

year. This corresponds to approximately 9.2% of the non-domestic turnover of these companies, a high number by international comparison.

4.4 Services

4.4.1 Telecommunications services

4.4.1.1 Switzerland

4.134. During the period under review, the share of the telecommunications sector in both the GVA of Switzerland and in total employment declined slightly from already relatively low levels (from 1.3% in 2015-17 to 1.2% in 2018-19 for GVA and from 0.7% in 2015-19 to 0.6% in 2020 for employment) (Table 4.17). This can be explained by the fact that it is an industry with high productivity gains. This slight decline has been largely compensated in terms of both GVA contribution and employment by the growth of the ICT sector that it enables (from 2.6% in 2015 to 2.8% in 2019 in terms of GVA and from 2.2% of employment in 2015 to 2.7% in 2020).

Table 4.17 Evolution of the contribution of the telecommunications and ICT sectors to GVA and to total employment, 2015-20

	2015	2016	2017	2018	2019	2020
GVA share (% of total GVA)						
Telecommunications	1.3	1.3	1.3	1.2	1.2	..
IT and other information services	2.6	2.6	2.7	2.7	2.8	..
GVA percentage change over previous year, at prices of preceding year						
Telecommunications	0.8	4.4	0.8	1.7	0.9	..
IT and other information services	3.9	4.0	4.5	5.3	4.6	..
Jobs in full-time equivalents^a						
Telecommunications	0.7	0.7	0.7	0.7	0.7	0.6
IT and other information services	2.2	2.3	2.4	2.4	2.6	2.7

.. Not available.

a Based on Q4 for each year.

Source: FSO, *Production Account*; and FSO, *Businesses and Employment*.

4.135. Switzerland has a very developed and mature telecommunications market using the latest technologies and enabling a wider ICT strategy (Box 4.2). Mobile coverage by a 4G/LTE network reached 100% during the period. Swisscom and Sunrise switched to a 5G network in April 2019 reaching 90% coverage at the end of 2020, while Salt switched to a 5G network in August 2020. Switzerland, which is ahead of its neighbours for 5G deployment, considers this 5G technology of paramount importance for the future⁷³, as it allows new applications such as the Internet of Things, time-critical reliable remote-control (e.g. for medicine and "industry 4.0"), self-driving vehicles, smart energy grids, and more generally the management of a green economy.

4.136. The Federal Commission on Communications (ComCom) acknowledged in May 2021⁷⁴ that by international standards the prices of mobile telecommunications in Switzerland remained among the highest, though the gap tends to narrow with other OECD countries.

⁷³ ComCom, *Mobile Coverage*. Viewed at: <https://www.comcom.admin.ch/comcom/en/Homepage/documentation/facts-and-figures/mobile-telephony/mobile-coverage.html>.

⁷⁴ ComCom (2021), *Prices for Telephony Services*, 26 May. Viewed at: <https://www.comcom.admin.ch/comcom/en/Homepage/documentation/facts-and-figures/mobile-telephony/prices-for-telephony-services.html>.

Box 4.2 Main economic indicators of Switzerland's telecommunications sector

Population covered by a mobile-cellular network (2020): 100%
 Population covered by at least a-4G network (2020): 100% (world average 64%)
 Mobile-cellular subscriptions per 100 inhabitants (2020): 126 (world average 105)
 Fixed telephone subscriptions per 100 inhabitants (2020): 34

Households with Internet access at home (2019): 92% (world average 72%)
 Households with a computer at home (2018): 93% ((world average 63%)
 Active mobile broadband subscriptions per 100 inhabitants (2020): 102 (world average 75)
 Average monthly mobile broadband Internet traffic per mobile subscription (Mb- 2020): 10,795
 Fixed broadband subscriptions per 100 inhabitants (2020): 46 (of which 97%>10mbits)
 Average monthly fixed broadband Internet traffic per fixed subscription (Mb- 2020): 211,907
 Percentage of individuals using the Internet (2019): 93% (world average 70%)

Source: For the main indicators: ITU, *Digital Development Dashboard*. The importance of mobile telephony for both voice and data increased during the COVID-19 pandemic due the importance of teleworking: in spite of the recourse to Wi-Fi for many mobile communications, mobile data traffic for Swisscom grew by almost 30% in 12 months and Sunrise is expecting its data traffic to double every 16 months.

4.137. Table 4.18 describes the evolution of tariffs for the main types of telecommunications services, while Table 4.19 describes that of access/interconnection rates during the period under review, and Table 4.20 indicates the various retail mobile roaming rates for the 4th quarter of 2020.

Table 4.18 Telecom tariffs, 2015-20

	2015	2016	2017	2018	2019	2020
Telecommunications services	101.6	100.1	98.3	98.5	99.5	99.8
Fixed-line communication	101.8	99.8	98.5	98.3	99.1	99.1
Mobile communication	101.5	99.3	96.4	95.4	95.9	98.5
Combined offers for fixed-line and mobile communication	103.5	101.1	100.6	102.1	103.6	101.8

Source: FSO, *Swiss Consumer Price Index*.

Table 4.19 Access/interconnection rates, 2015-20

	2015	2016	2017	2018	2019	2020
Access/interconnection rates^a (monthly charge per line)	12.2 ^b	12.7 ^b	12.7 ^b	12.7 ^b	12.7 ^b	12.7 ^b

a Wholesale price of unbundled local loop (copper only).

b Price as offered by Swisscom (significant market power (SMP) operator). Due to open legal procedures, the price might be changed by ComCom in the final decision.

Source: Retail data: Federal Office of Communications (OFCOM), *Statistical Observatory*; interconnection rates: information provided by the Swiss authorities.

Table 4.20 Retail mobile roaming rates, Q4 2020

Service (prices in CHF per minute/SMS/MB)	Q4 2020
Calls made – prepaid & post-paid – EU – based on billed minutes	1.02
Calls made – prepaid & post-paid – rest of world – based on billed minutes	1.4080
Calls received – prepaid & post-paid – EU – based on billed minutes	0.37
Calls received – prepaid & post-paid – rest of world – based on billed minutes	1.3431

Source: Retail data: OFCOM, *Statistical Observatory*. Viewed at: www.ofcom.admin.ch; and information provided by the Swiss authorities.

4.138. Table 4.21 provides the detailed international rankings of Switzerland regarding tariffs as established by the annual publication of the ITU, "measuring digital development, ICT prices trends" in its 2020 edition.⁷⁵ Comparisons for the whole period are not technically possible due to the

⁷⁵ ITU (2021), *Measuring Digital Development: ICT Price Trends 2020*.

evolution of the "baskets". These data show that the international ranking of Switzerland in terms of affordability of services varies notably, depending on the type of services provided.

Table 4.21 ICT prices trends by type of basket, 2020

Type of basket	Rank	As percentage of GNI per capita	USD	Purchase parity (USD)	Speed in MB/s	Monthly allowance	Tax rate (%)
Data-only mobile broadband basket (1.5 GB)	39	0.65	47.78	34.27	..	2 GB	7.7
Fixed broadband basket (5 GB)	26	0.94	69.02	49.49	50	Unlimited	7.7
Mobile-cellular low-usage basket (70 minutes, 20 SMS)	29	0.48	35.31	25.3	..	-	7.7
Mobile data and voice low-consumption basket	9	0.36	26.54	19.04	..	SMS unlimited Voice unlimited Data 500 MB	7.7
Mobile data and voice high-consumption basket	16	0.65	47.78	34.27	..	SMS unlimited Voice unlimited Data 2 MB	7.7

.. Not available.

Note: GNI = gross national income.

Source: ITU, *Measuring Digital Development, ICT Price Trends 2020*.

4.139. In terms of market structure, the market is mature, and there has been little change both in terms of market shares and of actors, foreign ownership and state ownership, save the take-over of Orange by NJJ Capital in 2015 and its renaming as Salt (Box 4.3). The trend towards a switch from prepaid offers to contracts also continued during the period under review as the proportion of users with contracts reached 75% in 2020 from 56% in 2010.

Box 4.3 Switzerland telecommunications market structure

Main actors

Number of telecom services providers hosting SMS/MMS services and premium-rate services

Three operators (Swisscom, Sunrise, and Salt) have the authorization to allocate and host SMS/MMS short numbers. All three are active in hosting SMS/MMS services.

Premium-rate services (i.e. numbers with price surcharges for additional services) are hosted by 35 telecom-service providers.

Names and market shares of the leading companies for fixed telecom services

Total: 88 companies

Market leaders (by duration of connections): Swisscom: 66.3%; Sunrise: 9.0%; UPC Cablecom: 8.2%

Market leaders (by number of subscribers): Swisscom: 48.4%; UPC Cablecom: 15.8%; Sunrise: 16.9%

Name and market shares of the leading companies for mobile telephones services

Total: 25 companies

Market leaders (by number of contracts): Swisscom: 56.5%; Sunrise: 21.0%; Salt (ex-Orange): 16.5%.

Three companies (Lycamobile AG), Beone Communications SA, and Vectone Mobile Limited) are mobile virtual network operators (MVNOs). There is no legislation forcing the three network operating companies to make an offer to MVNOs.

Name and market shares of the broadband Internet services

Total: 170 companies

Market leaders (by number of contracts): Swisscom: 50.7%; UPC Cablecom: 16.2%; Sunrise: 12.3%

Foreign ownership participation in telecom companies

Orange/Salt and Sunrise UPC LLC are 100% foreign-owned.

State ownership

51% of the shares of Swisscom

Establishment of new companies, mergers, or closures during the review period

On 23 February 2015, Orange Communications SA (Orange Suisse) was sold to NJJ Capital, which is a private holding company owned by the French businessman Xavier Niel. On 23 April 2015, the company was renamed Salt. Liberty Global, owner of UPC Switzerland LLC, completed the acquisition of Sunrise Communications in 2020. From 1 May 2021, Sunrise Communications Ltd and UPC Switzerland LLC are being legally merged into Sunrise UPC LLC.

Source: For the main indicators: ITU, *Digital Development Dashboard*; and information provided by the authorities for the market structure.

4.140. The regulatory framework for telecommunications was modernized during the period under review to adapt itself to an ever-changing digital environment and to alleviate the administrative burden on operators, thus lowering entry barriers. The main changes concern Internet neutrality, roaming, measurement of Internet quality, security, and facility sharing.

4.141. The main regulatory changes stem from the revision of the Telecommunications Law that was adopted by the Federal Assembly on 22 March 2019 and entered into force on 1 January 2021, together with its accompanying ordinances.⁷⁶ The main amendments to the telecom regime brought about by this revision are the following:

- The principle of Internet neutrality is adopted: Internet service providers must transmit data without making distinctions from an economic standpoint or from a technical one. More precisely, Article 12e of the Law stipulates that "[t]he providers of Internet access shall transmit information without making any technical or commercial distinction between senders, recipients, content, services, service classes, protocols, applications, programmes or terminals... [that] In addition to internet access, they may offer other services via the same connection which must be optimized for specific content, applications or services in order to meet the quality requirements of customers, these other services must not be usable or offered as a substitute for internet access services, and they must not degrade the quality of internet access services ... [and that] If they handle information in a different technical or economic manner during transmission, they must inform their customers and the public of this". These provisions are in essence similar to the EU ones on the same subject.
- The general obligation of notification for all telecom providers is abolished. However, the pre-existing registration procedure applicable only to providers needing State resources (i.e. nationally administered "addressing elements" (e.g. phone numbers, email addresses, and Internet domain names) and frequencies subject to licensing) remains in place. Such registration is automatically granted when the stipulated technical requirements are met.
- New and strengthened transparency obligations regarding roaming services (including on billing modalities and on the obligation for providers to offer bundled offers with included roaming services and roaming options) are created. They allow the use of roaming services at fixed prices or reduced standard prices.
- The possibility to regulate roaming retail prices if wholesale roaming prices are regulated by an international agreement is instituted (at the moment, however, there are no agreements that would imply the use of such a regulation).
- To improve traceability in the event of abuses, the provision of value-added services with Swiss numbers is now conditioned by the localization of the headquarters in Switzerland.
- New duties of information are instituted and "blockage" sets (e.g. for minors) are expanded.
- The sectoral mediator, Ombudscm, will now be able to produce statistics on conciliation procedures it conducts among telecom providers.

⁷⁶ Telecommunications Law of 30 April 1997, as amended (RS 784.10).

- New obligations are imposed on providers in order to fight spamming and unsolicited advertising emails.
- New methods are established to measure and publicize the quality of fixed and mobile Internet access, i.e. the services providers will have to measure and permit their customers to measure the quality of Internet access services and will have to publish the result of these measurements.
- Geo-localization data are now included in the emergency call regulation.
- A right of access to the "introduction point" of buildings and co-use of a building's wiring is explicitly granted to telecom operators and completed by rules for financial compensation in favour of the entity that financed the initial infrastructure.
- More public authorities (e.g. military and competent authorities to carry out searches in case of emergency or searches for convicted persons) are now allowed to manage telecom facilities aimed at guaranteeing public security (e.g. to fight against jammers and bugs).
- To improve the market surveillance on products offered over the Internet (e-commerce), two new actors⁷⁷ are created and their obligations defined, along the lines of the corresponding Regulation (EU) 2019/1020⁷⁸ on market surveillance.
- The amendments introduce a complete change of paradigm for spectrum allocation policy as far as radio-communications are concerned: the free use of spectrum frequencies will become the rule, and the granting of concessions or the notification ("light licensing") the exception.
- Clearer provisions on delegations of authority for managing addressing (e.g. administration of domain names by a foundation) are added; they specify the method of designation of a delegate (directly, by public tender procedure, or by a procedure inviting tenders), and the fact that the public law on public procurement does not apply.
- The Internet domain names database is modified in that the Registration Data Directory Services (WHOIS), which allows anyone to consult public information on allocated domain names, no longer contains any personal information. In addition, new provisions on cybercrime allow the registry and the competent authorities to suspend the use of domain names (deferred delegation).
- Fees are reduced or abolished.

4.142. Another significant development during the period under review was the 5G frequencies auction that took place between 29 January and 7 February 2019. ComCom successfully awarded new mobile radio frequencies (700 MHz, 1,400 MHz, and 3,500 MHz). All three current operators, Salt, Sunrise, and Swisscom, could acquire a wide range of new frequencies in an auction. Another operator was interested, but ultimately did not participate in the auction. These frequencies are required for the development of the high-speed 5G mobile radio technology. The proceeds for the Confederation amount to around CHF 380 million.

⁷⁷ The two actors are: (i) the "fulfilment service provider": any natural or legal person who, in the course of a commercial activity, offers at least two of the following services: storage, packaging, labelling, or dispatch, without owning the products concerned, excluding postal services within the meaning of Article 2(a) of the Postal Act of 17 December 2010 and any other goods transport service; and (ii) the "information society service provider": any natural or legal person who offers an information society service, i.e. any service normally provided for remuneration, at a distance, by electronic means and at the individual request of a recipient of services.

⁷⁸ Regulation (EU) 2019/1020 of the European Parliament and of the Council of 20 June 2019 on market surveillance and compliance of products and amending Directive 2004/42/EC and Regulations (EC) No. 765/2008 and (EU) No. 305/2011.

4.143. On 19 May 2017, ComCom awarded the Universal Service licence for the period from 2018 to 2022 to Swisscom. The Universal Service licence had been awarded previously to Swisscom for a period of 10 years, i.e. from 1 January 2008 to 31 December 2017.

4.144. To date, the Universal Service licensee has not applied for any financial compensation. Any compensation would be provided from a universal service fund (USF). If fees were levied for the USF, the decisive factor in calculating a provider's fee is its turnover in the services provided in the country minus the costs of the telecommunications services it has purchased wholesale from third-party providers or billed for third parties. Providers with a relevant annual turnover of less than CHF 5 million are exempted from the fee.

4.145. The content of Universal Service, which is examined periodically by the Federal Council, consists of public telephone service (national and international calls) and data transmission (Internet access) at a fixed location, and specific services for disabled persons. Mobile telephony is not part of the Universal Service. However, the Universal Service provider is free to use the most suitable technology. For example, it may provide Universal Service in the form of mobile communications or satellite transmission; such cases do effectively occur in mountain areas. Some of these services are tagged with a ceiling price. The Universal Service licensee must measure, and report yearly, on the quality of the services. The latest modification, which concerns the broadband data rate (Internet connection at a "new" minimum speed of 10 Mbit/s), entered into force on 1 January 2020. There are no specific regulations on Universal Service and cross-subsidization. So far Swisscom has not requested any contribution from the USF.

4.146. Other aspects of the telecom regime remain unchanged. Regarding regulatory supervision, ComCom is the independent authority regulating the telecommunications market. The activities and main tasks of this extra-parliamentary commission are the following:

- the attribution of the concessions for the use of radio-communication frequencies for the provision of telecommunications services;
- the granting of the concession(s) for the Universal Service;
- the setting of access conditions (e.g. unbundling interconnection, leased lines) when providers cannot reach agreement;
- decision-making regarding monitoring measures and administrative sanctions concerning concessions granted by ComCom (no such administrative sanctions were taken);
- as stipulated by the Telecommunications Law, ComCom calls on the Federal Office of Communications (OFCOM) for the preparation of the dispute cases and the execution of its decisions.

4.147. On facility sharing, in addition to the new provisions mentioned above, OFCOM may require, for reasons of public interest, providers of telecommunications services to allow joint use of their installations for an appropriate compensation. This is particularly relevant for mobile operators. Mobile concessions include a clause on site sharing, but on a voluntary basis. ComCom published in 2016 a study about technical elements that can be shared.⁷⁹

4.148. Local loop unbundling on regulated terms and conditions is limited to twisted copper pair loops. The unbundling on regulated terms and conditions of fibre local loops is not permitted by law. Demand for unbundled local loops reached its maximum in summer 2012. Since then, demand has decreased rapidly. To cope with the demand for higher bandwidths, operators who unbundled local loops are substituting them with other wholesale products available on commercial terms and conditions. These commercially offered access products may be unbundled fibre local loops or any type of bitstream. Significant Market Providers were required to offer local bitstreams over copper local loops on regulated terms and conditions for four years only. Since 2014, there has no longer been a reference offer for local bitstream.

⁷⁹ For more elements on facility sharing, see ComCom, *Network Sharing*.

4.4.1.2 Liechtenstein

4.149. Telecommunications is a relatively minor activity in Liechtenstein as, depending of the years it represents between 0.4 and 0.6% of GVA and about 0.4% of total employment. Nevertheless, it remains a strategic activity as it enables the rest of the economy, in particular the relevant export industry, and in particular IT and financial services and among them the innovative activities of e-payments, non-fungible tokens and crypto-assets. This is one of the reasons why Liechtensteinische Kraftwerke, the electricity supplier, which owns, operates and maintains a major part of the fixed communication network infrastructures (Ducts, Twisted Copper, Hybrid Fiber-Coaxial and Fiber Optic Network), remains state-owned and that the main actor of the fixed market, Liechtenstein Telekom AG returned fully to it after the withdrawal of telecom Austria from its minority share.

4.150. As evidenced by Box 4.4, Liechtenstein has a fully developed telecom sector with high penetration rates and overall declining tariffs.

Box 4.4 Telecom sector

GVA (% of total economy)

2015: 0.5%
2016: 0.4%
2017: 0.6%
2018: 0.4%
2019: 0.4%

Employment in the sector (% of total)

2016: 0.4%
2017: 0.4%
2018: 0.4%
2019: 0.4%
2020: 0.4%

Penetration rates (2020)

Population: 39,062
Households (2015): 17,594
ISDN subscribers: 1,142
Main (fixed) telephone lines in operation: 12,607
Main (fixed) telephone lines/100 inhabitants: 32
Main (fixed) telephone lines/100 households: 72
Mobile-cellular telephone subscribers (digital): 48,887
Mobile-cellular telephone subscribers/100 inhabitants: 125
Internet subscribers (fixed line): 18,050
Internet subscribers (fixed line)/100 households: 103
Mobile broadband/100 inhabitants: 123

Tariffs (evolution of tariffs since the last TPR in 2016)

Bundle and flat rate offers are predominant in both fixed and mobile services.
For local services: decreasing tariffs
For international services: decreasing tariffs
For mobile services: decreasing tariffs (data roaming)
For interconnection rates: decreasing tariffs
For Internet services: stable tariffs, coupled with a significant increase in Mbit/s download and upload performance for fixed and increased monthly data volume performance for mobile Internet service

Source: Information provided by the authorities.

4.151. In terms of market structure, the leading fixed telecom operator is Telecom Liechtenstein AG (59% market share in 2020, down from 72% in 2016 for Internet broadband service). For mobile telephones services, the main providers had in 2019 a respective market share of 45% for Salt (Liechtenstein) AG/Salt Mobile SA, 34% for Swisscom (Schweiz) AG and 21% for Telecom Liechtenstein AG. All mobile providers maintain their own network in Liechtenstein. Swisscom (Schweiz) AG and Salt Mobile SA have a significant number of cross-border customers living in Liechtenstein, who subscribe to their Swiss mobile networks (with Swiss number and contracts subject to Swiss legislation over which the National Regulatory Authority of Liechtenstein has no

jurisdiction). These foreign subscriptions had a market share of 67% in 2020. Some two thirds of all registered enterprises are fully or partly owned by foreigners. Salt (Liechtenstein) AG and Swisscom (Schweiz) AG are 100% foreign-owned.

4.152. Since the last Review, 10 enterprises have left the notification register (ceasing telecom services in the Liechtenstein market), and 13 enterprises notified entrance to the telecom market of Liechtenstein. A1 Telekom Austria Group withdrew its minority shareholding in Telecom Liechtenstein in 2019, with Telecom Liechtenstein AG becoming a 100% state-owned operator in July 2020.

4.153. The fixed retail market of electronic communications is characterized by intense competition, driven in particular by the rapid fibre roll-out, which entails the removal of old copper-based telephone and coaxial local loops, thereby forcing every household and business to choose a new contract for services via fibre. At the end of 2021, fibre-optic local loops were available for 80% of the residential and business units, and fibre-optic Internet connections already accounted for 70% (previous year: 48%) of all Internet connections. This has led to a massive increase of Internet speed at stable pricing. Similarly, the market entry of two wholesale VoIP operators in 2019 led to increased competition with declining prices for fixed voice service.

4.154. The deployment of 5G has been delayed by a number of factors, including a very low limit for non-ionizing radiation. Per site, these limits are already exhausted by 2G, 3G and 4G technologies. Under the current conditions, the mobile network operators do not see a business case for rolling out 5G. As a result, the allocation process for additional spectrum, which started in 2019, is still pending and 5G-services have not yet been implemented.

4.155. Traditional fixed-network telephone lines (analog, ISDN) decline significantly, only partially being replaced by IP-based telephone lines (VoIP), which amounted to 75% of all lines at the end of 2020.

4.156. The overall attractive market development for end users is very clearly visible in the number of providers in the fixed-network area. While Telecom Liechtenstein AG was still the sole provider of triple bundles including Internet, TV and telephone connections at the beginning of 2016, such bundles were already available from six further providers in 2020. Furthermore private and business users can select from three national and two Swiss providers, which offer mobile services at domestic conditions, i.e. without (Swiss) roaming surcharges in Liechtenstein. This number of service providers in both fixed and mobile electronic communications is very high in relation to the small national market. In 2020, the trend of increasing mobile subscriptions with Liechtenstein +423 numbers continued, achieving a share of 33% by the end of 2020.

4.157. The main changes in the regulatory framework during the review period resulted from the transpositions of most but not all EU regulations and directives on telecommunications. These changes included the introduction of the roam-like-at-home regulation as of 15 June 2017, the obligation since 2019 for the incumbent Telecom Liechtenstein AG to offer VoIP wholesale services on non-discriminatory and transparent terms, changes in price caps for national voice call termination (which drastically decreased price caps), regulation of call termination rates, regulated charges for intra-EEA communications (voice calls, SMS), number portability, universal service, the lifting of obligations from the analysis for the market for call origination on the public telephone network provided at a fixed location and the future regulatory consequences of the ongoing deployment of the Fiber To The Building network (FTTB).

4.158. The regulatory framework for telecommunications has partially autonomously transposed the EU Telecoms Package 2009 (Directives 2009/136/EC and 2009/140/EC as well as Regulation (EC) 1211/2009) Currently, Liechtenstein is in the process of transposition of the European Electronic Communications Code EECC (directive (EU) 2018/1972 of 11 December 2018) and of several delegated legal acts linked to the EECC, such as the Euro-rate delegated regulation (EU) 2021/654 of 18 December 2020. Furthermore, Liechtenstein is currently preparing the incorporation of the new Roaming Regulation into the EEA Agreement.

4.159. As a result of the transpositions of amendments to Regulation (EU) 2015/2120 of December 2018 based on Regulation (EU) 1971 of 11 December 2018 (BEREC Regulation), retail prices charged to consumers for regulated intra-EEA communications shall not exceed EUR 0.19 per

minute for calls and EUR 0.06 per SMS. This came in effect on 1 July 2020. The Office for Communications is responsible for monitoring the market and price developments for regulated intra-EEA communications.

4.160. The incumbent operator, Telecom Liechtenstein AG, is obliged by a 2008 recommendation of the EFTA Surveillance Authority to offer VoIP wholesale services (including line, trunk, and connections) at price-regulated, non-discriminatory, and transparent terms. After the market entry of two VoIP operators in 2019/2020, there is competition in the wholesale market for VoIP service.

4.161. Regarding national voice call termination, the alternative telephone operators are interconnected to Telecom Liechtenstein AG, and all operators run further international interconnections. While interconnection charges are agreed between operators, at non-discriminatory and transparent terms, the fixed and mobile termination fees are regulated by benchmarking with EEA-regulated fees, in accordance with recommendation 2009/396/EG. The fixed-network termination fee is regulated with a maximum amount of CHF 0.09 cents per minute as of 1 January 2021. The mobile termination fee has been set at a maximum of CHF 0.77 cents per minute as of 1 January 2021. These caps apply to calls originating from the EEA and are in line with previous regulations of most EU member States and also with the Euro-rate delegated regulation (EU) 2021/654 of 18 December 2020, which will become effective according to the transposition of the delegated act of the European Electronic Communications Code EEC (Directive (EU) 2018/1972 of 11 December 2018).

4.162. Number portability is a new regulatory feature that was implemented during the period under review respectively in 2019 for fixed telephony and in 2020 for mobile numbers, by regulatory decision of August 2018 based on the Communications Act after a consultation procedure that had shown that reasons justifying exemptions from portability obligations did not exist anymore.

4.163. Regarding Universal Service, Telecom Liechtenstein AG has been designated by the Liechtenstein Government on the basis of the Communications Act⁸⁰ as a universal service provider for the period from 2019 to 2029.

4.164. In 2019, the Office for Communications issued the renewed general planning for market analysis.⁸¹ Accordingly, the call termination rates were regulated in 2020, followed by a market analysis of the fixed origination in 2021. The regulation of the retail fixed telephone market will be renewed in 2022. After completion of the national FTTB (Fiber To The Building) network the standard offer and prices of the network provider Liechtensteinische Kraftwerke will be regulated in 2023.

4.165. Indeed, Liechtensteinische Kraftwerke is currently building a national FTTB access network, with expected completion by the end of 2022. The Office for Communications is following the project planning of Liechtensteinische Kraftwerke in order to make sure that the future offer of glass fibre local loops as well as the migration phase will be in line with the regulatory obligations (non-discrimination, transparency, cost orientation) and will further increase competition in the telecom market. The decommissioning of the copper-based and coaxial networks is expected to be completed by the end of 2023.

4.166. The Office for Communications remains the competent national regulatory authority.⁸² Regarding licensing the 2006 Communication Act eliminated the licensing system. All activities in electronic communication are licence-free; however, a notification to the Liechtenstein Office for Communications, the national regulatory authority, is required.

4.167. Liechtenstein telecommunications are still under a vertical separation regime via a 2007 "consolidation agreement" signed by Liechtensteinische Kraftwerke and Telecom Liechtenstein AG. The purpose of the agreement was to concentrate all retail customer relationships and intelligent network components (active network) in Telecom Liechtenstein AG's and the alternative operators' hands, and to combine all passive network components, including in particular the local loop,

⁸⁰ Electronic Communication Law of 17 March 2006, as amended (LR 784.10).

⁸¹ Office for Communications, "Marktanalyse 2029 Plus V2.0". Viewed at: <https://www.llv.li/inhalt/118935/amtsstellen/marktanalyseplanung-2019>.

⁸² Office for Communications, *English Information*. Viewed at: <https://www.llv.li/inhalt/1833/amtsstellen/english-information>.

transmission lines, cable ducts, civil engineering infrastructure, in the hands of Liechtensteinische Kraftwerke, the state-owned electricity supplier.

4.168. Regarding access to network infrastructure at a fixed location and in the core network, since 2009 Liechtensteinische Kraftwerke is obliged by regulatory measures to grant unhindered, non-discriminatory wholesale access to the passive network at a fixed location (local loop unbundling) at cost-oriented prices. Similarly by regulatory obligations of 2013, the access to infrastructure in the core network (e.g. fibres for backhaul, ducts) must be provided at cost-oriented prices.

4.169. Open Internet and abolition of roaming were instituted in 2015 following EEA transposition intervened during the period covered by the previous TPR report. With regulation (EU) 2015/2120 and several successive regulations, which are effective from 15 June 2017, roaming services at conditions like at home were introduced as from 15 June 2017, and retail charges for the consumption of regulated retail roaming services in excess of any fair use limits were reduced, most relevantly for data roaming from EUR 7.7 per gigabyte of data transmitted in June 2017 to currently EUR 2.5 per gigabyte (valid from 1 January 2022 to 30 June 2022).

4.170. Finally, regarding spectrum management, the Liechtenstein Frequency Allocation Plan (FAP) consists of several parts, including the principles of spectrum management. These principles are described with a transparent approach on both national and international levels. The integral components of FAP are: frequency ranges and radio interface requirements, as well as comprehensive lists of specific assignments and harmonized frequency ranges. All the relevant European Conference of Postal and Telecommunications Administrations or European Commission decisions are also listed and referenced in the FAP.

4.4.2 Financial services

4.4.2.1 Switzerland

4.4.2.1.1 Overview of the economic evolution and of the market structure of the financial services sector

4.171. Switzerland has a sophisticated and mature financial services sector with a developed and somewhat concentrated internal market. The sector serves a population with high savings and that is very well insured, as well as international clients and markets attracted by Switzerland's political stability and the vast array of services proposed by this global financial hub. The share of financial services in GVA and employment declined slightly during the review period (Table 4.22), which is mainly explained by developments in banking services and securities and stock exchange services. More generally, there has been long-term decline in the share of financial services in GDP since the 2008 financial crisis. According to the Federal Council, this can be explained "by the changing conditions in the international tax framework and the global wealth management business, the contraction of big banks' investment banking business and increased pressure on margins caused by the low interest rate environment".⁸³

⁸³ Federal Council (2020), *Leading Worldwide, Rooted in Switzerland: Policy for a Future-Proof Swiss Financial Centre*, pp. 5-6. The emergence of fully digital "neo banks" and fintech services might reinforce the existing trend towards downsizing and consolidation. Ibid.

Table 4.22 Contribution of the financial services sector and its subsectors to GVA and total employment, 2014-20

(% of total)

	2014	2015	2016	2017	2018	2019	2020
GVA share (% of total GVA)							
Financial and insurance activities	10.1	10.1	10.0	9.7	9.9	9.8	9.7
of which: insurance	4.5	4.6	4.6	4.5	4.6	4.4	4.2
% of total employment^a							
Finance and assurance	5.6	5.6	5.4	5.3	5.1	5.1	5.2
of which:							
Financial service activities	3.1	3.0	2.9	2.7	2.6	2.6	2.6
Insurance	1.13	1.14	1.10	1.08	1.03	1.03	1.05
Activities auxiliary to financial services and insurance activities	1.4	1.4	1.4	1.5	1.5	1.5	1.5

a Based on Q4 for each year.

Source: FSO, *Industries Production Account*.

4.172. On 4 December 2020, the Federal Council issued a new strategy for the financial services sector that is based on three pillars: innovation, interconnection, and sustainability. To achieve these three goals, the strategy defines nine specific areas of action: (i) using the data economy for the financial centre; (ii) integrating new financial market players; (iii) digitalizing access to financial market authorities; (iv) strengthening the competitiveness of the financial centre; (v) increasing the exportability of Swiss financial services by improving market access abroad; (vi) assisting to shape the international financial system; (vii) ensuring resilience; (viii) increasing transparency for sustainable investment; and (ix) combating financial crime.⁸⁴

4.4.2.1.1.1 Overview of the economic evolution and of the market structure of banking services

4.173. The number of banks has continued its long-term tendency to decline. With a few exceptions, this trend concerns most categories of banks and in particular foreign-controlled banks (Box 4.5). The risk of a growing number of defaults on corporate and mortgage loans in the medium term may also accelerate this tendency despite the bridging support measures taken by the Government during the pandemic. The total balance sheet of the banking sector grew notably but with important differences in the market shares of the various categories of banks (Box 4.5).

Box 4.5 Evolution of the market structure and of the main economic indicators of the banking sector

Number of banks and recent consolidation

2015: 266 banks of which:

- cantonal banks: 24
- "big" banks: 3
- regional and savings banks: 62
- Raiffeisen – i.e. cooperative banks: 1
- stock-exchange banks: 44
- foreign-controlled banks: 85
- branches of foreign banks: 26
- private banks: 7
- other banking institutions: 14

2020: 251 banks of which:

- cantonal banks: 24
- "big" banks: 4 (UBS and Credit Suisse have legally separated their systemically important Swiss Banks from their parent banks as a measure to improve resolvability. In 2015 this step had only been concluded by one of the two big banking groups.)
- regional and savings banks: 59
- Raiffeisen – i.e. cooperative banks: 1
- stock-exchange banks: 39
- foreign-controlled banks: 76

⁸⁴ Federal Council (2020), *Leading Worldwide, Rooted in Switzerland: Policy for a Future-Proof Swiss Financial Centre*.

- branches of foreign banks: 24
- private banks: 5
- other banking institutions: 19

Concentration/share of the various types of banks in the total balance sheet for banks in Switzerland

2015: Total balance sheet: CHF 3,026 billion
of which:

- cantonal banks: 17.8%
- "big" banks: 47.1%
- regional and savings banks: 3.7%
- Raiffeisen – i.e. cooperative banks: 6.7%
- stock-exchange banks: 6.9%
- foreign controlled banks: 8.6%
- branches of foreign banks: 2.4%
- private banks: 0.2%
- other banking institutions: 6.6%

2020: Total balance sheet: CHF 3,484 billion
of which:

- cantonal banks: 20.0%
- "big" banks: 45.0%
- regional and savings banks: 3.2%
- Raiffeisen – i.e. cooperative banks: 7.5%
- stock-exchange banks: 7.4%
- foreign controlled banks: 6.7%
- branches of foreign banks: 3.3%
- private banks: 0.2%
- other banking institutions: 6.7%

Lending activities (Comprehensive year-end statistics (excluding "amounts due from securities financing transactions"))

2015: CHF 1,537 billion (domestic lending: 70.0%, of which mortgage claims: 82.1%; foreign lending: 30.0%)

2019: CHF 1,926 billion (domestic lending: 67.7%, of which mortgage claims: 80.0%; foreign lending: 32.3%)

Source: Information provided by the authorities.

4.4.2.1.1.2 Overview of the economic evolution and of the market structure of insurance services

4.174. The number of insurance companies remained overall stable despite some consolidation in reinsurance and health insurance and some newcomers in non-life insurance (Box 4.6). The number of Swiss branches of foreign insurance companies in life insurance remained stable while that of Swiss branches of foreign insurance companies in non-life insurance declined slightly. The overall balance sheet of the sector grew considerably but with significant differences between the various subsectors. According to the authorities, the growth of the industry is in large part due to Switzerland's increasing importance in the global reinsurance business as well as to an increase in non-life insurance. Life insurance grew only slightly, owing largely to the low interest rates context. Concentration, computed in terms of the cumulative market share of the top five companies, grew in every subsector.

Box 4.6 Evolution of the market structure and of the main economic indicators of the insurance sector

Number of insurance companies

2014: 224 companies, of which:

- life: 21 (of which 3 Swiss branches of foreign insurance companies)
- non-life: (without health insurers^a): 104 (of which 47 Swiss branches of foreign insurance companies)
- reinsurers: 29
- reinsurance captives: 33
- supplementary health insurers (without health insurers): 26
- base health insurers with supplementary health insurance products: 14

2019: 222 companies, of which:

- life: 21 (of which 3 Swiss branches of foreign insurance companies)
- non-life (without health insurers): 114 (of which 44 Swiss branches of foreign insurance companies)

- reinsurers: 27
- reinsurance captives: 27
- supplementary health insurers: 21
- base health insurers with supplementary health insurance products: 12

Total balance sheet of the insurance sector

2014: CHF 649.4 billion, of which:

- life insurance: CHF 337.7 billion (52.0%)
- non-life (without health insurers): CHF 150.8 billion (23.2%)
- supplementary health insurers: CHF 16.0 billion (2.5%)
- reinsurers: CHF 144.9 billion (22.3%)

2019: CHF 712.2 billion, of which:

- life insurance: CHF 328.6 billion (46.1%)
- non-life (without health insurers): CHF 179.3 billion (25.2%)
- supplementary health insurers: CHF 19.0 billion (2.7%)
- reinsurers: CHF 204.3 billion (28.7%)

Concentration: (cumulative market share of the top five companies)

2014: life insurance: 83.9%; non-life: 48.5%; health insurance: 64.7%

2019: life insurers: 84.6%; non-life: 67.1%; health insurance: 67.7%

Source: Information provided by the authorities.

4.4.2.1.1.3 Overview of the economic evolution and of the market structure of pension fund services and stock exchange and securities services

4.175. The pension fund subsector, which is essentially a domestic industry, continued to become more concentrated. The number of pension funds, which had fallen from 2,351 in 2009 to 1,866 in 2014, declined further to 1,438 in 2020. The total amount of assets managed by the pension funds increased from CHF 452.6 billion in 2015 to CHF 1,037 billion in 2020.⁸⁵

4.176. The capitalization of the companies listed on the Swiss performance index grew steadily from CHF 1,287 billion in 2015 to CHF 1,886 billion in 2020 and more quickly than Swiss GDP as these sums represent the equivalent of 201% and 267% of the Swiss GDP in the same years.⁸⁶ The increase in the gross value of publicly issued bonds in Swiss francs was more limited. The overall subdued issuance activity of CHF bonds is due to the foreign segment. In contrast, net emissions in the domestic segment show a positive trend and have increased significantly in recent years. The main part of the increase can be attributed to mortgage bonds. The low issuance by the Federal Government reflects the low refinancing need of the public sector. Low negative yields may also play a role. Net issuance in the foreign segment has been negative every year since the 2010-euro debt crisis. The decline is mainly due to falling demand from European banks.

4.4.2.1.2 Evolution of the overall regulatory framework

4.177. The overall regulatory framework for financial services was amended through several laws and regulations that introduced changes that are mainly of a technical nature and do not affect conditions of market access.

4.178. First, the Financial Market Infrastructure Law⁸⁷, which entered into force in 2016, adjusted the regulation of financial market infrastructures and derivatives trading in line with market developments and international requirements. The Financial Market Infrastructure Ordinance⁸⁸ contains implementing provisions. In particular, it fleshes out the authorization conditions of financial market infrastructures and the duties of financial market participants in derivatives trading. It is

⁸⁵ Information provided by the authorities. The figures for 2020 are provisional.

⁸⁶ Information provided by the authorities.

⁸⁷ Federal Law of 19 June 2015 on Financial Market Infrastructures and Market Conduct in Securities and Derivatives Trading (RS 958.1).

⁸⁸ Ordinance of 25 November 2015 on Financial Market Infrastructures and Market Conduct in Securities and Derivatives Trading (RS 958.11).

based on existing legislation and international requirements, and it follows similar concepts as the relevant EU legislation.⁸⁹

4.179. Second, the Financial Services Law⁹⁰ and the Financial Institutions Law⁹¹, which entered into force in 2020, subject to transition rules, serve primarily to improve client protection. The Financial Services Law contains rules on providing financial services and offering financial instruments for all financial services providers. Improvement in client protection is achieved mainly through comprehensive transparency provisions. The Financial Institutions Law provides for an activity-based, differentiated supervisory regime for financial institutions requiring authorization. The main change consists in the establishment of a regime for the prudential supervision of managers of individual client assets, managers of the assets of occupational benefits schemes, and trustees.

4.180. Third, there were changes to the legal and regulatory framework regarding money laundering and financing of terrorism.⁹² These included a revision of the self-regulatory Code of Conduct on Due Diligence for Banks of the Swiss Bankers Association, a revision of the anti-money Laundering Ordinance⁹³, and the adoption by the Federal Assembly in March 2021 of amendments to the Anti-Money Laundering Law of 1997 that imposes special due diligence obligations on financial intermediaries. The revision of the Anti-Money Laundering Law includes, *inter alia*, amendments in relation to: (i) customer due diligence (CDD) (verification of the identity of the beneficial owner and measures to ensure that data collected under CDD process are kept up to date); (ii) the framework to report suspicious transactions to the Financial Intelligence Unit; and (iii) associations at risk of being abused for money laundering or terrorist financing.⁹⁴

4.181. The Agreement between Switzerland and the United States for Cooperation to Facilitate the Implementation of the Foreign Account Tax Compliance Act (FATCA), which entered into force on 2 June 2014, provides for implementation of FATCA in Switzerland based on Model 2. This means that Swiss financial institutions disclose account details directly to the US tax authority with the consent of the US clients concerned. Where US clients do not give their consent, the United States must request this data through normal administrative assistance channels.⁹⁵ Negotiations are under way to change from Model 2 to Model 1, which provides for the automatic and reciprocal exchange of information.

4.182. Pursuant to the Joint Statement between Switzerland and the United States to end the tax dispute between Swiss banks and United States signed in August 2013 and the unilateral Swiss Bank Program of the US Department of Justice that was announced at the same time, 80 Swiss banks have participated in the programme as so-called category 2 banks and have concluded Non-Prosecution Agreements.

4.4.2.1.2.1 Regulatory framework for banking services

4.183. The main developments during the period under review that relate specifically to banking services concern prudential measures.

4.184. Thus, steps were taken to ensure compliance with international banking standards. In 2015, the Financial Market Supervisory Authority (FINMA) introduced reporting requirements on the liquidity coverage ratio for testing purposes as a preparatory measure. In 2016, the Capital

⁸⁹ As particularly noteworthy features of the amended financial market infrastructure rules, the authorities point to the pre- and post-trade transparency requirements for trading venues and organized trading facilities, and the clearer definition of rules on combating the negative effects of high-frequency trading and of clearing, notification, and risk mitigation duties in derivatives trading.

⁹⁰ Federal Law of 15 June 2018 on Financial Services (RS 950.1).

⁹¹ Federal Law of 15 June 2018 on Financial Institutions (RS 954.1).

⁹² In 2016, the Financial Action Task Force identified certain deficiencies in Switzerland's rules on money laundering and terrorist financing. In a follow-up report published in 2020, it recognized the recent improvements made by Switzerland in this area. Financial Action Task Force (2020), *Anti-Money Laundering and Counterterrorist Financing Measures. Switzerland: 3rd Enhanced Follow-up Report & Technical Compliance Re-Rating*.

⁹³ This revised Ordinance, *inter alia*, sets out in more detail the requirements for global monitoring of money laundering risks.

⁹⁴ The revised Anti-Money Laundering Law and the corresponding amendments to the Anti-Money Laundering Ordinance are expected to come into force in the course of 2022.

⁹⁵ State Secretariat for International Finance, *FATCA Agreement*.

Adequacy Ordinance and the FINMA circular "credit risks – banks" were aligned with the revised Basel III banking standards, enhancing capital requirements for derivatives, central counterparty positions, banks' equity investments in funds, and securitizations. As of 2018, the leverage ratio became a legally binding requirement. As of 2019, the Basel Committee on Banking and Supervision (BCBS) Large Exposure framework had been put in place, and so were the new Pillar 2 approach to Interest Rate Risk in the Banking Book and the updated BCBS Disclosure Standards. The net stable funding ratio requirement entered into force on 1 July 2021.

4.185. On 21 October 2015, the Federal Council defined new capital adequacy standards for systemically important banks and took measures to reinforce the "too big to fail" (TBTF) regime. Under the current regulations, the two global systemically important banks (UBS and Credit Suisse) are subject to a leverage ratio of 5% ("going concern" capital, i.e. capital to absorb current operating losses). The 5% relates to the bank's total leverage ratio exposure as a measure of its on- and off-balance sheet positions. At least 3.5% of this must be held in the form of Common Equity Tier 1 capital (CET1) and the remainder in Additional Tier 1 instruments, which would be converted or written down if the risk weighted assets (RWA)-based CET1 ratio falls below 7% ("high trigger").

4.186. In addition, the two global systematically important banks must hold loss-absorbing debt capital, measured in terms of total leverage ratio exposure, of equal size to their going-concern capital requirement (subject to a discount, for increased resolvability). This bail-in capital ("gone concern" capital, i.e. capital to fund an orderly resolution) is earmarked for use in the event of resolution. The result in terms of risk-weighted requirements is, before discount, a total of up to 28.6%, consisting of 14.3% for each requirement category (going concern and gone concern). Of the 14.3% RWA-based going-concern requirement, at least 8.6%-10% must be held in the form of CET1 capital. In addition, the Federal Council decided that Swiss emergency plans drawn up by the global systemically important banks had to be ready for implementation by the end of 2019.

4.187. The Swiss TBTF framework, which is reviewed every two years, currently requires the three domestic systematically important banks (Raiffeisen, Zurich Cantonal Bank, and PostFinance) to also hold loss-absorbing debt capital to fulfil going-concern requirements, amounting to 40% of their going-concern capital requirements (vs. 100% in case of the two global systematically important banks). These going-concern requirements can also be met with Tier 1 capital, which in turn may then no longer be used to meet going-concern requirements. Using Tier 1 capital has the effect of lowering the gone-concern requirements within a predefined range.

4.188. IMF directors recently welcomed the resilience of the Swiss banking sector. They highlighted the need to monitor asset quality and risks closely, particularly those related to residential and commercial real estate. They recommended that the authorities review and expand the macroprudential toolkit to enhance their ability to react swiftly to financial stability risks. They looked forward to further progress in implementing the 2019 Financial Sector Assessment Programme recommendations.⁹⁶

4.189. In December 2021, the Federal Assembly adopted amendments to the Banking Law⁹⁷ to strengthen provisions on the protection of bank deposits.

4.190. Apart from the above-mentioned regulatory developments, the legal regime for banking services remained largely unchanged during the review period. The State Secretariat for International Finance (SIF) is responsible for the coordination and strategic management of international financial, monetary, and tax matters, while FINMA is responsible for the financial supervision and issuance of subordinate banking regulations.⁹⁸ The SNB has the task of contributing to the stability of the financial system. The SNB also oversees systemically important payment systems, central counterparties, and central securities depositories.

4.191. Switzerland's commitments in FTAs are substantially similar to its commitments under the GATS. Regarding bilateral agreements and memoranda of understanding (MOUs) on prudential

⁹⁶ IMF (2021), *Switzerland: Staff Report for the 2021 Article IV Consultation*, IMF Country Report No. 21/130.

⁹⁷ Banking Law of 8 November 1934 (RS 952.0), as amended.

⁹⁸ FINMA regulates through ordinances of its own only where it has explicit authorization to do so. These ordinances serve, for example, to determine technical details, or to provide regulation in areas subject to particularly dynamic change. FINMA also publishes circulars explaining how it carries out its supervisory duties.

regulation and supervision, FINMA has concluded banking-specific or multi-sectoral MoUs with supervisory authorities of 30 jurisdictions. The largest Swiss banks under foreign control (assets of more than CHF 10 billion in 2020) are from the United Kingdom, Brazil, France, Greece, and Luxembourg. FINMA has concluded single-institution-specific as well banking-specific agreements with all of these countries. These MoUs govern the coordination of supervisory activities, as well as the exchange of information relevant for supervision. In general, FINMA recognizes the consolidated supervision of foreign authorities, if the countries adhere to the relevant Basel Core Principles. As there is no multilateral framework for the banking sector, such agreements are concluded bilaterally. In the area of securities and markets supervision (which involves the broker-dealer activities of banks), FINMA is signatory to the International Organization of Securities Commissions Enhanced Multilateral MoU.

4.192. There were no major changes to the licensing regime for banks.⁹⁹ The requirements that must be met to obtain a licence from FINMA to operate a bank involve classical "fit and proper" criteria¹⁰⁰, a guarantee by natural persons or legal entities with a qualified participation¹⁰¹ that their influence will not impact the bank's prudent and solid business activity negatively, and an obligation for the persons entrusted with management to be domiciled in a place where they can physically manage the bank in a responsible manner.¹⁰²

4.193. Requirements are the same for Swiss and foreign banks, but access remains subject to reciprocity except when covered by international obligations such as the WTO agreements. However, for Swiss branches of foreign banks, FINMA will grant a licence only if: (i) the foreign bank is appropriately organized, employs adequately qualified staff, and has financial resources to operate a branch in Switzerland; (ii) the foreign bank and branch are subjected to adequate supervision; (iii) the competent foreign supervisory authorities make no objection to the establishment of a branch; (iv) the competent foreign supervisory authorities state that they will immediately inform FINMA if circumstances arise that may seriously jeopardize the interests of the bank's creditors; (v) the competent foreign supervisory authorities are able to provide FINMA with official support; (vi) the licensing requirements set out in Article 3*bis*, paragraph 1, of the Banking Law are met (reciprocity and adequate company name); (vii) the branch meets the licensing requirements of the Banking Law and has a regulation that precisely defines its business activities and provides adequate organization; and (viii) the foreign bank provides evidence that the company name of the branch qualifies for entry in the Commercial Register.¹⁰³

4.194. The Banking Law and Banking Ordinance apply to foreign banks in the same way as to Swiss banks, subject to special provisions set out in the Foreign Banks Ordinance. These special provisions relate capital adequacy and risk distribution, the full application of Swiss regulation if foreign regulation is not equivalent, the requirement of collateral if necessary for depositor protection, and the requirement of adequate consolidated supervision by a foreign supervisor.¹⁰⁴

4.4.2.1.2.2 Regulatory framework for insurance services

4.195. The main regulatory changes during the period under review concerning insurance relate to consumer protection and to supervision as well as to bilateral relations.

⁹⁹ As defined by the Banking Law, the Banking Ordinance of 30 April 2014 (RS 952.02), and the Foreign Banks Ordinance of 21 October 1996 (RS 952.11). One of the amendments to the Banking Law made during the review period introduces specific rules on the legal form a bank must take to enable effective supervision. Banking Law, Article 1(c).

¹⁰⁰ These criteria include clear scope of business; adequate organization; creation of separate bodies for management and on the other hand for direction, supervision, and control for all operators except small private bankers and securities firms neither trading for the account of clients nor acting as market makers; disclosure of the minimal fully paid-in share capital; and good reputation of the persons in charge of administration and management of the bank.

¹⁰¹ Qualified participation means that persons or entities directly or indirectly participate in at least 10% of the capital or the voting rights of a bank or may otherwise be able to exercise considerable influence over the bank.

¹⁰² Banking Law, Article 3.

¹⁰³ Foreign Banks Ordinance, Article 4.

¹⁰⁴ Foreign Banks Ordinance, Articles 3, 4, and 7.

4.196. Regarding consumer protection, a partial revision of the Insurance Contract Law¹⁰⁵ was adopted by the Federal Assembly in 2020 and entered into force in January 2022. The Insurance Contract Law governs the contractual relationship between insurance companies and their clients. The revision covers issues such as client segmentation (e.g. professional vs. retail clients), written form requirements (inclusion of electronic formats), revocation right, provisional cover, assumption of approval, limitation periods, termination options, statutory deadlines, pre-contractual duty to provide information, pre-contractual duty of disclosure, amendment clauses, continued liability and pending insurance claims, right to claim directly/right to information, and compulsory liability.

4.197. The Insurance Supervision Law¹⁰⁶, which sets out how Switzerland exercises supervision over insurance companies and insurance intermediaries, is undergoing a partial revision in a parliamentary debate. The revision is aimed at protecting insured persons from abuse and the insolvency risks of insurance companies and should provide for rules for recovery and resolution, matching the specific requirements of the insurance business. In addition, the following topics are on the agenda: a sophisticated customer-protection-based regulatory and supervisory approach, strengthening of group supervision, and possible inclusion of supervision of branches of foreign insurance companies conducting reinsurance business.

4.198. On 24 January 2019, Switzerland and the United Kingdom concluded an agreement on direct insurance other than life insurance. This agreement replicates the terms and ensures the continuity for Swiss and UK insurers of the 1989 agreement between Switzerland and the European Union. It allows non-life insurance companies to branch into one jurisdiction from the other with greater ease through mutual recognition of solvency requirements.¹⁰⁷

4.199. Switzerland's commitments on insurance in FTAs are substantially similar to its commitments under the GATS. FINMA has concluded MoUs with supervisory authorities of countries whose insurers have significant presence in Switzerland (and vice versa). These MoUs govern the coordination of supervisory activities, as well as the exchange of information relevant for supervision. FINMA is also a signatory to the International Association of Insurance Supervisors multilateral MoU.

4.200. SIF is the agency responsible for defining insurance sector policy, while the supervision of the insurance sector is ensured by FINMA.

4.201. Regarding licensing, the criteria for assessing applications for an insurance licence are based on organizational, legal, capital, and solvency requirements. Direct life insurance companies may only operate another class of insurance: accident and health. Regarding additional requirements imposed on foreign companies in the licensing process, without prejudice to international agreements, a foreign insurance company that intends to commence an insurance activity in Switzerland must, in addition: (i) be authorized to carry out an insurance activity in its home state; (ii) establish a permanent establishment (i.e. branch) in Switzerland and appoint as its manager a person with a general power of attorney; (iii) have at its headquarters an amount of capital as set out in Article 8 of the Insurance Supervision Law (CHF 3-CHF 20 million depending on the sector) and fulfil at its headquarters the solvability requirements that also encompass the business activity in Switzerland; (iv) be in possession of an organizational fund in Switzerland as in Article 10 of the Insurance Supervision Law and the corresponding assets; and (v) deposit a collateral amount in Switzerland that corresponds to a defined proportion of the solvability margin attributable to the business within Switzerland.¹⁰⁸

4.202. There is no limitation on the number of providers. The period of validity of a licence is unlimited. Licences are specific to the licensed institution and are therefore not transferrable. FINMA is the sole competent authority to evaluate licence applications and to grant licences to private insurers. Insurance regulation and supervision are at the federal level, as there are no licensing requirements or regulations at cantonal level for private-sector insurance. In terms of prudential regulations, FINMA does not treat state-owned firms differently from other domestically owned firms. However, FINMA is not the responsible supervision authority for insurance carriers governed by public law (even if public insurers offer private insurance contracts in addition to their core business), and public insurers might also be subject to regulations at the cantonal level. In certain areas, FINMA

¹⁰⁵ Insurance Contract Law of 2 April 1908 (RS 221.229.1), as amended.

¹⁰⁶ Insurance Supervision Law of 7 December 2004 (RS 961.07), as amended.

¹⁰⁷ WTO document S/C/N/1039, 12 January 2021.

¹⁰⁸ Insurance Supervision Law, Article 15.

and other Swiss supervisory authorities (e.g. Federal Office of Public Health) have shared competences (for example, in relation to accident insurance and pension funds).

4.203. FINMA does not treat domestically owned firms and foreign-owned subsidiaries differently, but there are a few different requirements for branches (see developments on licensing above).

4.204. As a rule, FINMA recognizes the consolidated supervision of foreign authorities. FINMA generally cooperates with the home country supervisor, and foreign branches are not required to undergo the Swiss Solvency Test. Usually there is no freedom of service (e.g. in general no cross-border direct insurance business) and all branches of foreign insurers must fulfil all the legal requirements and be supervised by FINMA (excluding reinsurance branches of foreign insurance companies, which are currently not supervised by FINMA). Future legislative amendments are expected to subject branches of foreign reinsurance companies to the supervision of FINMA.

4.205. The minimum capital requirement to obtain a licence is between CHF 3 million and CHF 20 million, subject to sector-specific provisions, i.e. depending on the business model, the requirement for life insurers is CHF 5 million-CHF 12 million; for non-life-insurers, CHF 3 million-CHF 8 million; and for reinsurers, CHF 3 million-CHF 10 million. In general, there is no requirement for premiums and products to be approved, although the latter must comply with the respective legal requirements. However, tariffs and general insurance conditions to be used in Switzerland to insure all risks in employee pension plans and in supplementary health insurance must be approved by FINMA. In the case of natural hazard insurance, FINMA also requires its scope of coverage and premium rating to be uniform and binding for all insurers.

4.206. In its recent strategy for financial services, *Leading Worldwide, Rooted in Switzerland: Policy for a Future-Proof Swiss Financial Centre*, the Federal Council indicates that to reduce the complexity of regulation and oversight for small companies it is considering the introduction of an insurance company regime similar to that for small banks.

4.4.2.1.2.3 Regulatory framework for financial market infrastructures

4.207. The main regulatory change in this area was the introduction of a complete regulatory framework for central counterparties and for trade repositories by the Financial Market Infrastructure Law that entered into force in 2016. On the international level, a significant development was the non-extension of the EU equivalence for Swiss stock markets and the protective measures taken by Switzerland in this regard.

4.208. Regarding central counterparties, a central counterparty registered abroad must obtain FINMA recognition before it grants supervised Swiss participants direct access to its facilities, provides services for a Swiss financial market infrastructure, or enters into an interoperability agreement with a Swiss central counterparty. FINMA shall grant recognition if the foreign central counterparty is subject to appropriate regulation and supervision and if the competent foreign supervisory authorities do not have any objections to the cross-border activity of the foreign central counterparty and guarantee that they will inform FINMA if they detect violations of the law or other irregularities on the part of Swiss participants and provide FINMA with administrative assistance. FINMA may refuse recognition if the State in which the foreign central counterparty has its registered office does not grant Swiss central counterparties actual access to its markets or does not offer them the same competitive opportunities as those granted to the central counterparties of the State in question.¹⁰⁹ Very similar rules apply to the recognition of foreign trade repositories.¹¹⁰ This possibility to refuse recognition on grounds of lack of reciprocity is subject to international obligations (FTAs or GATS), and there are no cases where FINMA refused such recognition on this basis.

4.209. In July 2019, Switzerland adopted a protective measure against the backdrop of the European Union's decision not to extend the recognition of the equivalence of Swiss stock exchange regulation. Such withdrawal of stock exchange equivalence would in effect have banned EU investment firms from trading certain stocks on Swiss stock exchanges. Under this protective measure, FINMA has approved trading venues in, *inter alia*, the United States, Mexico, Singapore, and the United Kingdom for the trading of Swiss issuers' shares. The measure was taken on a temporary basis and remained in force until 31 December 2021. In November 2021, the Federal

¹⁰⁹ Financial Market Infrastructure Law, Article 60.

¹¹⁰ Financial Market Infrastructure Law, Article 80.

Council agreed to extend the measure to protect the Swiss stock exchange infrastructure, and to initiate the consultation procedure on incorporating it into ordinary law. The Federal Council considers that Switzerland meets all the requirements for unrestricted recognition of the equivalence of Swiss stock exchange regulation by the European Union, and unlimited stock market equivalence remains its objective.¹¹¹

4.210. Securities dealers must provide information and ensure internal separation of their trading, portfolio management, and settlement business and have a minimum fully paid-up capital of CHF 1.5 million. Foreign securities dealers may request FINMA authorization to establish a Swiss branch. They must provide information and evidence of adequate organization, sufficient financial resources, and qualified staff. They must also be subject to appropriate supervision. In addition, the foreign supervisory authorities must not object to cross-border operations and provide administrative assistance and information to FINMA.

4.211. Foreign participants may request FINMA authorization to participate in Swiss trading venues.¹¹² FINMA shall grant such authorization to foreign participants if, among other requirements, they are subject to appropriate supervision and regulation and if the competent foreign supervisory authority does not object to cross-border operations and provides administrative assistance to FINMA.¹¹³ Foreign trading venues can obtain recognition to grant direct access to their facilities to Swiss participants supervised by FINMA if they are subject to appropriate supervision and regulation. Additionally, the competent foreign supervisory authorities must consent to cross-border operations and provide administrative assistance and information to FINMA.¹¹⁴ FINMA shall grant recognition if the foreign trading venue is subject to appropriate regulation and supervision, and if the competent foreign supervisory authorities do not have any objections to the cross-border activity of the foreign trading venue and guarantee that they will inform FINMA if they detect violations of the law or other irregularities on the part of Swiss participants and provide FINMA with administrative assistance. FINMA may refuse recognition if the State in which the foreign trading venue has its registered office does not grant Swiss trading venues actual access to its markets or does not offer them the same competitive opportunities as those granted to domestic trading venues. However, this possibility is subject to any other international obligations (FTAs or GATS). In practice, there are no cases where approval was refused on the grounds of lacking reciprocity.

4.212. All licences regarding securities services/stock markets have an unlimited period of validity. They are not transferrable. There is no limitation on the number of providers and no restrictions on foreigners buying and selling on the stock market.

4.4.2.1.2.4 Regulatory framework for pension fund services

4.213. The main change in the regulatory regime of pension fund services during the period under review concerns the entity in charge of regulating these services. The new Financial Services Law and Financial Institutions Law, which entered into force in 2020, provide uniform rules regarding authorization and supervision of all financial services providers. As a result, asset managers operating in the area of occupational pension provision will no longer be authorized and supervised by a sectoral regulator but by FINMA, either directly or indirectly through a monitoring body, depending on thresholds defined by the Financial Services Law. The remainder of the regulatory framework for pension funds did not change.¹¹⁵

4.4.2.1.2.5 Regulatory framework for mutual fund services

4.214. The main development regarding the regulatory framework for mutual fund services was the adoption on 19 August 2020 by the Federal Council of the dispatch on amending the Collective Investment Schemes Act.¹¹⁶ The bill exempts certain collective investment schemes from the

¹¹¹ Federal Council (2021), "Federal Council Extends Duration of Measure to Protect Swiss Stock Exchange Infrastructure and Initiates Consultation", 17 November.

¹¹² The 1995 Stock Exchanges Law was repealed on 1 January 2020. Its provisions on trading venues and market conduct were substantially taken over in the Financial Market Infrastructure Law in 2016 and its provisions concerning securities dealers were materially transferred into the Financial Institutions Law in 2020.

¹¹³ Financial Market Infrastructure Law, Article 40(1).

¹¹⁴ Financial Market Infrastructure Law, Article 41(2).

¹¹⁵ See WTO document WT/TPR/S/355/Rev.1, 22 September 2017, Section 4.3.1.1.3.

¹¹⁶ Federal Council (2020), "Federal Council Adopts Dispatch on Amending Collective Investment Schemes Act", 19 August.

requirement to obtain authorization and approval from the supervisory authority, on condition that they are reserved exclusively for qualified investors and are not offered to the general public. Moreover, they must be managed by institutions supervised by FINMA. Collective investment schemes of this kind are known as Limited Qualified Investor Funds. The Federal Assembly adopted the bill in December 2021. It is not expected to come into force until the start of 2023 at the earliest.

4.215. The regulatory regime for collective investment schemes changed only marginally during the period under review. The Financial Services Law replaced the term "distribution of collective investments" with the more general concept of "offering", while maintaining the exceptions. It also introduced an obligation for client advisors of Swiss financial services providers not subject to FINMA supervision and client advisors of foreign financial services providers to register in an advisor register. Two other changes are that since the entry into force of the Financial Institutions Law in 2020 banks and securities firms are now no longer allowed to carry out fund management activities and that the obligation to obtain a licence for the distribution of collective investment schemes has been repealed.

4.216. Collective investment schemes or occupational pension schemes must establish appropriate corporate management rules and be organized in such a way that they can fully fulfil their statutory duties. The financial institution as well as the persons responsible for its administration and management must provide a guarantee of irreproachable business conduct. Moreover, good reputation and professional qualifications of the manager and for the persons responsible for the administration, good reputation, and undertaking not to exert their influence to the detriment of prudent and sound business practices for the significant equity holders (i.e. owning more than 10% of the capital or of the voting rights) and sufficient financial guarantees (i.e. meeting the minimum capital requirement and having adequate own funds) are required. Swiss collective investment schemes also require authorization from FINMA.

4.217. Foreign collective schemes must be approved by FINMA before they can be offered in Switzerland to non-qualified investors. They must also appoint a representative and a payment service in Switzerland. There are additional licensing conditions for foreign companies in case of establishment of a branch in Switzerland or in case of the establishment of a representation. The possibility of establishing a representative office is a new feature in the asset management sector and was introduced in 2020. Foreign fund management companies may not establish a branch or representative office in Switzerland. In the case of other institutions, FINMA may make the granting of authorization to establish a branch in Switzerland conditional on the guarantee of reciprocity by the state in which the foreign financial institution or foreigners holding qualified holdings have their domicile or registered office. Subsidiaries of foreign companies are treated like any company incorporated in Switzerland, regardless of the nationality of the owners. As part of the licensing and supervision process, they must inform FINMA of qualifying holdings and of whether certain thresholds have been exceeded or fallen below.

4.218. Asset managers of Swiss collective investment schemes based in Switzerland must be authorized by FINMA and are subject to its prudential supervision. Asset managers may be legal entities in the form of companies limited by shares, partnerships limited by shares or limited liability companies, general and limited partnerships, or Swiss branches of a foreign asset manager of collective investment schemes.

4.219. Foreign asset managers may request FINMA authorization to establish a Swiss branch of a foreign asset manager of collective investment schemes. They must provide information and evidence that: (i) the asset manager, including the branch, is subject to appropriate supervisory control at its registered office; (ii) the asset manager is adequately organized and has commensurate financial resources and qualified personnel to operate a branch in Switzerland; and (iii) an agreement on cooperation and the exchange of information between FINMA and the relevant foreign supervisory authorities is in place. Further, foreign asset managers may be delegated to manage Swiss collective investment schemes if they are subject to recognized supervision.

4.220. The period of validity of a licence is in general unlimited. Licences are not transferable, and there are no limitations on the number of providers.

4.4.2.1.2.6 Regulatory framework for fintech

4.221. In September 2020, the Federal Assembly adopted the Federal Act on the Adaptation of Federal Law to Developments in Distributed Ledger Technology (DLT), which is a blanket law that triggered adaptations in 10 different laws. The three main changes brought about by this law are: (i) the Swiss civil law is amended to allow for a new ledger-based security that provides legal certainty for issuing and transferring securities on the blockchain; (ii) the Swiss insolvency law is amended to provide for a claim for surrender of crypto-based assets in case of bankruptcy; and (iii) the introduction of the DLT Trading facility as a new authorization type in Swiss financial markets supervisory law.

4.222. The so-called fintech-licence (officially named "person according to Article 1b Banking Law") entered into force on 1 January 2019. It defines the holders of these licences, whom it assimilates *mutatis mutandis* to banks, as "persons principally active in the financial service sector and who (a) accept professionally public deposits up to CHF 100 million or crypto-assets designated by the Federal Council and (b) neither invest nor remunerate these assets".¹¹⁷ The Federal Council has designated crypto-assets as part of the larger DLT legislation, more specifically in Article 5(a) of the Banking Ordinance. Typically, institutions under the fintech-licence are active as payment service providers (including the issuing of debit cards). These payment services can be offered to retail customers as well as on a B2B basis (i.e. payment services for SMEs). Institutions under the fintech-licence are subject to substantially similar requirements as banks regarding anti-money laundering and terrorist financing.

4.223. During the licensing process, FINMA evaluates requirements such as adequate organization, qualification and reputations of management (fit and proper), corporate governance, risk management and compliance (including separation of functions), safekeeping of the deposits, and fulfilling of capital requirements. A further focus is laid on mitigation of conflicts of interest. Capital requirements for institutions under the fintech licence are intentionally kept simple. The minimum capital amounts to 3% of the deposits or at least CHF 300,000. The capital must be fully paid in and is to be held continuously. In specific cases, FINMA may require additional capital.

4.4.2.2 Liechtenstein

4.4.2.2.1 Overview of economic and regulatory developments in the financial services sector

4.224. Financial and insurance services represent the largest single commercial services sector of Liechtenstein as it accounted for 13.3% of GDP in 2015, 10.8% in 2016, 10.5% in 2017, 13.3% in 2018, and 11.5% in 2019.¹¹⁸ The share of employment in financial services continued to grow steadily over the last years, standing at 10.1% in 2020 (from 9.7% in 2019, 9.5% in 2018, 9.3% in 2017, 8.9% in 2016, and 8.8% in 2015).¹¹⁹ If one adds to these figures the contribution to GDP of the auxiliary services to financial services *lato sensu* i.e. legal and tax advice services and auditing¹²⁰, the financial services cluster contributed 20.9% of GDP and 16.8% of employment in 2019.¹²¹

4.225. Liechtenstein's financial centre has specialized over the years in private banking and wealth management, but it has significant banks that are also active in asset management and has developed significant fintech, e-payment, and cryptocurrency activities. The peculiarity of Liechtenstein compared to some other territories specialized in financial services is that the EU financial services regulations apply fully to Liechtenstein. As a member of the European Economic Area (EEA), Liechtenstein must incorporate, implement, and apply the EU acts incorporated into Annex IX (Financial Services) of the EEA Agreement.

¹¹⁷ Banking Law of 8 November 1934 (RS 952.0), as amended, Article 1(b).

¹¹⁸ Information provided by the authorities.

¹¹⁹ Information provided by the authorities.

¹²⁰ As opposed to auxiliary services to financial services *stricto sensu* as defined by the Financial Services Annex of the GATS as "Advisory, intermediation and other auxiliary financial services on all the activities listed in subparagraphs (v) through (xv), including credit reference and analysis, investment and portfolio research and advice, advice on acquisitions and on corporate restructuring and strategy".

¹²¹ Information provided by the authorities.

4.226. A significant regulatory development during the period under review is the reinforcement of the anti-money laundering and counter-terrorism financing (AML/CFT) framework. Liechtenstein implemented the 4th AML Directive (EU) 2015/849 and the 5th EU AML Directive (EU) 2018/843 into national law. Relevant EU AML/CFT Regulations, such as Regulation (EU) 847/2015 on information accompanying transfers of funds, have been incorporated into the EEA Agreement and have direct effect.

4.227. The Liechtenstein Due Diligence Act¹²² imposes special due diligence obligations on financial institutions (e.g. banks and investment firms, e-money institutions, payment institutions, insurance companies, and asset management companies) as well as designated non-financial business professions such as professional trustees, accountants, lawyers, dealers in goods, and real estate agents. The scope has been extended in recent years to virtual asset service providers and safe custody service providers as well as art dealers and letting agents conducting transactions above a certain threshold.

4.228. Based on the 4th and 5th EU AML Directives, Liechtenstein in 2021 undertook a revision of its central register of beneficial owners of legal persons and arrangements (including foundations, Anstalten/establishments, trusts, and similar entities or arrangements) that had been introduced in 2019. The Financial Intelligence Unit, the Financial Market Authority, the National Police, the Tax Administration, the Office of the Public Prosecutor, the Court of Justice, and the Liechtenstein Chamber of Lawyers may access the Register for the purpose of fighting money laundering, predicate offenses to money laundering, and terrorist financing. The data are also disclosed to banks and financial institutions domiciled in any EEA Member State or in certain third states for the purpose of fulfilling AML/CFT obligations or acts into fighting money laundering, predicate offenses to money laundering, and terrorist financing. Other domestic and foreign persons and organizations may also apply to the Office of Justice for disclosure of the data entered in the Register. This application is subject to a fee. Based on the 5th EU AML Directive, Liechtenstein introduced a centralized bank account register in 2021. The respective legal provisions are set out in the Due Diligence Act and in the Ordinance on the Central Register of Accounts.¹²³

4.229. The number of banks declined from 16 in 2015 to 13 in 2020. Of the existing 13 banks in 2020 (2021: 12 banks), 8 banks have majority shareholders in Liechtenstein, whereas 5 banks have foreign majority shareholders: one with a Luxembourg majority shareholder, one Luxembourg amity-owned, two Hong Kong, China amity-owned (i.e. 100% owned), and one Swiss amity-owned. The main indicators of the banking sector appear healthy (Table 4.23).

Table 4.23 Evolution of main indicators of the banking system, 2015-20

(CHF billion)

	2015	2016	2017	2018	2019	2020
Total assets under management in the banking system ^a	209	234	294	305	350	365
Total balance sheet of the banking system	73	74	82	86	93	95
Net operating income of the banking system	1.9	2.0	2.4	2.6	2.8	2.8

a Assets of investment undertakings and asset management companies may be included in the total of assets under management in the banking system only to the extent where they are assets under management for the bank and held in a bank in Liechtenstein. However, there is no legal obligation for investment undertakings and asset management companies to domiciliate assets in a local bank.

Source: Information provided by the authorities.

4.230. Regarding the regulatory regime for banking services, the main regulations remain the Banking Law of 1992 and the corresponding Banking Ordinance. The supervisory authority is the

¹²² Law of 11 December 2008 on Professional Due Diligence for the Prevention of Money Laundering, Organized Crime and Financing of Terrorism (LR 952.1), as amended.

¹²³ A report issued in 2014 acknowledges that "Liechtenstein has made significant steps and achieved considerable progress since the last mutual evaluation, particularly in bringing its legal framework more closely in line with the FATF recommendations, consolidating an overall robust institutional framework for combating money laundering (ML) and terrorist financing (TF) and moving towards greater transparency". Council of Europe-MONEYVAL (2014), *Anti-Money Laundering and Combating the Financing of Terrorism: Principality of Liechtenstein*. The next MONEYVAL report on Liechtenstein's compliance with the Financial Action Task Force recommendations is expected to be published in June 2022.

Financial Market Authority (FMA). A significant development was the vote by Parliament in July 2019 to cancel the limited guarantee (on savings and medium-term bonds) granted to the Liechtensteinische Landesbank by the State. In addition, following its "early adopter" approach for the first EU financial package, the Government recently launched the consultation process to amend the Banking Law to implement the EU banking package.¹²⁴ The amendments to Liechtenstein law are to enter into force on 1 May 2022, independently of the EEA incorporation procedure. With the new provisions, the Liechtenstein banking centre will meet the international Basel III standards with regulation on a level playing field with the rest of the European single market.

4.231. While Liechtenstein's banking, securities, insurance, and accounting legislation is based on EU legislation, the national accounting rules for financial institutions (mainly banks, which are not quoted) are also similar to the accounting rules of the Swiss FINMA. Banks in Liechtenstein and Switzerland have very similar principles of accountancy, and the structure of the balance sheet and the income statement are practically identical. Both countries apply similar valuation rules.

4.232. On licensing, the legal basis remains Directive 2013/36/EU (Capital Requirements Directive for Banks) and Directive 2014/65/EU (Markets in Financial Instruments Directive) for investment firms, as transposed in the Banking Law. The law requires a licence from the FMA to commence operations, which may only take the legal form of limited companies, subject to exceptions that may be granted by the FMA. The head offices and the principal management must be domiciled in Liechtenstein. The minimum required fully paid-up initial capital is CHF 10 million for banks and CHF 730,000 (or the equivalent in euros or US dollars) for investment firms. After commencing business activity, the own funds may never be lower than the amount of the fully paid-up initial capital. The members of the board of directors may have their domicile outside of Liechtenstein if they fulfil the obligations of their functions; they must be authorized to fully represent their company. Banks are obliged to adopt a dual management structure, with a board of non-executive directors and a management board; internal auditors, reporting directly to the board of directors, must also be appointed.

4.233. Banks and investment firms from outside the EEA may in principle offer their services in Liechtenstein only through a local subsidiary. The establishment of such a subsidiary requires a licence granted by the FMA. Investment firms and banks domiciled in another EEA Member State may offer their services in Liechtenstein under the freedom to provide services ("cross-border") or the right to establishment (branch) subject to relevant EEA law, provided that the services offered are covered by their national authorization.

4.234. Finally, regarding bank deposit insurance schemes, the Liechtenstein Bankers Association established the Liechtenstein Deposit Guarantee and Investor Protection Foundation of the Liechtenstein Bankers Association, an autonomous foundation under Liechtenstein law. The Foundation has assumed the obligation, in the event of a bank's insolvency or bankruptcy, to pay compensation up to a specified maximum (CHF 100,000). All banks operating in Liechtenstein participate in this scheme.

4.4.2.2.1.1 Economic and regulatory developments in the asset management and investment undertakings sector

4.235. The total number of asset management firms (in the wider sense but excluding banks) grew by nearly one tenth, from 993 in 2015 to 1,088 in 2020, but this differed depending on the legal forms used. While the number of collective investment schemes grew by nearly one fifth (from 494 in 2015 to 591 in 2020), the number of authorized trustees grew by nearly one third (from 114 in 2015 to 147 in 2020). Assets managed by collective investment schemes increased from CHF 44.85 billion in 2016 to CHF 59.1 billion in 2020, while assets managed by asset management companies grew from CHF 33.3 billion in 2015¹²⁵ to CHF 53.0 billion in 2020.

¹²⁴ This involves Directive (EU) 2019/878, and Regulations (EU) 2019/876 and 2020/873.

¹²⁵ Assets of investment undertakings and asset management companies may be included in the total of assets under management in the banking system only to the extent where they are assets under management for the bank and held in a bank in Liechtenstein. However, there is no legal obligation for investment undertakings and asset management companies to domiciliate assets in a local bank.

4.236. The structure and the evolution of Liechtenstein's regulatory regime for collective investment schemes and of asset management companies reflect the relevant EU legislation via either the EEA transposition or via an early and autonomous transposition.

4.237. For collective investment schemes, the main laws are the 2016 Law on Investment Undertakings¹²⁶, the 2011 Law on Certain Undertakings for Collective Investment in Transferable Securities¹²⁷ (UCITSA), and the Law on Alternative Investment Fund Managers¹²⁸ (AIFMA). UCITSA and AIFMA implement relevant EU Directives and their application is subject to directly applicable EU Regulations and Guidelines from the European Supervisory Authorities. Since 2 August 2021, Directive (EU) 2019/1160 and Regulation (EU) 2019/1156 with regard to cross-border distribution of collective investment undertakings were implemented autonomously into the national UCITSA and AIFMA, as the funds market in Liechtenstein is very export oriented.¹²⁹

4.238. The EU Regulation on Money Market Funds¹³⁰ entered into force on 2 August 2021 by way of autonomous integration in UCITSA and AIFMA. The European Venture Capital Funds Regulation¹³¹, the European Social Entrepreneurship Regulation¹³², and the European Long-Term Investment Funds Regulation¹³³ will be implemented the same way. Furthermore, preparatory work is being conducted to prepare to implement the EU rules on sustainable finance. Indeed the adoption of sustainable finance legal acts is a priority of Liechtenstein and the autonomous transposition of the sustainable finance legal act is foreseen for May 2022.

4.239. In terms of licensing, any collective investment scheme requires a licence from the FMA. Collective investment schemes are divided into investment funds on a contractual basis (common contractual fund trusteeships and investment companies with variable capital). Furthermore, investment funds (without UCITS) may be constituted under a partnership (investment limited partnership or investment partnership of limited partners). The minimum required fully paid-up capital is CHF 1 million for management companies under the IUA and EUR 125,000 or the equivalent amount in Swiss francs for UCITS management companies and AIFMs (internally managed investment companies or alternative investment funds EUR 300,000 or the equivalent amount in Swiss francs). Investment companies must be incorporated as public limited companies. Regardless of form, all investment funds must have a custodian bank, registered in Liechtenstein. For the most part, the management company of collective investment schemes in Liechtenstein is domiciled in Liechtenstein. According to notification procedures, the management companies can be domiciled in another EEA country and manage Liechtenstein collective investment schemes from there.

4.240. The regulatory regime for asset management companies is the 2005-2006 Law on Asset Management (AMA¹³⁴) and the Banking Law. The AMA and the Banking Law were significantly modified to implement the second EU Directive on markets in financial instruments¹³⁵, which entered into force on 1 January 2018. AMA is applied in conjunction with the EU Regulation on European Markets in Financial Instruments Regulation¹³⁶, EU Commission Delegated Regulations, and Guidelines from the European Supervisory Authorities, which enable asset management companies to have direct market access to the EEA.¹³⁷ The new EU prudential framework for investment firms

¹²⁶ IUA, *Liechtensteinisches Landesgesetzblatt* (LLG) (2016), No. 045.

¹²⁷ UCITSA, LLG (2011), No. 295.

¹²⁸ AIFMA, LLG (2013), No. 49.

¹²⁹ Cross-sectoral EU legislation, such as the European Market Infrastructure Regulation, the Securities Financing Transactions Regulation, the Short Selling Regulation, the Central Depository Regulation, the Market Abuse Regulation, and the Benchmarks Regulation may also be applicable to Collective Investment Scheme and their management companies.

¹³⁰ Regulation (EU) 2017/1131 of the European Parliament and of the Council of 14 June 2017 on money market funds.

¹³¹ Regulation (EU) No. 345/2013 of the European Parliament and of the Council of 17 April 2013 on European venture capital funds.

¹³² Regulation (EU) No. 346/2013 of the European Parliament and of the Council of 17 April 2013 on European social entrepreneurship funds.

¹³³ Regulation (EU) 2015/760 of the European Parliament and of the Council of 29 April 2015 on European long-term investment funds.

¹³⁴ LLG (2005), No. 278.

¹³⁵ Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU (recast).

¹³⁶ Regulation (EU) No. 600/2014 of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Regulation (EU) No. 648/2012.

¹³⁷ Asset management companies may also be subject to relevant EU cross-sectoral legislation.

(Directive (EU) 2019/2034 and Regulation (EU) 2019/2033) is expected to result in significant amendments of the AMA and the Banking Law, and it is possible that a dedicated Law on Investment Firms will be adopted.

4.241. The licensing conditions for asset management companies are a minimum fully paid-up capital requirement of CHF 100,000, the fulfilment of organizational requirements, and a local presence in Liechtenstein.

4.4.2.2.1.2 Economic and regulatory developments in the insurance sector

4.242. The number of insurance companies declined slightly (from 41 in 2015 to 36 in 2020, minus 3 for non-life, minus 2 for life, no change for reinsurance), but the number of employees nearly doubled (from 596 to 1,001), an evolution that can be explained by the implementation of the new supervisory "Solvency II" regime, which triggers a need for additional staffing in governance and reporting areas.¹³⁸ Gross premiums grew by 66% during the same period, which is essentially due to the development of the non-life insurance business. However, they stabilized in 2019-20. The proportion of captives remains high by international standards, as Liechtenstein is a valuable market for larger entities, especially those headquartered in Switzerland, to serve both the EEA and Swiss markets. The capital investment of the insurance sector slightly diminished from CHF 29.1 billion in 2014 to CHF 27.7 billion in 2020.¹³⁹

4.243. The number of foreign branches grew from 14 to 19. Cross-border activities grew too, as the number of EEA undertakings having registered their potential intention to provide cross-border insurance services grew from 355 to 438.¹⁴⁰

4.244. The supervisory regime for insurance services was completely revamped with the entry into force on 1 January 2016 of the revised Insurance Supervision Law and its associated ordinance.¹⁴¹ This act transposed the EU Solvency II Directive¹⁴² into national law. Solvency II is a risk-based system that defines new requirements regarding governance, risk management, and reporting. It provides qualitative and quantitative tools available to supervisory authorities, allowing them to assess the total solvency of an insurance undertaking.

4.245. In terms of licensing conditions, the main administration of the company (including accounting) must be situated in Liechtenstein. Undertakings domiciled and licensed in an EEA country may conduct direct insurance business in Liechtenstein without a Liechtenstein license. Insurance companies are prohibited from undertaking non-insurance activities. Cross-border provision of insurance services by EEA companies is possible, provided the insurance undertakings have the necessary solvency margin.

4.246. Among non-EEA countries, Switzerland benefits from a preferential status. Based on a bilateral agreement in force since 1998, insurance undertakings domiciled in Switzerland or Liechtenstein enjoy freedom of establishment and operation in the other country. This agreement was extended in 2007 to allow insurance intermediaries to engage in cross-border activities. Other non-EEA-country insurance undertakings require authorization to operate in Liechtenstein and must establish a subsidiary or a branch office.

4.4.2.2.1.3 Economic and regulatory developments in the fintech e-payments and cryptocurrencies sector

4.247. The provision of e-money services (issuing of electronic money and provision of payment services by issuers of electronic money) is governed by the Electronic Money Law of 2011¹⁴³ and its corresponding Electronic Money Ordinance¹⁴⁴, as well as by new legislation adopted during the period

¹³⁸ Information provided by the authorities.

¹³⁹ Information provided by the authorities.

¹⁴⁰ Information provided by the authorities.

¹⁴¹ Respectively, LLG (2015), No. 231 and LLG (2015), No. 239.

¹⁴² Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II) (recast).

¹⁴³ LLG (2011), No. 151, as amended.

¹⁴⁴ LLG (2011), No. 158, as amended.

under review, the Payment Services Law of 2019¹⁴⁵ and its corresponding Payment Services Regulation.¹⁴⁶ All of these legal instruments are based on EU Directives 2009/110/EG (E-Money-Directive)¹⁴⁷ and (EU) 2015/2366 (Payment Services Directive II).¹⁴⁸

4.248. The Electronic Money Law lays down the prudential requirements for taking up the business of e-money institutions. Issuing electronic money requires a licence granted by the FMA. The Payment Services Law governs the provision of payment services and the operation of payment systems. To obtain a licence, e-money institutions must fulfil various conditions, *inter alia*, being a legal person and having their registered office and head office in Liechtenstein. The members of the board of directors may have their domicile outside of Liechtenstein, if they fulfil the obligations of their functions; they must be authorized to fully represent their company. The minimum required fully paid-up initial capital is CHF 350,000.

4.249. Depending on the licensed activity in question, there are different capital requirements. Under the Electronic Money Law, e-money institutions are required to hold the minimum required fully paid-up initial capital of CHF 350,000. Under the Payment Services Law, the minimum capital requirements for payment institutions differ depending on the type of payment services provided and authorized.

4.250. As of 31 December 2020, four e-money institutions were licensed in Liechtenstein with a total of CHF 27.7 million in assets and CHF 7 million in e-money issued.

4.251. Subject to relevant EEA law, e-money institutions from Liechtenstein, as well as from any other EEA Member State, may offer their services across the EEA under the freedom to provide services ("cross-border") or the right to establishment (branch). E-money institutions from outside the EEA may in principle offer their services in Liechtenstein only through a local subsidiary. The establishment of such a subsidiary requires a licence granted by the FMA.

4.252. Like the Payment Services Law and the Banking Law, the Electronic Money law contains provisions on qualifying holdings in an e-money institution, own funds requirements, requirements for safeguarding funds received from their customers, outsourcing of functions, the use of third parties or agents, external auditing, information exchange, cooperation between competent authorities, and FMA administrative and criminal sanctioning powers.

4.253. In 2019, Liechtenstein became the first country in the world to adopt comprehensive legislation on an emerging type of financial services providers, trustworthy technology ("TT") service providers. The Token and TT Service Provider Law¹⁴⁹ entered into force on 1 January 2020 together with the Ordinance on Tokens and TT Service Providers. This is autonomous legislation that does not derive from an EEA transposition of the EU *acquis* as the EU regulation in that respect is still under discussion.

4.254. The new law divides TT service providers into 10 categories: (i) Token Issuers: persons professionally offering tokens to the public in the name of third parties; (ii) Token Generators: persons who create original tokens on behalf of third parties; (iii) TT Key Depositaries and TT Token Depositaries: persons who safeguard tokens or private keys for third parties, e.g. in a safe or a collective wallet; (iv) TT Protectors: persons who hold tokens on TT systems in their own name on account of third parties; (v) Physical Validators: persons who ensure the enforcement of rights in accordance with the agreement, in terms of property law, to goods represented in tokens on TT systems; (vi) TT Exchange Service Providers: persons who exchange legal tender for tokens and vice versa as well as tokens for tokens; (vii) TT Verifying Authorities: persons who verify the legal capacity and the requirements for the disposal over a token; (viii) TT Price Service Providers: persons who provide TT system users with aggregated price information on the basis of

¹⁴⁵ LLG (2019), No. 213.

¹⁴⁶ LLG (2019), No. 233.

¹⁴⁷ Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the taking up, pursuit and prudential supervision of the business of e-money institutions amending Directives 2005/60/EC and 2006/48/EC and repealing Directive 2000/46/EC.

¹⁴⁸ Directive (EU) 2015/2366 of the European Parliament and of the Council of 25 November 2015 on payment services in the internal market, amending Directives 2002/65/EC, 2009/110/EC, and 2013/36/EU and Regulation (EU) No 1093/2010, and repealing Directive 2007/64/EC.

¹⁴⁹ Token and TT Service Provider Law (LR 950.6) of 3 October 2019.

purchase and sale offers or completed transactions; (ix) TT Identity Service Providers: persons who identify the person in possession of the right of disposal related to a token and who record it in a directory; and (x) TT Agent: a person who professionally distributes or provides TT services on behalf of and for the account of a foreign TT service provider.

4.255. TT Service Providers must hold a registration by the FMA prior to taking up business activities. An exception exists for persons who publicly offer tokens in their own name (own issuance) if the value of the tokens issued during 12 months does not exceed CHF 5 million. The registration obligation exists regardless of whether another licence has already been granted by the FMA. A bank licensed in Liechtenstein that safeguards tokens for clients must therefore additionally register as a TT Token Depository. By the end of 2021, 18 TT providers had registered with the FMA, applying for 39 different TT services.

4.256. TT service providers are not subject to ongoing prudential supervision in the same way as licensed financial intermediaries (e.g. transparency obligations, comprehensive reporting obligations, or periodic external audits), but rather to event-driven supervision.

4.4.3 Transport services

4.4.3.1 Switzerland

4.257. Transport services account for nearly 4% of GVA and slightly more than 5% of employment.¹⁵⁰ Because of its location at the centre of Europe, its role as transit country, and its mountainous geography, Switzerland is faced with a large influx of international transit traffic and potential infrastructural bottlenecks. To address this challenge, it has developed over the last 30 years a voluntarist policy of transferring road traffic to rail traffic, through incentives and infrastructural rail spending as well as through regulations and taxation.

4.4.3.1.1 Surface transport services

4.258. The volume of surface freight transport remained stable between 2015 and 2019: railroad transport: 10,741 million net tonne-km in 2015 and 10,070 million net tonne-km in 2019; road transport: 17,171 million tonne-km in 2015 and 17,148 million tonne-km in 2019; oil pipelines: 113 million tonne-km in 2015 and 105 million tonne-km in 2019.¹⁵¹ In 2019, road transport accounted for 63% of inland freight transportation while railways represented 37%. There was a slight increase in the volume of surface transport of persons. Transport of persons by rail increased from 194 million of trains-km in 2015 to 201 million of trains-km in 2019, and transport of persons by road increased from 333 million of journeys-km in 2015 to 362 million of journeys-km in 2019.¹⁵²

4.4.3.1.1.2 Road transport services

4.259. Switzerland continued to develop its road transport infrastructure. Road infrastructure projects take the form of a strategic development masterplan for national roads submitted every four years by the Federal Council to the Federal Assembly. Presently 11 projects of a value of CHF 5.8 billion have been approved, while 48 additional projects of a value of CHF 10.2 billion have been programmed until 2040. Important recent projects, on the North-South axis, include the renovation of the rehabilitation tunnel of Belchen and the second tube of the Gotthard tunnel.

4.260. While the objective was to reduce the number of cross-alpine heavy vehicles (over 3.5 tonnes) road trips to 650,000 by 2018, the number of cross-alpine trips reached 898,000 in 2019 before declining to 863,000 in 2020. Thanks to the lowering of train path prices, the costs for rail freight transport decreased. In addition, since 1 July 2021, the performance-related heavy vehicle charge for older freight vehicles on the road has been raised. Previous measures, such as the construction of the New Rail Link through the Alps at the Gotthard tunnel and the 4-metre corridor for high-profile consignments, were completed in December 2020 and are now beginning to take full effect.

¹⁵⁰ FSO, *Industries Production Account*.

¹⁵¹ Information provided by the authorities.

¹⁵² Information provided by the authorities.

4.261. The legal regime for the provision of road transport services remained largely unchanged during the review period. The domestic conditions of establishment and operation are liberal. Established operators need to obtain a licence (other than a driving licence) to create a national road freight business (other than for transporting dangerous goods or goods for which sanitary assurances are required). These licences are granted based on technical, professional, and financial fitness and compliance with public safety requirements. The main regulatory change was the entry into force in January 2016 of new provisions of the Federal Law on Road Transport Undertakings.¹⁵³ The key changes made by these provisions are the extension of the licensing requirement to vehicles of more than 3.5 tonnes (previously 6 tonnes) and the introduction of the term "transport manager". The authorities indicate that these new rules on the "transport manager" are equivalent to EU rules.¹⁵⁴ In addition, the amendments created the legal basis for entering specific data in an electronic register to verify the reliability of a transport manager.

4.262. The Swiss regulator does not have any power to limit industry capacity through licences or otherwise. Professional bodies or representatives of trade and commercial interests are not involved in specifying or enforcing pricing guidelines or regulations. The Government does not regulate retail prices of road freight services, nor does it provide pricing guidelines to road freight companies.

4.263. Switzerland's relationship with the European Union in road transport continues to be governed by the bilateral agreement concluded in 1999. This agreement liberalizes road transport traffic, except for cabotage in the strict sense (i.e. transport within Switzerland or within a given EU member State), and provides for the mutual recognition of road transport licences, harmonization of technical standards, and coordination of transport policies, where combined rail-road transport is concerned. Cross-border bus transport between Switzerland and the European Union is regulated by the Overland Transport Agreement concluded in 1999, the provisions of which are equivalent to the internal EU rules.¹⁵⁵

4.264. Data on the Swiss ECMT¹⁵⁶ multilateral quota show that Switzerland's international fleet of trucks is essentially composed of environmentally efficient vehicles.¹⁵⁷

4.265. The more than 50 bilateral road transport agreements concluded by Switzerland with countries in Europe, Asia, and Africa are liberal compared to European bilateral agreements that follow the ECMT model agreement. New agreements were concluded during the review period with the Islamic Republic of Iran and the United Kingdom and entered into force in 2021. Bilateral and transit operations were liberalized with the Russian Federation in 2021. Bilateral, transit, and triangular operations were liberalized with the Republic of Moldova in 2016 and Ukraine in 2017. International passenger traffic between Switzerland and a third country (non-EU member State) is carried out on the basis of the bilateral agreement. The procedure differs from EU traffic in that cooperation between a Swiss transport company and a company from the third country in question is mandatory. Furthermore, a permit is not issued for the entire distance, but each state issues a permit that is valid only for its own territory.

4.266. Switzerland undertook no GATS commitments regarding road freight transport and only limited commitments for road passenger transport. However, in its subsequent FTAs, it has bound its liberal conditions of establishment, Mode 1 remaining unbound due to the existence of bilateral agreements.

4.4.3.1.1.3 Railway transport services

4.267. Switzerland has a very developed railways network, internationally connected, including to high-speed lines. In addition to passenger traffic, there is a significant international transit goods traffic through the Alps, notably between Germany and Italy. Railway transport is especially

¹⁵³ Federal Law of 20 March 2009 on Road Transport Undertakings (SR 744.10), as amended.

¹⁵⁴ Regulation (EC) No 1071/2009 of the European Parliament and of the Council of 21 October 2009 establishing common rules concerning the conditions to be complied with to pursue the occupation of road transport operator and repealing Council Directive 96/26/EC.

¹⁵⁵ Regulation (EC) No 1073/2009 of the European Parliament and of the Council of 21 October 2009 on common rules for access to the international market for coach and bus services, and amending Regulation (EC) No 561/2006 (Recast).

¹⁵⁶ Under the aegis of OECD, the European Conference of Ministers of Transport (ECMT) administers a system of road transport quotas. See WTO document S/C/W/324, 29 October 2010.

¹⁵⁷ International Transport Forum, *Distribution of ECMT Multilateral Quota*.

important in the context of Switzerland's policy of transferring a large part of cross-alpine transport of goods from road to rail.¹⁵⁸ The total length of the interurban railway network is 5,491 km, of which 5,467 km are electrified and 2,136 km are double-tracked. The number of passenger-km was 21,737 million in 2019, and the volume of freight in 2019 was 11.67 million tonne-km.¹⁵⁹

4.268. Unlike many European countries, Switzerland has never had a regime of public monopoly in rail services. Instead, a large public company (SBB-CFF-FFS) coexists with several private companies, the number of which has diminished over time through mergers. This explains in part that Switzerland has developed mutual access to network legislation comparable, *mutatis mutandis*, to that of Japan and the United States. In addition to the three major Swiss network-owning companies, several foreign railways freight companies, most of them of German nationality, have created subsidiaries in Switzerland, and obtained an authorization of access to the Swiss network and the correlative safety certificate.

4.269. The legal regime governing railway transport results from three series of reforms that entered into force in 1999, 2005, and 2012-2013 and which aimed to align the Swiss regime with the first and second EU railway packages.¹⁶⁰ In 2020 and 2021, important elements of the third EU railway package and the so-called "Recast", a European Directive establishing a single European railway area, entered into force for Switzerland.¹⁶¹ This package includes: (i) the institution of a body independent from the infrastructure manager to allocate train paths¹⁶²; (ii) the adoption of equivalent legislation as in the European Union regarding passenger rights in the case of delays, cancellations, liabilities, and transport of bicycles; and (iii) a requirement that railway companies offering services on a railway network belonging to another infrastructure manager receive information and participation rights with regard to short- and medium-term investment planning. Switzerland has not transposed the provisions from the EU third railway package that concern the opening of the market in international rail passenger services.

4.4.3.1.1.4 Pipeline transport services

4.270. There are only two oil pipelines in Switzerland: one crude pipeline, which enters Switzerland from France and runs 32 km to VARO's Cressier refinery with a flow of 68,000 barrels/day; and one product pipeline, which runs for 12 km across Geneva canton to supply oil products to the region, including aviation fuels to Geneva airport with a flow rate of 330 m³/hour.

4.271. The Swiss gas network has 13 international connections, of which 3 to the Transitgas system, the country's major gas transport backbone. Transitgas was built to transport gas from Germany and France to Italy; about five sixths of its transported volume is for transit and one sixth for the domestic market. In 2018, Transitgas was retrofitted for reverse flow (from Italy to Germany/France). The total gas network is almost 20,000 km, of which 292 km for Transitgas. There are no nationality requirements to own or manage pipelines.

4.272. According to the authorities, the Swiss gas market is only rudimentarily regulated. In 2012, industry associations and the gas industry established network access for large consumers under private law with the so-called "Associations' Agreement". Legal regulation of network access is planned with a new Gas Supply Law, which was in public consultation in 2019-20. In 2020, the Competition Commission decided in an individual case that network access should be open to all end

¹⁵⁸ Federal Law of 19 December 2008 on the Transfer from Road to Rail of Heavy Freight Transport through the Alps (RS 740.1).

¹⁵⁹ Information provided by the authorities.

¹⁶⁰ The reforms transformed SBB/CFF into a limited company with private-sector employees, formalized the right of access for any railways company by instituting an arbitration commission, and separated the transport activities of railways companies from their infrastructure activities, from an accounting and an operational point of view. They then modernized the regime of interoperability and safety, reinforced the role of the arbitration commission, and defined the financing of protection services and the tendering procedures for the concessioning of regional passenger traffic.

¹⁶¹ Railway Law of 20 December 1957 (RS 742.101), as amended; Law of 20 March 2010 on Passenger Transportation (RS 745.1), as amended (RS 742.101), Ordinance of 4 November 2009 on Passenger Transportation (RS 745.1), as amended, Ordinance of 31 August 2011 on Access to the Railway Network (RS 742.122), and Ordinance of 13 May 2020 on the Train Path Allocation Body (RS 742.123).

¹⁶² The new body, the TVS capacity allocation body, is a federal not-for-profit entity under public law with a separate legal personality and became operational on 1 January 2021.

consumers. Until now, however, there are few third-party suppliers, and the local utilities remain the largest suppliers.

4.4.3.1.1.5 Inland waterways transport services

4.273. There are two kinds of inland waterways transport, on the Rhine and on the lakes.

4.274. Water transport plays an important role in tourism and excursion traffic. The approximately 150 ships of the federally licensed shipping companies carry around 13 million passengers per year on Swiss lakes, rivers, and border waterways. Shipping also plays an important role in freight transport: around 120 freight ships from various shipping companies – mainly from the construction sector – transport around 2.5 million tonnes of material on Swiss waters every year. Vessels operating on domestic lakes must be registered in Switzerland at the cantonal level and in the case of border lakes registered in a Swiss register or in the register of the border State(s). While traffic on the lakes is largely linked to tourism activities, Rhine navigation is essentially devoted to freight and is of key importance for Switzerland since it is the only direct link with the high seas. The main product categories imported via Basel are crude oil and petroleum products; stones, soils and building materials; and food and feed. The main product categories exported via Basel are crude oil and petroleum products; stones, soils and building materials; and chemical products. The volume of freight handled in Basel on the import side increased from 3,768,445 tonnes in 2018 to 5,054,059 tonnes in 2019 and declined to 4,280,200 tonnes in 2020. On the export side, the volume of freight increased from 929,536 tonnes in 2018 to 1,011,175 tonnes in 2019 and declined to 846,580 tonnes in 2020.¹⁶³

4.275. In addition to the Law on the Registry of Ships¹⁶⁴ and the corresponding implementing regulations, domestic shipping is subject to the Law on Domestic Navigation¹⁶⁵, the Law on Passenger Transportation¹⁶⁶, and several related Ordinances.

4.276. Together with Belgium, Germany, France, and the Netherlands, Switzerland is a member of the Central Commission for Navigation on the Rhine (CCNR), which has ensured freedom of navigation for all flags on the Rhine since 1815. Switzerland thus has unrestricted access to the sea for its national supply and export and can actively participate in legislation for navigation on the Rhine. The regulations of the CCNR are regularly transposed into national law.

4.277. Two hundred sixty-six Swiss-registered vessels operate on the Rhine. There is no preferential treatment or regime for preferential treatment in relation to any vessels calling to the Ports of Switzerland in Basel, irrespective of their registration or other criteria. However, as passage through Basel requires special knowledge and skills due to very narrow bridges, depending on the water level, pilotage services or proof of route knowledge are mandatory depending on the size of the vessel.

4.278. Relevant requirements on technical standards and registration differ between international navigation on the Rhine, which is governed by the Mannheim Convention under the auspices of the CCNR, various bilateral and multilateral agreements between Switzerland and its neighbouring countries for cross-boundaries lakes and river navigation, and a purely domestic regime applicable exclusively to national waters only.

4.279. There are no EU and IMO provisions directly applicable to Swiss inland waterways including the Rhine, as these waters are either exclusively governed by Swiss national law or by corresponding bilateral or multilateral treaties such as the Mannheim Convention for the internationally navigable Rhine River. The registration regime for Swiss-flagged vessels on the Rhine is the same as that for Swiss-flagged maritime vessels (see below). The registration of vessels navigating on internal lakes obeys rules defined at the cantonal level and that may be more lax than national ones, and they take, for instance, domicile rather than nationality as a criterion. Registration of vessels navigating on borders (Lake Geneva with France, Lakes Lugano and Maggiore with Italy, and Lake Constance with Germany and Austria) obeys navigation conventions signed by Switzerland with those countries.

¹⁶³ Ports of Switzerland/Basel.

¹⁶⁴ Federal Law of 28 September 1923 on the Registration of Ships (RS 747.11), as amended.

¹⁶⁵ Federal Law of 3 October 1975 on Domestic Navigation (RS 747.201), as amended.

¹⁶⁶ Federal Law of 20 March 2009 on Passenger Transportation (RS 745.1), as amended.

Those conventions in turn refer in all instances to the respective immatriculation rules of the bordering countries.

4.280. Regarding border waters such as Lake Geneva, Lake Constance, Lake Maggiore, and Lake Lugano, there are bilateral or multilateral agreements with neighbouring countries (France, Germany, Austria, and Italy) that relate to professional tourist shipping. For commercial shipping, navigation on these waters is restricted to vessels registered in Switzerland and the relevant neighbouring countries.

4.4.3.1.1.6 Maritime transport services

4.281. Although Switzerland is a landlocked country, it has a significant maritime sector that ranks 11th worldwide and 5th in Europe in terms of operated fleet. The Swiss maritime sector directly employs 2,000 persons in Switzerland and contributed CHF 2.4 billion to Swiss GDP in 2017 i.e. 0.4% of GDP.¹⁶⁷ Furthermore, it is closely intertwined with trading activities of agricultural, energy, and minerals products to the point of forming a single cluster/hub and is represented by a common business association, the Swiss Trading and Shipping Association. Trading activities in turn directly employ 10,000 persons, contribute to 4.8% of Swiss GDP¹⁶⁸, and represent 20% of the tax revenues of Geneva and Ticino cantons and 17% of those of Zug canton.

4.282. Switzerland has a commercially operating sea-going fleet mainly registered in foreign shipping registries. There are 65 shipping and shipping services companies (e.g. charterers and marine fuel traders), located in more than 12 cantons, most of them based in Geneva, Zurich, Basel, Vaud, Ticino, and Zug. All of these companies and their vessels are privately owned. Switzerland is the host state of the world's second-largest container shipping company (Mediterranean Shipping Company) but also of companies such as Suisse-Atlantique, Reederei Zurich, ABC Maritime All Seas, or Swiss Maritime Services.

4.283. The nationally flagged, commercially operating seagoing Swiss fleet was composed in 2021 of 18 vessels representing 929,000 deadweight tonnage (DWT), i.e. 0.043% of the world total (down from 47 ships accounting 1,401,000 DWT in 2015 – a decrease that mainly can be attributed to the effects of the global ship-owning sector economic crisis lasting more than a decade until 2019 due to unprecedented low freight rates) while the controlled fleet under foreign flags was composed of 396 vessels representing a total tonnage of 25,794,797 DWT, i.e. 1.21% of the total world tonnage (up from 344 vessels of a total tonnage of 18,324,000 DWT representing 1.056% of the world fleet in 2015). According to a 2017 study by Oxford Economics¹⁶⁹, another 400 to 600 vessels are operated from Switzerland by Swiss companies controlled by non-Swiss interests.

4.284. If necessary, the Swiss Government has the authority to requisition Swiss-flagged seagoing vessels on its behalf whose construction has been financed with federal mortgage guarantees. At the end of 2021, 17 out of 18 of all Swiss-flagged seagoing merchant vessels were financed wholly or partially with such a guarantee. The federal guarantees were discontinued in 2017.¹⁷⁰

4.285. Switzerland has a closed registry for seagoing commercial vessels as registration of vessels is subject to strict conditions regarding nationality and residence requirements for owners of individual companies, partners, or shareholders of general or limited partnerships or of limited companies, and members of the governing bodies of public limited companies, general partnerships, limited companies, or cooperative companies.¹⁷¹ However, there is no requirement regarding the nationality of any seafarers serving aboard Swiss-registered vessels. In 2021, of 358 seafarers serving aboard Swiss seagoing merchant vessels, only two held Swiss citizenship, with the vast majority being from the Philippines (ratings) and Ukraine (officers).

¹⁶⁷ Information provided by the authorities.

¹⁶⁸ Information provided by the authorities.

¹⁶⁹ As quoted in Swiss Trading & Shipping Association, *Switzerland, A Maritime Nation*. Viewed at: <https://www.stsa.swiss/know/switzerland-a-maritime-nation>.

¹⁷⁰ A report to the Federal Council found that the existence of a high-seas Swiss-flagged fleet did not have any impact on supply chain problems. Federal Council (2016), "Le Conseil fédéral ne renouvellera pas le crédit cadre pour la promotion de la flotte suisse de haute mer".

¹⁷¹ Ordinance of 20 November 1956 on Maritime Navigation (RS 747.301), as amended, Article 5.

4.286. There has not been a specific support regime for maritime transport during the pandemic, and there are no maritime-specific incentives in place to encourage gender balance in ships' crews.

4.287. A recent study of the Swiss maritime sector prepared by the Institute of Shipping Economics and Logistics is currently the subject of consultations among relevant federal services and stakeholders as part of a reflection on a possible overarching Swiss maritime strategy.¹⁷²

4.4.3.1.1.7 Freight forwarding and logistics services

4.288. The industry of specialized intermediation services for transport was invented in Switzerland during the Napoleonic Wars¹⁷³, and nowadays Switzerland remains a major hub for logistics services being the host state of several major actors of the sector as well as of the main international professional association of the logistic sector, the International Federation of Freight Forwarders. Logistics services are not identified as such in the Swiss national accounts. The closest category is "warehousing and support activities for transportation", which corresponds more or less to the GATS document MTN/GNS/W120 category 11.E "services auxiliary to all modes of transport".¹⁷⁴ In 2020, the warehousing and activities for transportation accounted for 0.65% of GVA and 1.31% of total employment, compared to, respectively, 0.65% and 1.30% in 2015.¹⁷⁵ Switzerland has bound its liberal regime for this subsector both under the GATS and its FTAs.

4.4.3.1.1.8 Air transport services

4.289. The Swiss air transport sector was severely hit by the COVID pandemic crisis (Chart 4.9 and Table 1.8).

4.290. Table 4.24 details further the passenger and freight traffic handled by each of Switzerland's international airports in 2016 and 2020.

Table 4.24 Passenger and freight traffic handled at Swiss international airports, 2015 and 2020

Airports	Passengers handled		Freight handled (tonnes)	
	2015	2020	2015	2020
Zurich	26,294,317	8,316,844	291,082	170,280
Geneva	15,694,603	5,558,432	32,806	27,246
Basel	7,052,113	2,587,994	48,977	63,576
Bern	175,121	5,629	-	-
Lugano	156,437	275	57	-
Sion	6,660	1,673	-	-
Altenrhein	91,976	22,414	-	-
Total international airports	49,441,227 (of which 655,303 domestic passengers)	16,493,261	372,865	261,102

- Nil.

Source: Information provided by the authorities.

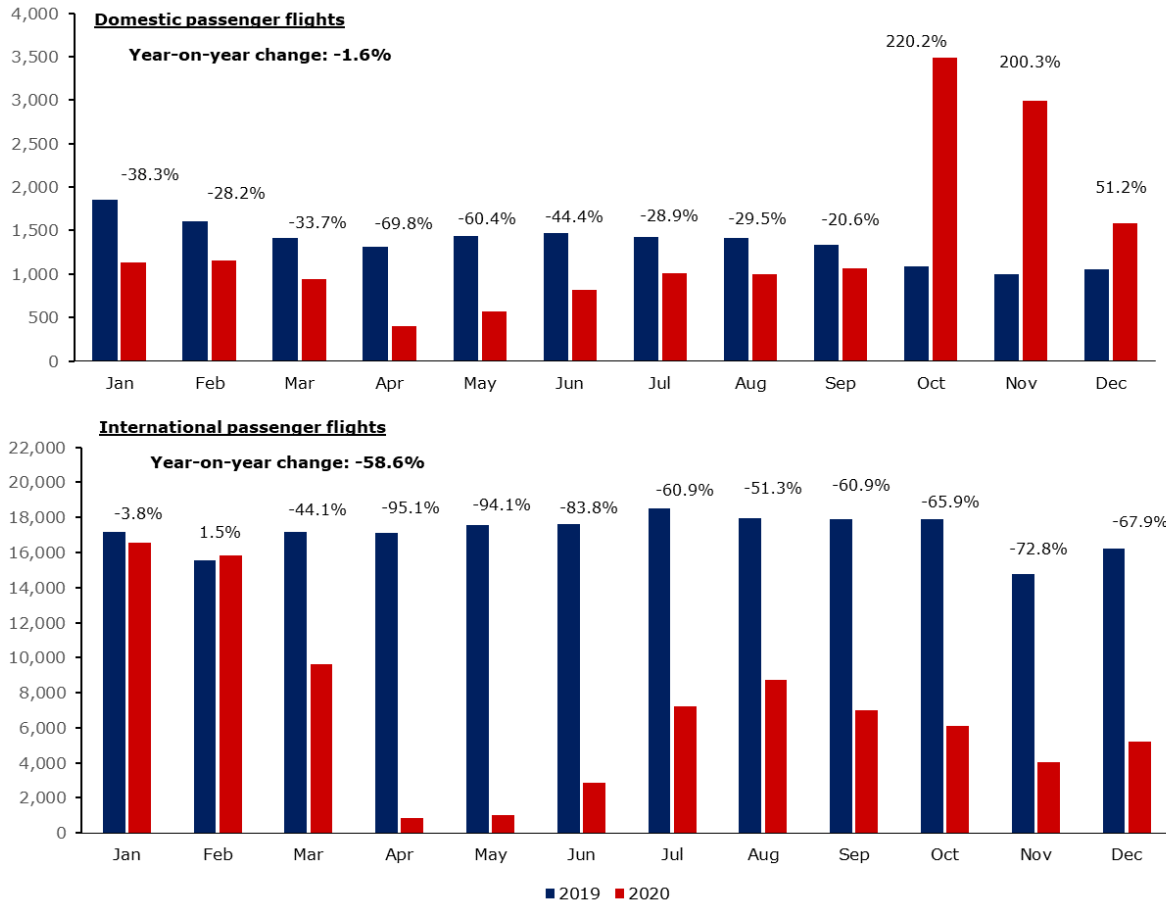
4.291. The general aid measures adopted by the Federal Council to cushion the economic impact of the COVID-19 pandemic (Section 3.3.1) are also available to companies in the aviation industry. In addition, the Federal Assembly decided in May 2020 to support Swiss International Air Lines and Edelweiss Air with a government-backed loan and to provide CHF 600 million for possible support to ground handlers and aircraft maintenance companies to bridge liquidity shortfalls and to ensure the uninterrupted operation of the national airports and Switzerland's aviation connectivity.

¹⁷² Federal Department of Foreign Affairs (2021), *Future Prospects for the Swiss Flag and Fleet at Sea*.

¹⁷³ WTO document S/C/W/317, 14 June 2010, para. 4.

¹⁷⁴ Item 11.E contains the following subsectors: 11.E.a Cargo-handling services, 11.E.b Storage and warehouse services, 11.E.c Freight transport agency services, and 11.E.d Other.

¹⁷⁵ Information provided by the authorities and the FSO.

Chart 4.9 Domestic and international passenger flights, January to December 2019 and 2020

Source: ICAO, *Operational Impact on Air Transport*. Viewed at: <https://data.icao.int/coVID-19/operational.htm>.

4.292. As of August 2020, Swiss and Edelweiss had been granted state aid of CHF 1.275 billion in the form of a bank loan totalling CHF 1.5 billion secured by the Swiss Government with a guarantee (85%). Furthermore, state aid of CHF 79.2 million was granted to SR Technics, an aircraft maintenance and repair company, out of the CHF 600 million framework credit. Independently from the CHF 600 million credit, the Government also increased the equity of Skyguide (Air Navigation Service Provider, a company owned and controlled by the Swiss Government) by a CHF 150 million cash injection in 2020. Additionally, it supported Skyguide with a loan of CHF 250 million in 2021 and will provide further financial funding (financing instrument yet to be determined) in 2022 in an amount of CHF 100 million if needed. In 2020, Swissport communicated the establishment of a market-based solution. None of the three national airports (Basel, Geneva, Zurich) has asked for federal government state aid so far. Geneva airport has asked the Canton of Geneva for support, but the state aid scheme has not yet been approved by the Parliament of the Canton of Geneva.

4.293. The regulatory regime for air transport remained largely unchanged during the review period. As far as services explicitly covered by the GATS air transport annex (computer reservation services, selling and marketing of air transport services, and maintenance and repair of aircraft), there is no regulation granting a monopoly or prescribing the compulsory use of a computer reservation system (CRS) supplier. All CRS providers may operate if they comply with EC Regulation 80/2009.¹⁷⁶ This does not imply that they must have a local branch established. Similarly, for selling and marketing of air transport services, there are no specific regulations (including foreign exchange controls) preventing or limiting the sale by foreign airlines of their own tickets through whatever channel (online, airports counters, city offices). This legal situation is not affected by individual

¹⁷⁶ Regulation (EC) No 80/2009 of 14 January 2009 of the European Parliament and of the Council on a Code of Conduct for computerized reservation systems.

provisions of bilateral agreements. Regarding aircraft repair and maintenance services, there are no specific limitations on the establishment of foreign providers.¹⁷⁷

4.294. For ground handling, Switzerland applies Council Directive 96/67/EC¹⁷⁸, which beyond certain thresholds of traffic reached by Zurich and Geneva airports liberalizes self-handling, mutual handling, and third-party handling. For the Basel airport, France also applies EC Regulation 97/67. Regarding airport management services, airports that are objects of a concession are managed by public or private entities. Even for private entities, most of the capital may be in public hands.¹⁷⁹

4.295. Regarding commercial aviation, the national establishment rules are in line with EC Regulation 1008/2008¹⁸⁰, which establishes a requirement of more than 50% of EU interests (and in this case EU + Swiss interests) so as to accommodate the ownership of Swiss by the Lufthansa group. There is no specific regulation or policy for all-cargo flights. Regarding charter flights, Switzerland also applies EC Regulation 1008/2008, thus charter traffic is not discriminated and is based on the principle of reciprocity. Low-cost carriers do operate from Switzerland. Domestic traffic is limited in principle to Swiss operators unless it has been agreed otherwise in the bilateral air services agreement. Such an opening has been negotiated but not finalized between Switzerland and the European Union. Finally, Swiss slot allocation rules are in line with Council Regulation (EEC) No. 95/93, as amended, which transposes, *mutatis mutandis*, the IATA rules. In Switzerland, slot trading among airlines is not allowed. The Swiss airports of Geneva and Zurich are deemed to be congested and hence coordinated.

4.296. The bilateral relationship with the European Union remains governed by a 1999 bilateral agreement that mutually grants third to seventh freedoms and includes a community of ownership clause.

4.297. Table 4.25 describes the main features of recent air transport agreements coded according to the Quasar WTO methodology.

Table 4.25 Main features of recent air transport agreements

Partner	Date	Entry into force	5 th ^a	7 th ^b	Cabotage ^c	Coop ^d	Designation ^e	Withholding ^f	Pricing ^g	Capacity ^h	Stat ⁱ	ALI
Angola	27/11/2018		N	N	N	Y	M	PPoB	DD	PD	No	22
Bahamas	13/12/2018		Y	N	N	Y	M	PPoB	DD	FD	No	36
Cabo Verde	07/12/2021		Y	N	N	Y	M	PPoB	DD	FD	No	36
Canada (Protocol)	29/01/2019	22/06/2021	Y	N	N	Y	M	SOEC	DD	FD	No	26
Côte d'Ivoire	24/02/2017	08/10/2018	N	N	N	Y	M	PPoB	DD	FD	No	30
Gambia	12/01/2021		Y	N	N	Y	M	PPoB	DD	FD	No	36
India (Protocol)	11/03/2020	01/07/21	Y	..	COI	-
Israel	21/08/2018	24/03/21		N	N	Y	M	PPoB	DD	FD		-
Moldova, Republic of	04/04/2019	09/09/21	Y	N	N	Y	M	PPoB	DD	FD	No	36

¹⁷⁷ Switzerland has 71 repair stations certified by the European Aviation Safety Agency, 16 of which are also certified by the Federal Aviation Administration, 13 by TCCA Canada, 3 by ANAC Brazil, and 2 by CAAS Singapore.

¹⁷⁸ Council Directive 96/67/EC of 15 October 1996 on access to the ground-handling market at community airports.

¹⁷⁹ The detailed regimes are the following for Geneva: public ownership, concession by DETEC; Zurich: public ownership, concession by DETEC, Basel: public ownership, status legally based on bilateral agreement with France, Bern; private ownership, concession by DETEC, Sion: public ownership, concession by DETEC; Lugano: public ownership, concession by DETEC; and Altenrhein: private ownership, not concessioned, legal status as airfield.

¹⁸⁰ Regulation (EC) No 1008/2008 of the European Parliament and of the Council of 24 September 2008 on common rules for the operation of air services in the community (recast).

Partner	Date	Entry into force	5th ^a	7th ^b	Cabotage ^c	Coop ^d	Designation ^e	Withholding ^f	Pricing ^g	Capacity ^h	Stat ⁱ	ALI
Philippines	20/11/2018	15/06/21	Y	N	N	Y	M	PPoB	DD	O	No	34
Senegal	11/02/2021		N	N	N	Y	M	COI	DD	PD	No	18
Seychelles	13/12/2018		Y	N	N	Y	M	PPoB	DD	FD	No	36
United Arab Emirates	07/12/2017		Y	N	N	Y	M	PPoB	DD	FD	No	36
United Kingdom	17/12/2018	01/01/21	Y	Y	N	Y	M	COI	FD	FD	No	38
Viet Nam	03/04/2018		Y	N	N	Y	M	PPoB	DD	FD	No	36

.. Not available.

a Fifth freedom: "Y" granted, "N" not granted.

b Seventh freedom: "Y" granted, "N" not granted.

c Cabotage: "Y" granted, "N" not granted.

d Cooperation clause (e.g. allowance of code share): "Y" present, "N" absent.

e Designation: "S" single, "M" multiple.

f Withholding: "PPoB" principal place of business, "SOEC" substantial ownership and effective control, "COI" community of interest.

g Pricing: "DD" dual disapproval, "FD" free determination, "DA" double approval, "COO" country of origin, "ZP" zone pricing.

h Capacity clause: "PD" Pre-Determination, "B1" Bermuda I, "FD" Free determination, "O" other, "n/a" not available.

i A "no" indicates that an exchange of statistics is not foreseen by the agreement.

Source: Information provided by the authorities.

4.4.3.2 Liechtenstein

4.298. The Office of Economic Affairs is responsible for regulating the transport subsector and applies the relevant EEA Law.¹⁸¹

4.4.3.2.1 Road freight and passenger transport services

4.299. Liechtenstein does not have any highways but has 108 km of main roads and 253 km of side roads. International road transport services for goods and passengers are supplied by private companies.

4.300. Liechtenstein applies the Swiss Heavy Vehicle Fee. Road freight and passenger transport carriers require a permit issued by the Office of Economic Affairs. Specific criteria must be met on, *inter alia*, reliability, financial standing, qualification, and business establishment. In addition, carriers need a special licence issued by the Office of Economic Affairs for international transport in the EEA. Liechtenstein is included in most bilateral transport agreements concluded by Switzerland. The agreements normally contain a "Liechtenstein clause" extending the provisions to Liechtenstein.

4.301. Public transport throughout the country is offered by the government-owned Liechtensteinmobil, which receives subsidies for its services. Besides the planning, organization, and marketing of public transport by bus, the mandate of Liechtensteinmobil includes responsibilities for local cross-border passenger transport by train. Liechtensteinmobil has the competence to conclude contracts with service providers in these different fields and to enter into cooperation agreements with transport networks from neighbouring regions.

4.4.3.2.2 Rail transport services

4.302. Liechtenstein has a network of 9 km of railways. It has no rail company; the railway track is owned and operated by Austrian Federal Railways.

¹⁸¹ See Annex XIII to the EEA Agreement.

4.4.3.2.3 Air transport services

4.303. Liechtenstein does not have an airport, but has a privately owned heliport. It applies the EEA rules on civil aviation, which entered into force in 2003. Under an agreement concluded in 1950, the Swiss regulations on civil aviation also apply to Liechtenstein; this agreement was amended in 2003 to avoid conflict with EEA rules. Liechtenstein became a member of the European Aviation Safety Agency in June 2006.

Table A2.2 Work and residence permits: rules and procedures for EU/EFTA citizens, January 2022

Rules for EU/EFTA citizens	Rules for citizens of non-EU/EFTA countries
Short-term resident permit	
Permit L-EU/EFTA	Permit L
<ul style="list-style-type: none"> - Entitlement as long as proof is provided of employment in Switzerland lasting between 3 months and 1 year (for employment of less than 3 months in 1 calendar year: registration only) - Period of validity depends on employment contract - Family reunification possible 	<ul style="list-style-type: none"> - Only qualified workers such as managers, specialists, and other qualified persons are admitted - Priority for Swiss workers, inspection of remuneration and working conditions - Up to 12 months, can be extended up to 24 months - Family reunification possible - Annual quota of 4,000 permits - Trainees/interns possible, but no provision for family reunification
Cross-border commuter	
Permit G-EU/EFTA	Permit G
<ul style="list-style-type: none"> - Unrestricted geographical mobility - Holder must return to main residence in an EU/EFTA country every week - Self-employment possible - Period of validity depends on employment contract, but 5 years maximum, with possibility of extension 	<ul style="list-style-type: none"> - Valid for 12 months for border zone of canton in which permit issued; annual renewal required - Applicant has been resident for at least 6 months with permanent residence permit in border zone of a neighbouring country - Weekly return to place of residence - Change of job or place of work possible with permission
Residence permit	
Permit G-EU/EFTA	Permit G
<ul style="list-style-type: none"> - Unrestricted geographical mobility - Holder must return to main residence in an EU/EFTA country every week - Self-employment possible - Period of validity depends on employment contract, but 5 years maximum, with possibility of extension 	<ul style="list-style-type: none"> - Valid for 12 months for border zone of canton in which permit issued; annual renewal required - Applicant has been resident for at least 6 months with permanent residence permit in border zone of a neighbouring country - Weekly return to place of residence - Change of job or place of work possible with permission
Permanent residence permit	
Permit C-EU/EFTA	Permit C
<ul style="list-style-type: none"> - Normally issued on the basis of permanent residence agreements or agreements based on reciprocal rights once a person has resided in Switzerland for 5 years - Holders have the same rights as Swiss workers on the labour market 	<ul style="list-style-type: none"> - Can usually be applied for after 10 years uninterrupted residence in Switzerland - Holders are no longer subject to employment restrictions

Source: Information provided by the authorities.