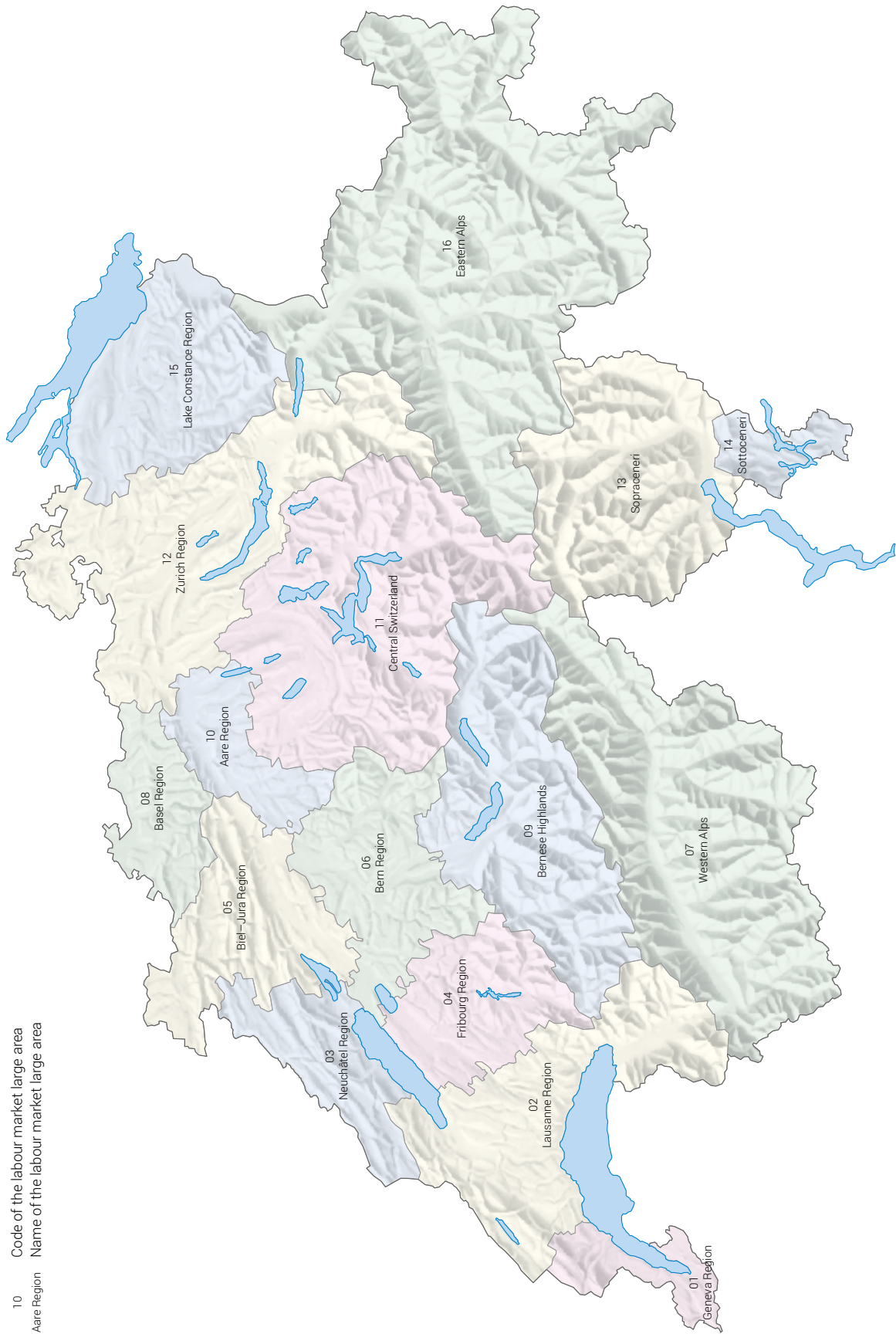
The 101 labour market areas, 2018

G7

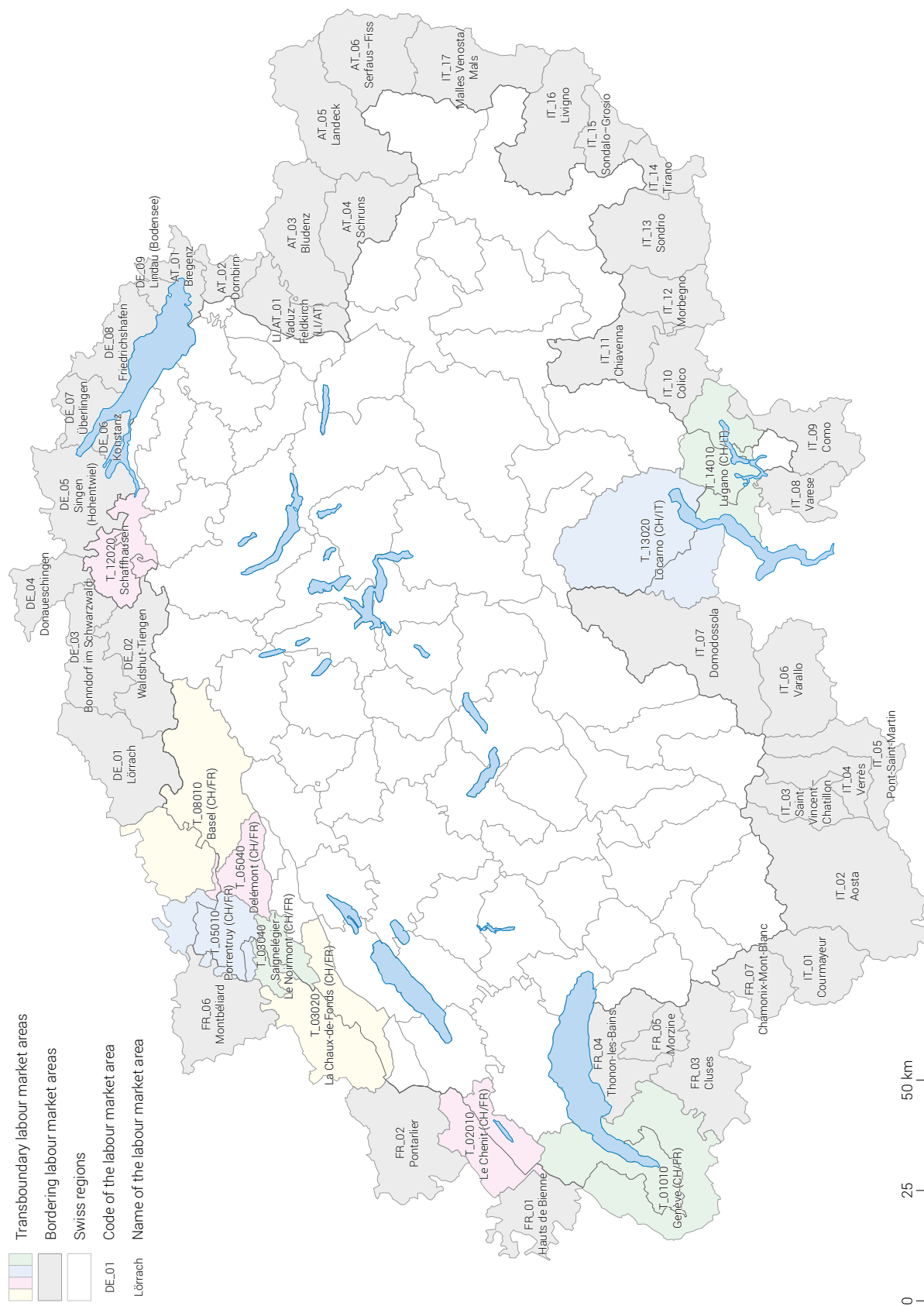


The 16 large labour market areas, 2018

G 8



Bordering and transboundary labour market areas, S 2018



Source: FSO – Territorial typologies of Switzerland

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Labour market large areas and labour market areas 2018

T9

Large labour market area code	Large labour market area name	Labour market area code	Labour market area name	Population 2017	Jobs 2016
01	Geneva Region			583 728	384 848
		01011	Vernier – Lancy	180 589	121 135
		01012	Genève	200 548	180 100
		01013	Le Grand-Saconnex	54 624	23 611
		01014	Nyon	71 860	34 131
		01015	Thônex – Chêne-Bougeries	76 107	25 871
02	Lausanne Region			745 587	413 656
		02010	Le Chenit	14 096	10 652
		02021	Rolle – Saint-Prex	34 034	17 373
		02022	Renens – Ecublens	119 873	79 880
		02023	Prilly – Le Mont-sur-Lausanne	73 731	32 234
		02024	Lausanne	220 542	145 637
		02030	Yverdon-les-Bains	80 154	38 582
		02040	Monthey	56 265	23 078
		02050	Montreux – Vevey	112 050	51 388
		02060	Aigle	34 842	14 832
03	Neuchâtel Region			208 672	120 529
		03010	Val-de-Travers	11 898	5 900
		03020	La Chaux-de-Fonds	65 577	41 284
		03030	Neuchâtel	120 821	66 989
		03040	Saignelégier – Le Noirmont	10 376	6 356
04	Fribourg Region			278 237	139 719
		04010	Payerne – Estavayer	65 056	25 535
		04020	Bulle	68 335	32 439
		04030	Fribourg	144 846	81 745
05	Biel–Jura Region			419 014	214 989
		05010	Porrentruy	24 573	14 331
		05020	Tramelan – Valbirse	21 704	10 296
		05030	Biel/Bienne	160 956	80 548
		05040	Delémont	38 375	21 359
		05050	Moutier	9 996	4 514
		05060	Solothurn	163 410	83 941
06	Bern Region			561 737	391 067
		06011	Murten	57 949	23 289
		06012	Bern	281 167	257 987
		06013	Münsingen – Belp	55 087	23 140
		06014	Zollikofen – Münchenbuchsee	50 906	28 195
		06015	Konolfingen	18 645	7 990
		06020	Burgdorf	71 557	36 321
		06030	Langnau im Emmental	26 426	14 145
07	Western Alps			286 123	150 673
		07010	Martigny	52 105	23 856
		07020	Bagnes	15 273	8 176
		07030	Sion	88 973	49 309
		07040	Crans-Montana	15 292	6 283
		07050	Sierre	33 055	15 956
		07060	Leuk	14 596	6 080
		07070	Zermatt	10 902	8 774
		07080	Visp	21 946	15 304
		07090	Brig-Flis	33 981	16 935
08	Basel Region			592 238	387 461
		08011	Laufen	26 347	10 241
		08012	Reinach (BL) – Allschwil	205 561	109 063
		08013	Basel	193 908	190 681
		08014	Liestal	93 707	44 864
		08015	Rheinfelden	72 715	32 612

Source: FSO – Territorial typologies of Switzerland

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Labour market large areas and labour market areas 2018 (end)

T9

Large labour market area code	Large labour market area name	Labour market area code	Labour market area name	Population 2017	Jobs 2016
09	Bernese Highlands			223 515	115 855
		09010	Saanen – Château d'Oex	13 573	9 722
		09020	Zweisimmen – Lenk	9 627	5 415
		09030	Thun	134 503	62 912
		09040	Frutigen	18 270	9 917
		09050	Interlaken	35 019	20 877
		09060	Meiringen	12 523	7 012
10	Aare Region			411 890	226 683
		10010	Langenthal	75 469	37 355
		10020	Aarau – Olten	336 421	189 328
11	Central Switzerland			774 442	478 732
		11010	Escholz matt–Marbach – Schüpfheim	17 018	8 805
		11020	Sursee	117 096	68 041
		11030	Sarnen	33 420	19 575
		11040	Luzern	259 582	164 963
		11050	Stans	47 803	26 244
		11060	Zug	191 193	138 613
		11070	Altdorf	35 620	18 026
		11080	Schwyz – Einsiedeln	72 710	34 465
12	Zurich Region			2 084 945	1 309 685
		12010	Baden	282 266	142 999
		12020	Schaffhausen	106 494	54 381
		12031	Dietikon – Schlieren	168 484	84 909
		12032	Kloten	181 230	106 534
		12033	Zürich	409 241	472 396
		12034	Horgen – Wädenswil	160 044	59 385
		12035	Küsnacht (ZH) – Meilen	58 315	24 032
		12036	Uster – Dübendorf	198 980	112 792
		12037	Wetzikon (ZH)	143 228	60 388
		12038	Rapperswil–Jona	51 597	27 614
		12040	Winterthur	205 017	101 416
		12050	Freienbach – Glarus	120 049	62 839
13	Sopraceneri			159 090	80 654
		13010	Faido	6 228	2 992
		13020	Locarno	70 122	34 353
		13030	Biasca	19 070	7 618
		13040	Bellinzona	63 670	35 691
14	Sottoceneri			203 154	154 108
		14010	Lugano	148 619	108 353
		14020	Mendrisio	54 535	45 755
15	Lake Constance Region			683 068	388 224
		15010	Wil (SG)	110 242	53 543
		15020	Frauenfeld	139 000	74 064
		15030	Kreuzlingen	52 762	27 161
		15040	Wattwil	31 657	15 296
		15050	St. Gallen	260 412	169 506
		15060	Appenzell	17 294	9 459
		15070	Altstätten	26 321	14 222
		15080	Widnau – Au	45 380	24 973
16	Eastern Alps			268 690	163 452
		16010	Ilanz/Glion	25 653	13 459
		16020	Mels – Sargans	40 461	19 266
		16030	Thusis	13 538	7 118
		16040	Buchs (SG)	38 876	20 503
		16050	Chur	81 669	53 690
		16060	Vaz/Obervaz	9 868	6 254
		16070	St. Moritz	9 839	10 972
		16080	Klosters-Serneus	15 128	7 240
		16090	Davos	11 183	8 805
		16100	Samedan – Pontresina	16 256	11 286
		16110	Scuol	6 219	4 859

Source: FSO – Territorial typologies of Switzerland

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5 Application

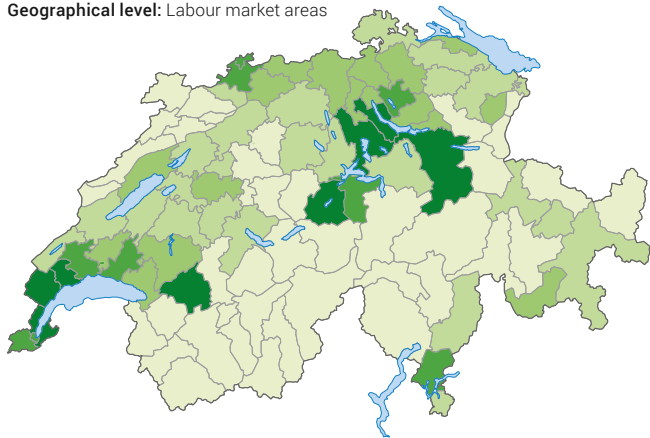
The geographic level of labour market areas can be used widely for spatial statistical analyses and cartographic representation covering subjects ranging from public health, economics and demographics.

Map G10 demonstrates the utility of different geographic levels that enable the same phenomenon to be analysed and represented on different scales. Further examples can be seen on the FSO website.¹

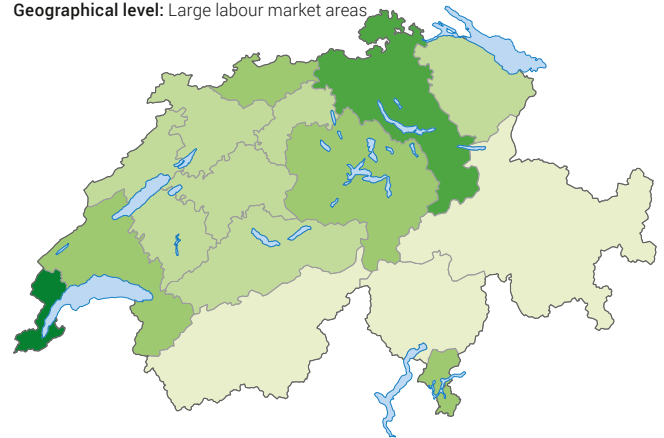
Average annual net income per taxpayer, 2015

G 10

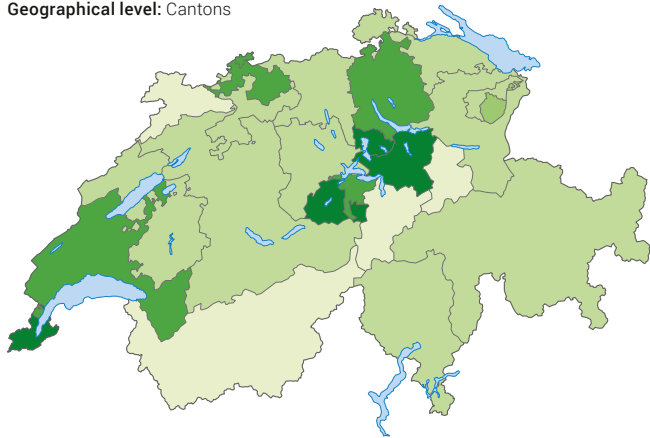
Geographical level: Labour market areas



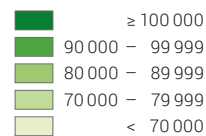
Geographical level: Large labour market areas



Geographical level: Cantons



Net income¹ per taxpayer²,
in CHF



0 25 km

¹ calculated from the taxable income determinant
for the calculation of direct federal tax,
private persons

² taxpayers who pay direct federal tax

Sources: FSO – Territorial typologies of Switzerland, Federal Tax Administration

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¹ www.bfs.admin.ch → Statistiken finden → Querschnittsthemen → Räumliche Analysen → Indikatoren regionaler Disparitäten

6 Comparison between labour market areas in 1980 and 2018

Large labour market areas

Two of the large labour market areas are identical to current labour market areas (Sottoceneri and Sopraceneri) and three of them are very similar (Western Alps, Basel region and Eastern Alps). The other large labour market areas have changed more markedly but are still much the same as the old ones, with the exception of Neuchâtel region, which has grown considerably and the regions of Bern and Fribourg whose outlines have been modified. The large area of Winterthur-Schaffhausen – has been partly incorporated into the Zurich region and partly into the Lake Constance region. One new large labour market area has been created (Bernese Oberland region) (G11).

Labour market areas

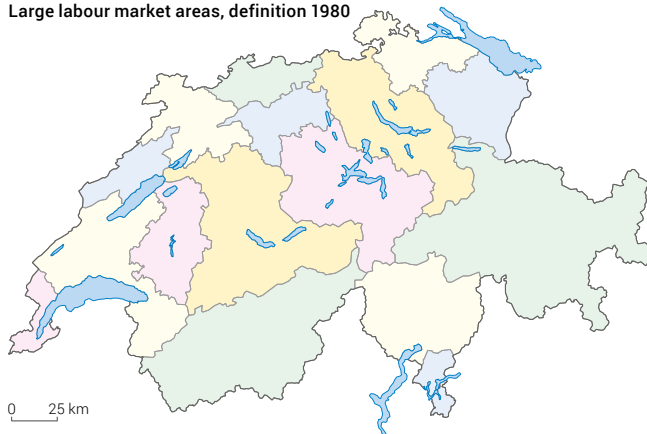
While the mountain regions show a certain stability (a few new labour market areas are exactly the same as the former MS regions), the same cannot be said for the plain regions where some major reconfigurations have taken place. The main reason is the country's structural development. In other cases, we could see that when the areas were initially defined, choices of a political nature had been made (adapting area boundaries depending on which canton municipalities belong to or based on language regions). The canton of Jura is a case apart: the new version has divided the canton into three areas, whereas previously it was one single labour market area: this choice was undoubtedly a reflection of wishing to respect the boundaries of the new canton that had been created a few years before.

The method used, the adjustments made at the time and country's structural development make it complicated to summarise the differences between the new and old versions (MS regions) at this geographic level.

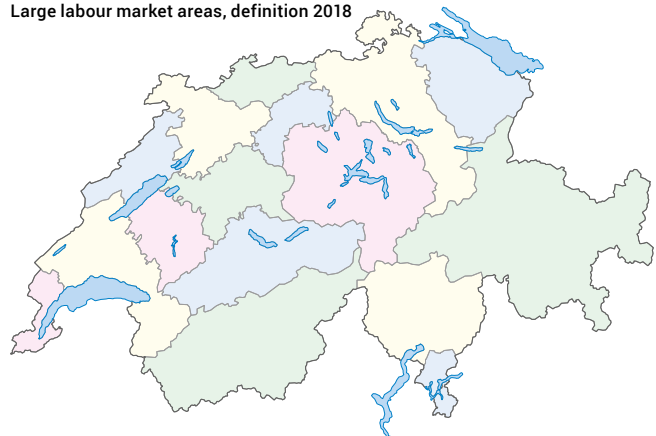
The 16 large labour market areas, definitions 1980 and 2018

G 11

Large labour market areas, definition 1980



Large labour market areas, definition 2018



Source: FSO – Territorial typologies of Switzerland

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7 Follow-up and revision

Non-institutional geographic divisions must be kept up to data in order to take municipal mergers into account. Furthermore, the geographic divisions must reflect the changes affecting Switzerland's territory. For this reason, the FSO regularly updates and reviews all these divisions.

Updates are limited to regularly updating the perimeters of non-institutional divisions to the changes taking place at institutional level (e.g. municipal mergers). Every year, the FSO reassesses the assignment of new municipalities to the labour market areas. If a new entity is comprised only of municipalities assigned to the same labour market area, it will be attributed to that area. If the new entity comprises municipalities that belong to different labour market areas, it will be assigned to the labour market area towards which it has the most commuters (based on the 2014 commuter flow matrix).

A country's spatial structure changes over time. Population movement, economic development, changes in inhabitants habits or also the construction of transport infrastructure (e.g. extending the network or increasing frequency of services) have a direct impact on mobility and therefore potentially on labour market areas. The FSO wishes to keep track of these developments by updating the latter roughly every ten years, i.e. by using the same calculation method but with new data.

The labour market regions neighbouring Switzerland are presented as a guide only and will not be updated. Transboundary labour market areas will be updated (adapted to the latest municipality structure) with the same frequency as the Swiss labour market areas.

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The Federal Statistical Office has revised the definition of SM regions and labour market areas by means of a statistical algorithm that has been clearly documented and developed by Eurostat in cooperation with various European countries. This method enabled municipalities to be grouped together based on the commuter flow matrix between the place of residence and place of work of employed persons.

Henceforth, MS regions will be known as "labour market areas" and the current "labour market areas" as "large labour market areas".

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