



GOVERNMENT  
OF THE PRINCIPALITY OF LIECHTENSTEIN



# Economic and financial data on Liechtenstein

Data as of: 30 May 2019

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## Introduction <sup>1</sup>

This information brochure contains an overview of relevant data and facts on the Liechtenstein economy and public finances. The brochure allows interested parties to gain a quick overview of the current status and economic development of the country. Most of the data are amenable to international comparison and are derived mainly from publications of the Liechtenstein Office of Statistics (OSL), the Financial Market Authority (FMA) Liechtenstein, the Swiss Federal Statistical Office (FSO), Eurostat, and in part also from estimates by the Liechtenstein Institute.

## 300 years of the Principality of Liechtenstein

In 2019, the Principality of Liechtenstein is celebrating the 300th anniversary of its existence within unchanged national borders. After several changes of rulers between the 12th and 17th centuries, Prince Johann Adam, head of the Princely House of Liechtenstein, acquired the sovereign rights over the Domain of Schellenberg (1699) and the County of Vaduz (1712). On 23 January 1719, the two domains were elevated to the status of Imperial Principality of Liechtenstein by Emperor Charles VI. Sovereignty was gained by admission to the Confederation of the Rhine in 1806.

The end of the First World War and the concomitant upheavals of traditional systems of rule paved the way in Liechtenstein for a new Constitution, which was adopted in 1921 and is still in force today. At the same time, Liechtenstein separated from Austria and turned to Switzerland, with which a Customs Treaty was concluded in 1923. Moreover, it was during this time when the Swiss Franc was introduced as Liechtenstein's currency. Economically, this step had a very positive effect, although the actual upswing in Liechtenstein began only after the Second World War. In addition to the Customs Treaty, cooperation with Switzerland today also includes numerous other treaties such as the Currency Treaty and agreements in areas such as education, intellectual property, agriculture, road transport, and indirect taxes and duties.

## Political stability

The 1921 Constitution is considered a mixed constitution, combining the monarchic and the democratic principles. Article 2 of the Liechtenstein Constitution is emblematic in this regard, defining the Principality as "a constitutional, hereditary monarchy on a democratic and parliamentary basis," in which the power of the State is "embodied in the Reigning Prince and the People".

The Reigning Prince is the Head of State of the Principality of Liechtenstein. As Head of State, he represents the country to the outside world. The entry into force of any law requires the sanction of the Reigning Prince. Further powers of the Reigning Prince are the appointment of the Government (on the proposal of the Liechtenstein Parliament) and substantial participation in the appointment of judges. The Liechtenstein Parliament is elected every four years by proportional representation. This unicameral parliament consists of 25 Members of Parliament. The powers of Parliament correspond to those of most parliaments in Western democracies. Parliament adopts laws, international agreements and treaties, takes important financial decisions including the budget, is responsible for oversight of the Government and the National Administration, and approves the annual reports of State

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<sup>1</sup> Parts of the text draw on Marxer and Pállinger (2009), with the kind permission of the authors.

institutions. The Liechtenstein Government is composed of five Ministers. It acts as a collegial body and is responsible to both the Reigning Prince and Parliament.

Liechtenstein's political stability is based on a balanced distribution of powers, which puts a high degree of pressure on politics to compromise. Direct democracy plays a key role in Liechtenstein. Direct-democratic rights are comparable to those in Switzerland, such as the optional referendum and the popular initiative, with regard to both constitutional amendments and legislation. Another element of the culture of consensus in Liechtenstein politics is the generally extensive consultation process, in which municipalities, associations, and interest organisations can express their opinions on a legislative proposal.

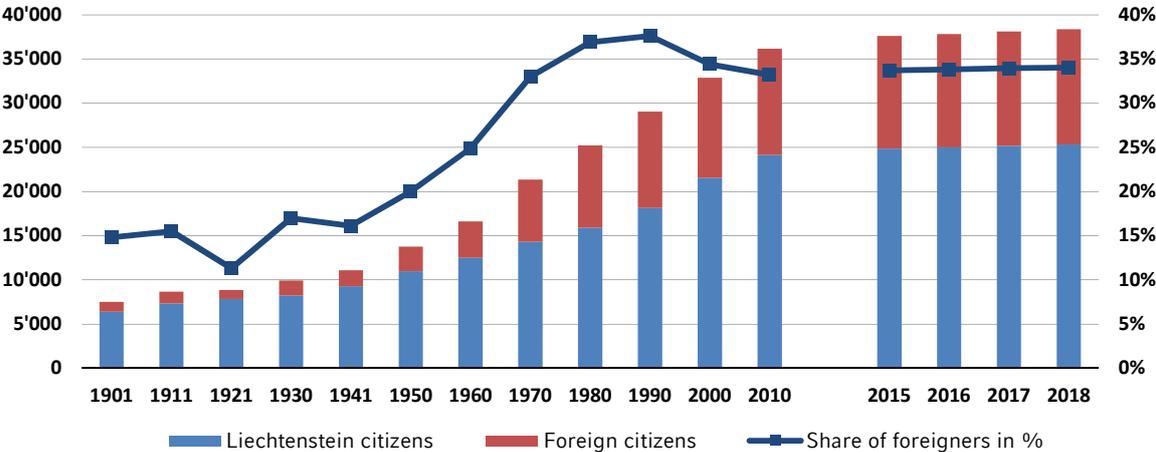
### International relations

Liechtenstein pursues an active foreign policy, which is reflected above all in the close relations with its neighbouring countries of Switzerland and Austria and its membership in numerous international organisations. Milestones in the recognition of Liechtenstein as an independent member of the international community were its accession to the Council of Europe in 1978, its accession to the UN in 1990, its admission to the European Free Trade Association (EFTA) in 1991, and its accession to the WTO in 1995. Liechtenstein has been a member of the European Economic Area (EEA) since 1995 and an associate member of Schengen-Dublin since 2011.

Unhindered access to the European internal market via the EEA Agreement constitutes a locational advantage and an essential factor for the sustainable security and stability of the Liechtenstein economy. EEA membership has opened up new business opportunities, leading to further diversification of the Liechtenstein economy. At the same time, the Customs and Currency Treaties guarantee market access to Switzerland. Politically, Liechtenstein's EEA membership has helped to secure its sovereignty and at the same time position itself as a reliable partner in Europe. The overall outcome of Liechtenstein's EEA membership is therefore very positive, which is underlined by very high levels of approval for EEA membership among businesses, the population, and policymakers.

### Population of Liechtenstein

In 2018, the permanent population in the 11 municipalities of Liechtenstein increased by 266 persons or 0.7%, reaching 38'380. Liechtenstein thus has a population density of about 240 inhabitants per km<sup>2</sup>.



Data source: OSL (Liechtenstein in Figures).

The share of foreigners was 34.0% at the end of 2018. The majority of foreigners residing in Liechtenstein come from Switzerland (28.1% of foreigners), followed by Austria (17.3%) and Germany (12.7%). Other countries with an above-average number of Liechtenstein residents are Italy (9.1%), Portugal (5.4%), and Turkey (4.3%). 67.8% of Liechtenstein's population in 2017 is between 15 and 64 years of age, compared to 14.7% age 0 to 14 and 17.5% age 65 or more. Liechtenstein's age structure is thus similar to the EU average reported by Eurostat (age 0-14: 15.6%; age 15-64: 64.9%; age 65 or more: 19.4%). However, between 2007 and 2017, in none of the EU/EFTA states has the proportion of inhabitants aged 65 or more increased as rapidly as in Liechtenstein.

## Location of Liechtenstein

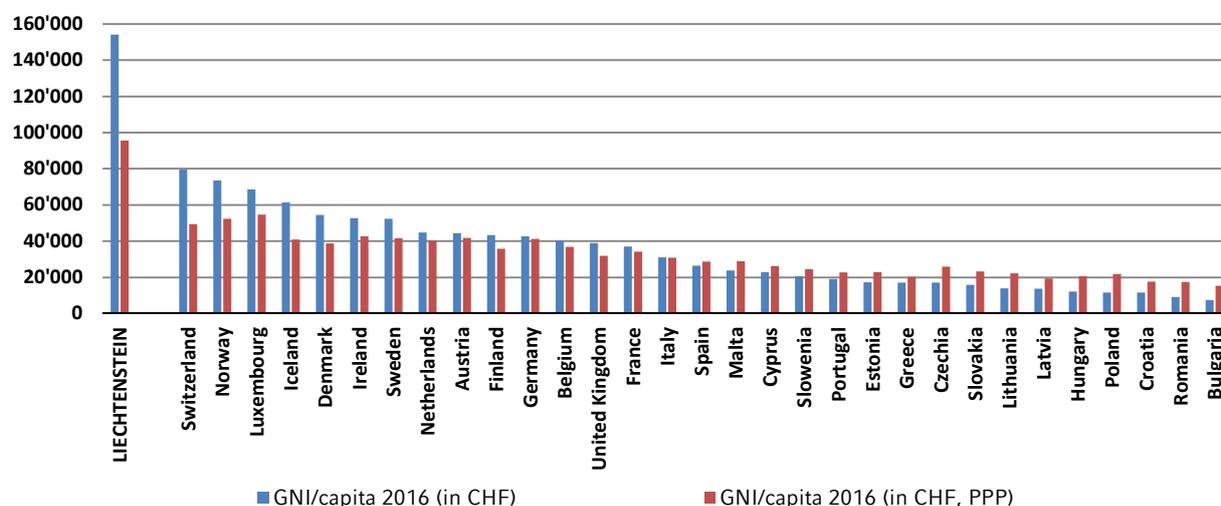
Liechtenstein's territory today covers an area of 160 km<sup>2</sup>, making it the fourth smallest state in Europe. The settlement area amounts to 11%, while 42% of the national territory is considered forest area, 33% agricultural area, and 15% unproductive area. In the west and south, the national border runs 41 km along the Swiss cantons of St. Gallen and Graubünden. In the north and east, Liechtenstein shares a 37 km border with the Austrian state of Vorarlberg.



Source: OSL (Liechtenstein in Figures).

# Liechtenstein national economy

## Gross national income per capita



Gross national income (GNI, formerly referred to as gross national product) is a measure of the income of persons resident in the country (resident principle), generated by work or assets at home and abroad. GDP can be used as a starting point to calculate GNI by adding labour and capital income transferred from abroad and subtracting labour and capital income transferred abroad.

Data source: calculation of GNI per capita (Liechtenstein Institute) based on OSL (Liechtenstein National Accounts), Eurostat, Statistics Iceland, UN National Accounts Main Aggregates Database. Calculation of GNI adjusted for purchasing power (Liechtenstein Institute) based on Eurostat purchasing power standards.

By a considerable margin, Liechtenstein's inhabitants have the highest level of prosperity in Europe in terms of gross national income per capita (income from work and assets of private households, companies, and the public sector) at nearly CHF 154'000 in 2016. This is also true when the high price level in Liechtenstein is taken into account by adjusting for purchasing power.

## Population, employment, GDP/capita, productivity

2017	Liechtenstein	Switzerland	Austria	Germany	Luxembourg
Gross domestic product (CHF billion)	6.4	669	411	3'638	61
Population (31 Dec)	38'111	8'484'130	8'822'267	82'792'351	602'005
Employees (annual average)	38'057	5'008'417	4'260'500	44'269'000	432'700
Full-time equivalents (annual average)	32'607	3'981'998			
GDP/capita (population)	166'776	78'803	46'540	43'939	101'963
Productivity (GDP/employees)	167'013	133'490	96'371	82'176	141'859
Productivity (GDP/FTE)	194'927	167'899			

GDP is a measure of the income of persons resident in Liechtenstein and abroad, generated by work or assets in Liechtenstein (domestic principle), i.e. for domestic production whose value added is generated and accrued by persons resident in Liechtenstein and/or abroad.

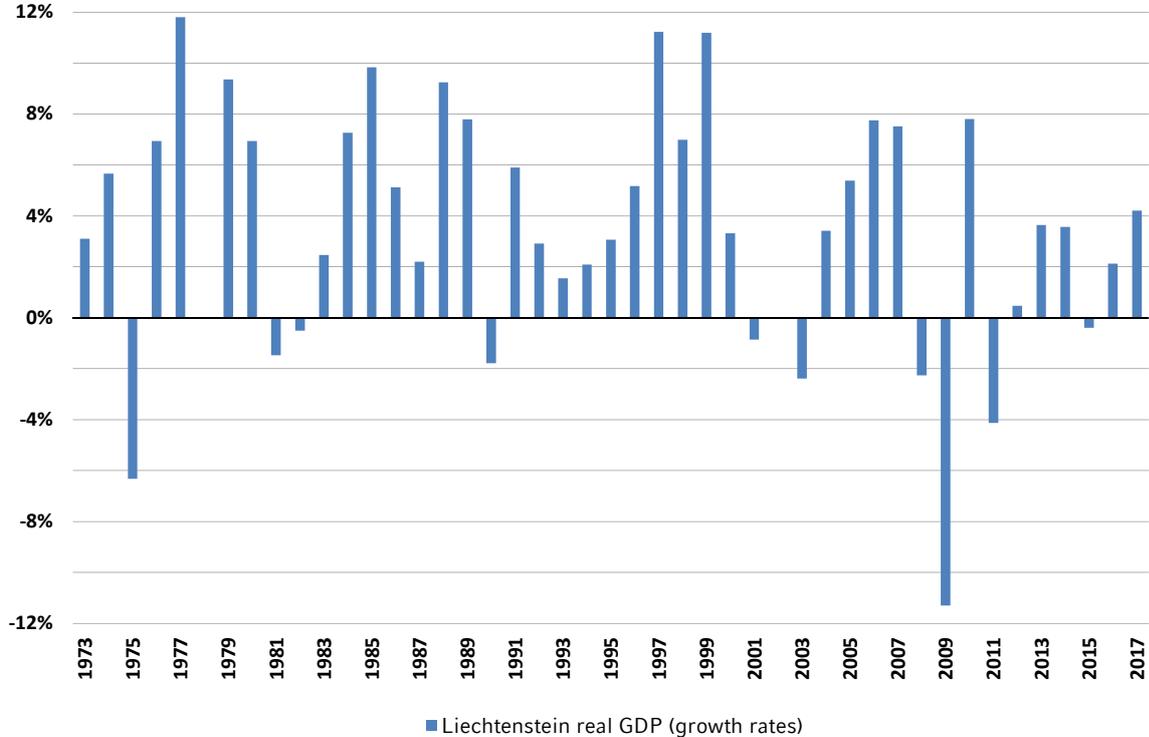
Data source for GDP, population, employment, exchange rates: OSL (GDP Estimate, Statistical Yearbook), FSO (National Accounts, Employment and Job Statistics), SNB, Statistik Austria, Destatis, STATEC, Eurostat.

See Brunhart (2015), Von Stokar et al. (2016), and Kellermann and Schlag (2016) on Liechtenstein's productivity development.

Liechtenstein's national economy is the fifth smallest of all European countries. Compared with Switzerland, Austria, Germany, and Luxembourg, it has the highest productivity (gross domestic product in relation to employees). However, Liechtenstein's productivity has not developed very dynamically

since the turn of the millennium: Since then, GDP growth has been mainly attributable to job creation and not to productivity increases.

### GDP growth rate (adjusted for inflation) since 1972

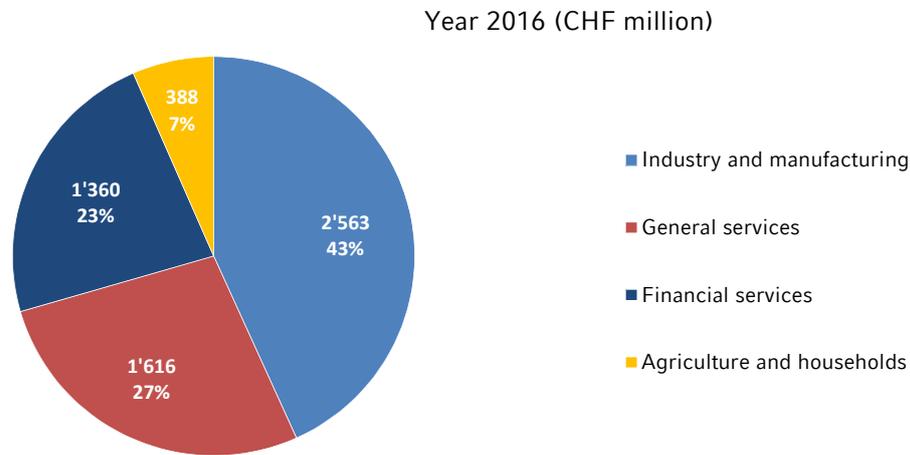


Data sources for GDP: Approximate structural break adjustment from ESA 1995 to ESA 2010 (Liechtenstein Institute) based on OSL (Statistical Yearbook) and Brunhart (2013), price adjustment of GDP (Liechtenstein Institute) based on GDP deflator for Switzerland (FSO).  
 Data source for GNI: Approximate structural break adjustment from ESA 1995 to ESA 2010 (Liechtenstein Institute) based on OSL (Statistical Yearbook), price adjustment of GNI (Liechtenstein Institute) based on Swiss CPI (FSO).  
 See Brunhart (2015) and Von Stokar et al. (2016) on the divergent development of GDP/GNI.

Liechtenstein's price-adjusted GDP growth in 2017 was 4.2% (2016: 2.1%). Compared with real GDP in 1972, Liechtenstein's economic output roughly quadrupled by 2017. In Austria, Germany, and Switzerland it slightly more than doubled in the same period. The average price-adjusted Liechtenstein GDP growth rate for that period was a very high 3.5%. Liechtenstein's economy has largely overcome the recent economic downturn and is recovering across the board from the financial crisis, the subsequent low international demand, the reforms in the financial centre, and the various appreciation shocks of the Swiss franc. After sharp declines following the financial crisis in 2007, price-adjusted GDP in 2017 has exceeded the level from before the financial crisis for the first time since. Since the turn of the millennium, it has been observed that gross domestic product (domestic value added) and gross national income (income of Liechtenstein residents) are diverging. The trend in price-adjusted GNI has tended to stagnate since then, however, the strong increase in 2016 (+17.8% compared to 2015) has led to a surplus compared to the level of 2007 (GNI per capita has also reached the record level of 2000 again). In Liechtenstein, GNI tends to be smaller than GDP because the high share of cross-border commuters in total employment tends to entail that a large proportion of labour income generated in Liechtenstein flows abroad, more than compensating for the usual surplus of net cross-border capital income. While between 1998 and 2000, GNI and GDP in Liechtenstein were still about the same, i.e. the two effects just described were still more or less balanced,

GNI then grew more slowly than GDP on average, mainly due to the continued strong growth in the number of cross-border commuters.

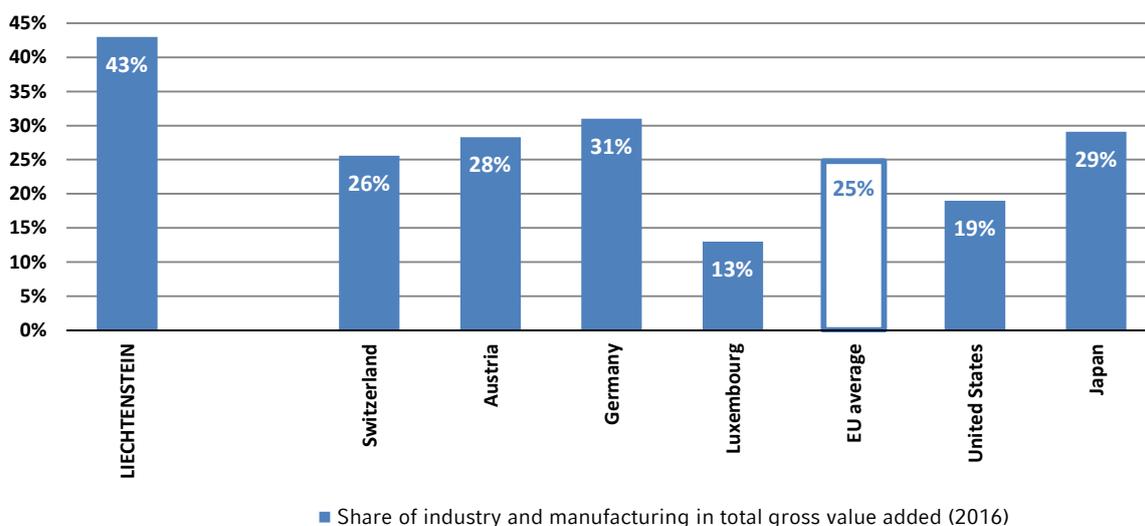
## Gross value added by economic sector



Data source: OSL (National Accounts).

With CHF 2.6 billion in gross value added, the economic sector of industry and manufacturing had the highest share of Liechtenstein GDP in 2016, followed by general services (CHF 1.6 billion) and financial services (CHF 1.4 billion). In the economic sector of private households and agriculture, private rental income plays a very important role in terms of value added. The value-added share of general services has risen continuously since 1998 from 23% to 27% today. The sectoral share of industry and manufacturing in 2016 exceeded the long-term average of slightly more than 40%, the sector recovered from the shock of the discontinuation of the SNB minimum CHF/EUR exchange rate target. The value-added share of the financial services sector was about 25% between 2010 and 2016; while in some years (1999, 2007, and 2008) it even exceeded 30%, it is still very high by international standards at 23% (2016). Productivity, i.e. gross value added in relation to full-time equivalent employment, amounted to CHF 264'000 for financial services, CHF 130'000 for general services, and CHF 189'000 for industry and manufacturing in 2016.

## Share of gross value added, industry and manufacturing



Data source: OSL (National Accounts), Eurostat.

Despite the important financial services sector, the value-added share of Liechtenstein's industry (including manufacturing), at 43%, is extraordinarily high by international standards in 2016 and is, for example, significantly higher than in Switzerland, Austria, Germany, Luxembourg, the EU average (25%), the United States, and Japan. According to figures from the National Accounts Main Aggregates Database of the UNO, the industrial share (production of goods, construction, mining) in the overall economic value added in 2016 in Liechtenstein was the largest among all highly developed countries in the world (if states with a very high proportion of oil and mining, such as Qatar or Kuwait, are not considered).

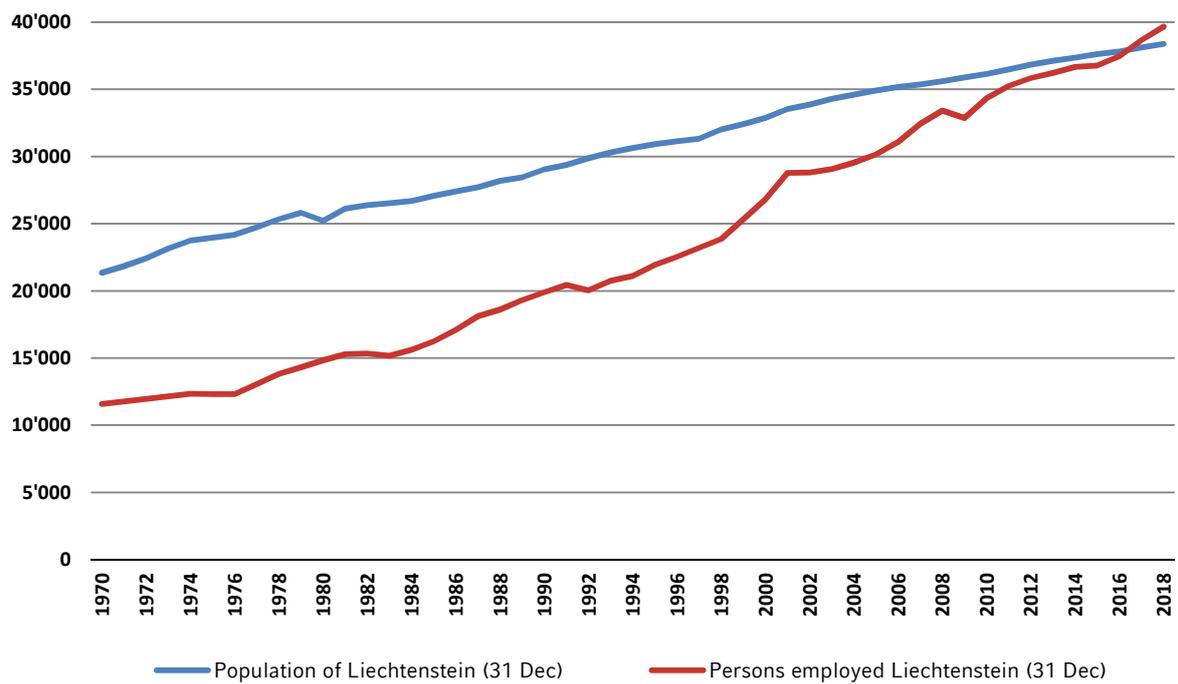
## Enterprise and workplace structure

Enterprises and workplaces by company size (2017)	1 to 9 workplaces		10 to 49 workplaces		50 to 249 workplaces		250+ workplaces	
	Enterprises	Workplaces	Enterprises	Workplaces	Enterprises	Workplaces	Enterprises	Workplaces
Agriculture	92	197	3	44	0	0	0	0
Industry/manufacturing	453	1'270	119	2'558	24	2'658	8	8'273
General services	3'026	6'305	217	4'275	60	5'310	5	2'495
Financial services	583	1'641	104	2'000	12	1'023	4	1'975

Data source: OSL (Employment Statistics)

At the end of 2017, the 17 largest companies in Liechtenstein employed 12'743 people (approx. 32% of the total workforce). However, Liechtenstein's national economy is also heavily shaped by small and medium-sized enterprises: About 88% of the 4'710 enterprises in Liechtenstein have fewer than ten employees (98% have fewer than 50). The number of companies in Liechtenstein is therefore very large compared to the population: There is one company for every eight inhabitants. The figure is about 14 in Switzerland and about 24 in Germany. The number of enterprises in Liechtenstein has more than doubled in the last 20 years.

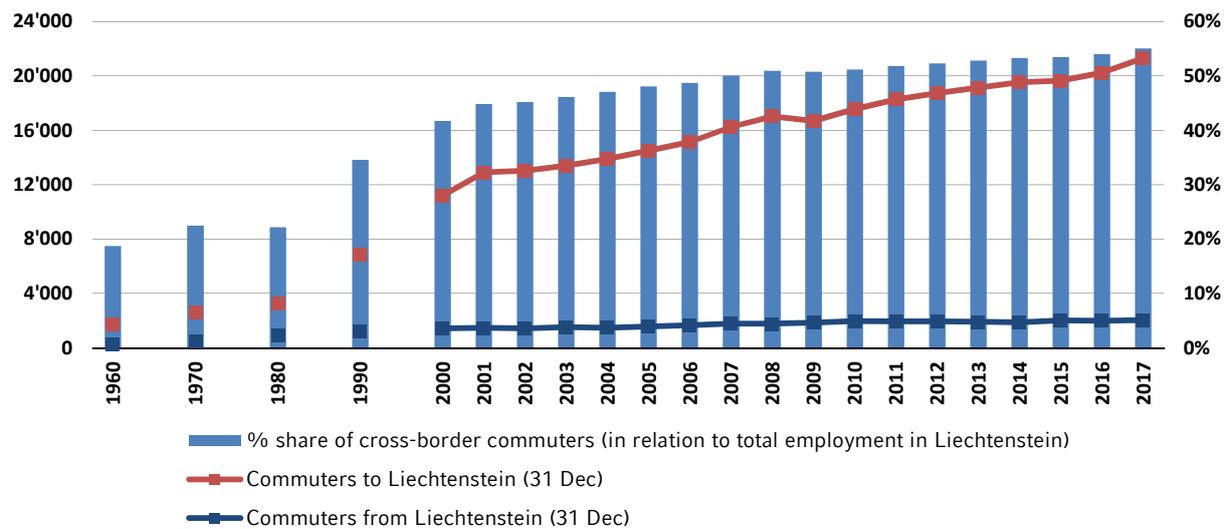
## Population and employment since 1970



Data source: OSL (Statistical Yearbook), approximation of employment between 1971–1979 (Liechtenstein Institute).

The population of Liechtenstein almost doubled between 1970 and 2018 to 38'380. Over the same period, the number of persons employed in Liechtenstein more than tripled to 39'660, i.e. there are now about as many employees as there are inhabitants, compared to only about half as many employees as inhabitants in 1970. In 2017 for the first time there were more employees than inhabitants, the ratio in 2018 was 103.3%. In comparison, this ratio in 2017 was 59.0% in Switzerland, 48.3% in Austria, 53.5% in Germany, and 71.9% in Luxembourg. Employment has tended to increase even during the years of the financial, euro, and debt crises as well as during the strong Swiss franc, and it was almost unaffected by the sharp drops in GDP in certain years. This is less due to the labour force participation of domestic residents, but rather primarily due to the sharp increase in cross-border commuters to Liechtenstein: The labour force participation rate in 2016 was 73.5% in Liechtenstein, 83.9% in Switzerland (for the labour force aged 15 to 64), the EU-average was 71.1% (for the labour force aged 20 to 64).

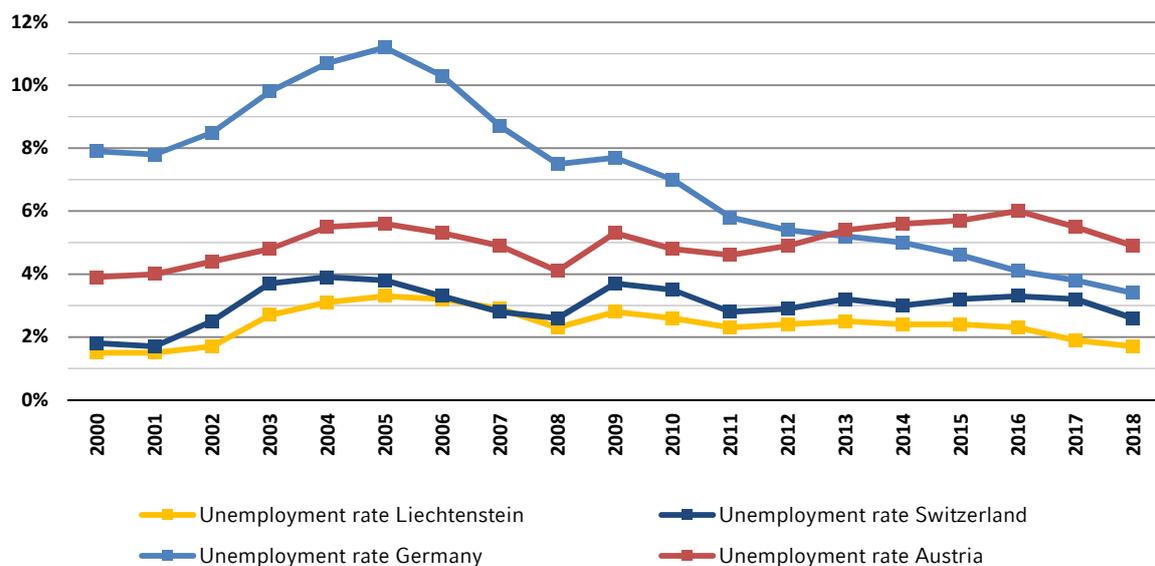
## Cross-border commuters to and from Liechtenstein since 1960



Data source: OSL (Employment Statistics), approximate structural break adjustment for cross-border commuters from Liechtenstein before 2011 (Liechtenstein Institute).

While the number of cross-border commuters from Liechtenstein is rising only slowly, the number of cross-border commuters to Liechtenstein has veritably exploded from 6'885 in 1990 and 11'192 in 2000 to 21'299 in 2017 (2016: 20'239). The share of commuters to Liechtenstein has also increased in relation to total employment in Liechtenstein, both in industry and in services. In 2017, 55% of cross-border commuters to Liechtenstein came from Switzerland and 41% from Austria. EEA nationals living in Switzerland and commuting to Liechtenstein have increased disproportionately over the last 16 years, mainly due to the introduction of the free movement of persons under bilateral agreements between Switzerland and the EU.

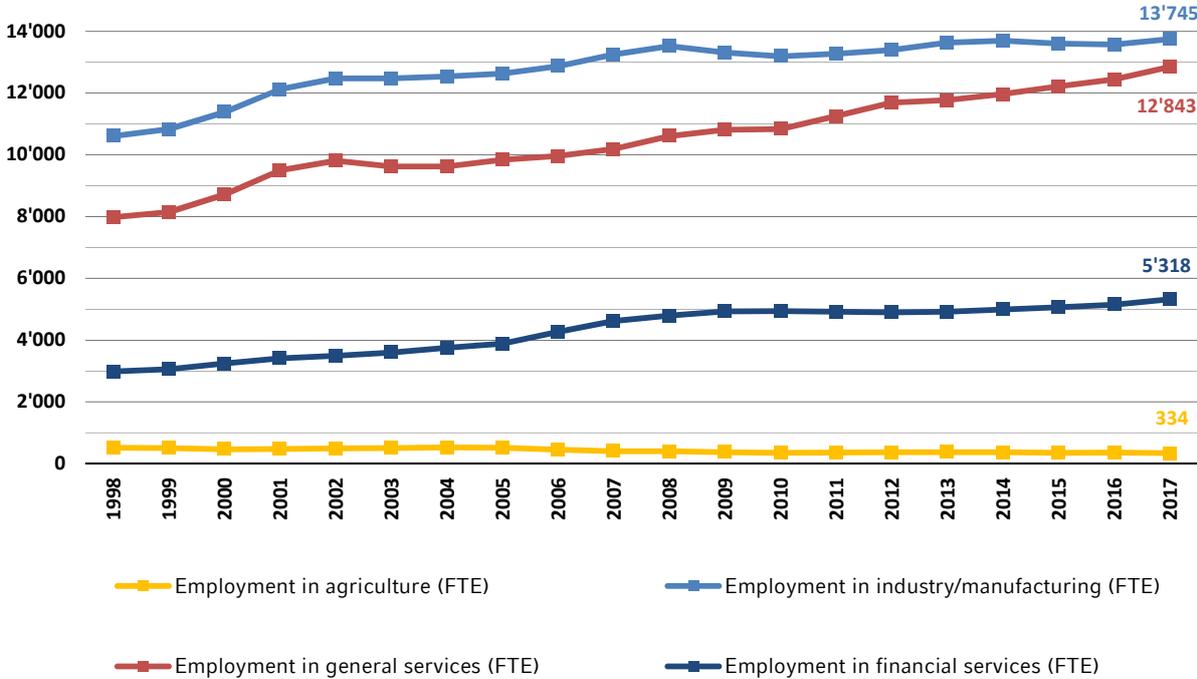
## Unemployment rate since 2000 (annual averages)



Data source: OSL, FSO, SECO, Statistik Austria, Destatis, approximate estimate of Liechtenstein unemployment rate before 2006 (Liechtenstein Institute).

Unemployment in Liechtenstein is traditionally low, has been declining again for the last ten years, and was clearly the lowest in Europe at 1.7% in 2018 (Iceland 2.7%, Austria 4.9%, Germany 3.4%, Switzerland 2.6%, EU average 6.8%). Youth unemployment in Liechtenstein is also very low at 2.6% in 2016 (Switzerland 3.4%, Austria 11.2%).

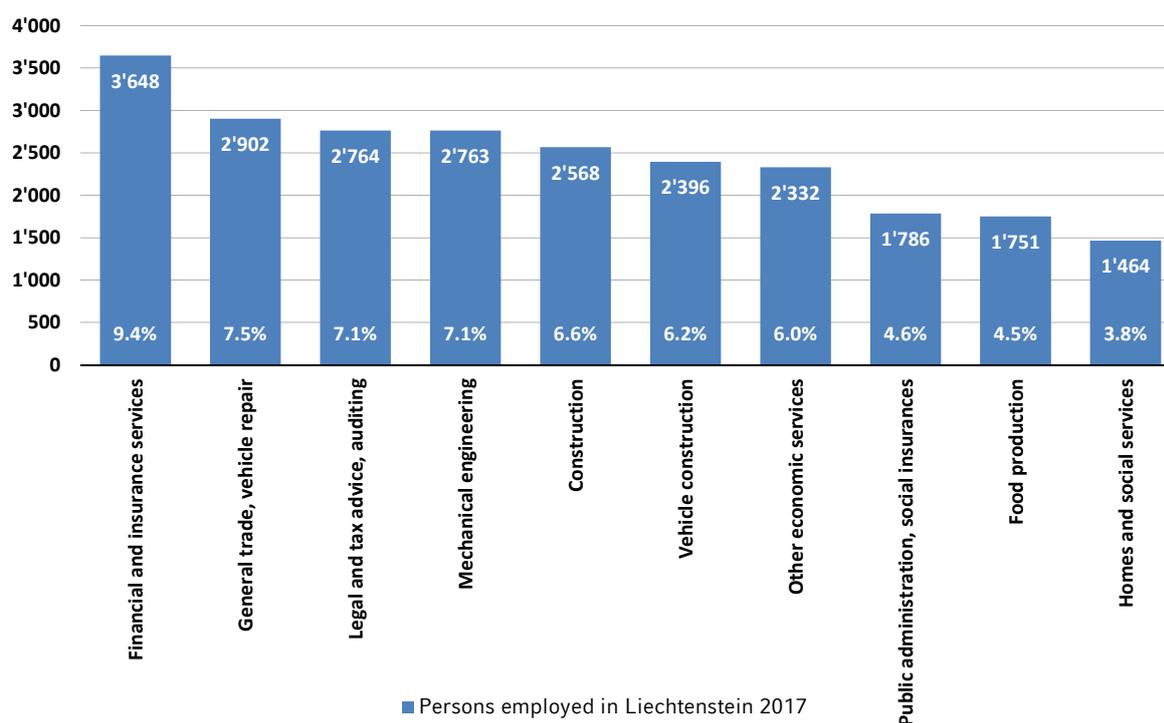
### Employment (full-time equivalents, annual averages) by economic sector



Data source: OSL (National Accounts, Employment Statistics), approximate adjustment for structural breaks (Liechtenstein Institute).

In contrast to most developed countries, no "tertiarisation" has been observed in Liechtenstein so far: Although the share of employment in the industrial and manufacturing sector tends to decline, it was still very high at an annual average of 43% in 2017, followed by general services at 40%, financial services at 16%, and agriculture at 1%. In absolute terms, employment in the industrial sector is still rising (annual average of 13'745 full-time equivalents in 2017). Employment momentum in the financial services sector has slowed noticeably since 2009, in contrast to general services.

## Employment in the ten largest industries



Data source: OSL (Employment Statistics).

Employment (number of persons employed part-time and full-time) in Liechtenstein is surprisingly diversified for a (very) small state, across the economic sectors of industry and manufacturing, financial services, and general services. The ten industries with the highest employment are spread across all three of these economic sectors, accounting for 63% of total employment in Liechtenstein in 2017.

## Persons employed by economic sector

Employed persons (2017)	Agriculture	Industry and manufacturing	General services	Financial services
Liechtenstein	0.6%	37.5%	45.3%	16.6%
Switzerland	3.1%	20.9%	69.7%	6.3%
Austria	3.8%	25.0%	71.2%	
Germany	1.4%	24.1%	74.5%	
Luxembourg	0.3%	19.6%	62.7%	17.3%

Data source: OSL (Employment Statistics), FSO (Jobs Statistics, Employment Statistics), STATEC, approximation of the sectoral employment in Switzerland (Liechtenstein Institute).

As with gross value added, the relative importance of the industrial and manufacturing sector in Liechtenstein's employment is also clear when compared internationally. The breakdown within the services sector (general services versus financial services) is also unusual in Liechtenstein, given that a large number of people work in the financial services sub-sector: Specifically, about 16.6% of the total number of persons employed in Liechtenstein in 2017 worked in financial services, while the figure was "only" 6.3% in Switzerland. Luxembourg is also a special case in this respect, with an even higher share of 17.3% working in financial services in 2017.

## Employees of Liechtenstein companies at home and abroad

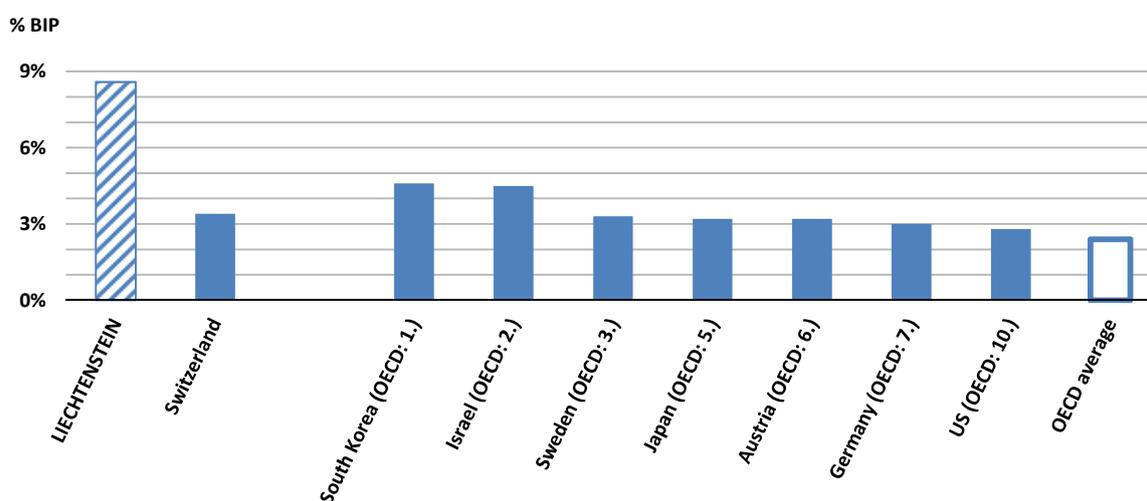
Employment 2018	Liechtenstein	Abroad
LCCI industrial companies (number of employees)	10'411	58'071
Liechtenstein banks (FTE employees)	2'064	3'800

LCCI employment: foreign branches, majority-owned or under management control of LCCI industrial companies.

Data source: LCCI (Statistics Report), FMA (Liechtenstein Financial Market), approximation of employment abroad for banks (Liechtenstein Institute).

Liechtenstein companies create jobs not only in Liechtenstein, but increasingly also abroad: In 2000, Liechtenstein's large industrial companies employed a total of 24'134 people abroad. Compared to the domestic employment of 7'971 at that time, this corresponded to a foreign share of 75%, which rose to 85% by 2018. The number of employees working abroad for LCCI industrial companies increased strongly in recent years to an amount of 58'071 in 2018 (2017: 53'443). In terms of full-time equivalents, the Liechtenstein banks are estimated to have approximately 3'800 employees working abroad (2'064 in Liechtenstein).

## Research and development spending



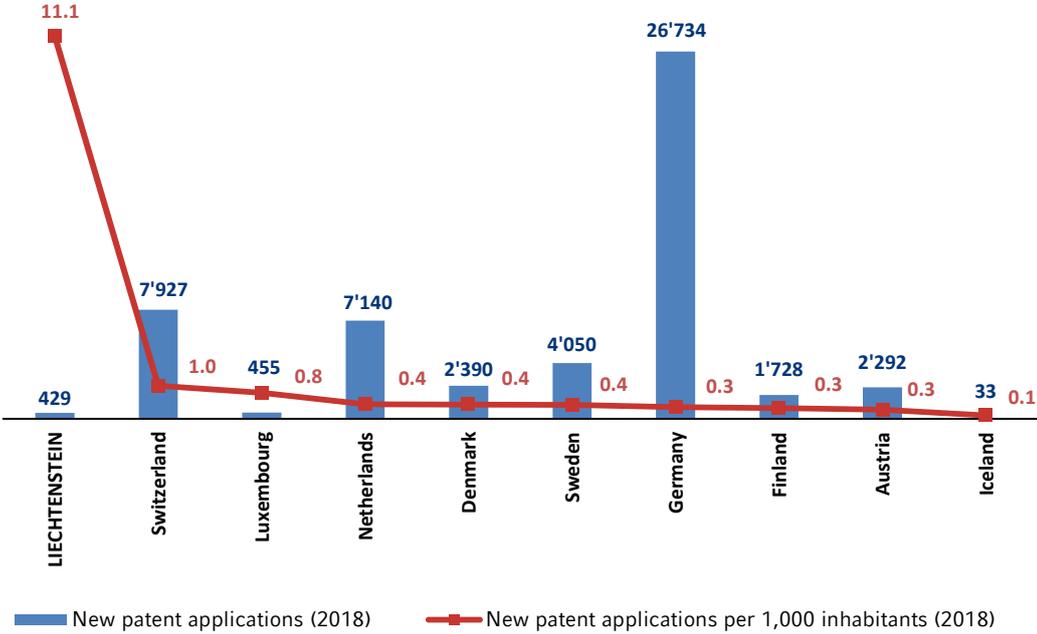
Research and development spending in relation to GDP 2017.

Data source: OECD, LCCI, FSO. Public spending on research and development: Kellermann and Schlag (2012), Prange (2011). GDP: OSL (National Accounts).

In 2017, research and development spending by industrial member companies of the Liechtenstein Chamber of Commerce and Industry (LCCI) amounted to CHF 546 million, corresponding to 8.6% of Liechtenstein GDP. Significantly more than half of this is probably attributable to Liechtenstein, since over 50% of research and development employees of LCCI member companies work in Liechtenstein. Unfortunately, there is no research and development data for all companies in Liechtenstein. However, taking into account the LCCI data (and the domestic share of LCCI employment in research) and the fact that LCCI member companies account for "only" around two-thirds of total industrial employment in Liechtenstein, it can plausibly be concluded that Liechtenstein is ahead of the three OECD countries with the highest share of research spending in relation to GDP 2017 – South Korea (4.6%), Israel (4.5%) and Sweden (3.3%) – and also ahead of Austria (3.2%), Germany (3.0%), Japan (3.2%), the OECD average (2.4%), and Switzerland (3.4%). In Liechtenstein, research and development spending takes place almost exclusively in the private sector (especially industry and manufacturing). According to estimates, public spending on research and development was

around 1% of all research and development spending in 2003 and 2008 (in Switzerland in 2017 around 28%, EU average of 33%).

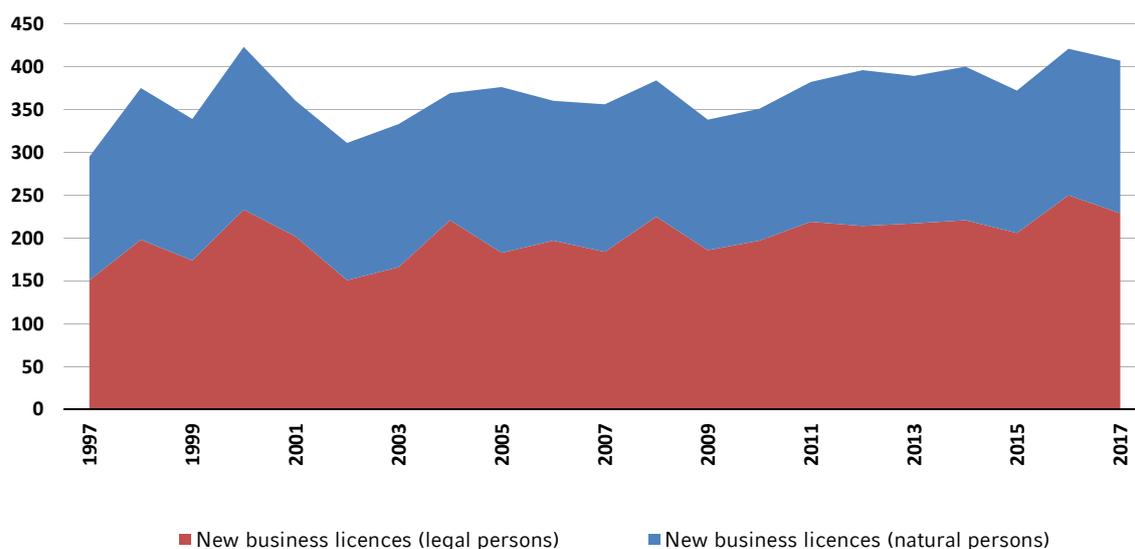
### Patent applications in relation to the population



In cases where several applicants are listed, the country of the former is considered.  
 Data sources: European Patent Office, Census Bureau (International Data Base).

Liechtenstein's economy is extraordinarily innovative. The 429 new patent applications (2017: 380) in 2018 correspond to 11.1 patent applications per 1'000 inhabitants, which is very high in comparison with other countries.

## Business licences since 1997



Newly issued licences in Liechtenstein between 1997 and 2000, new formations starting in 2001.  
Data source: OSL (Statistical Yearbook).

On average, approximately 370 new companies have been established in Liechtenstein since 1997. The trend has been rising for several years, among both natural persons and legal persons. In 2016, 3'400 of the 4'567 companies in Liechtenstein were subject to the Business Act; of these 3'400 business licences, 1'054 were for sole proprietorships.

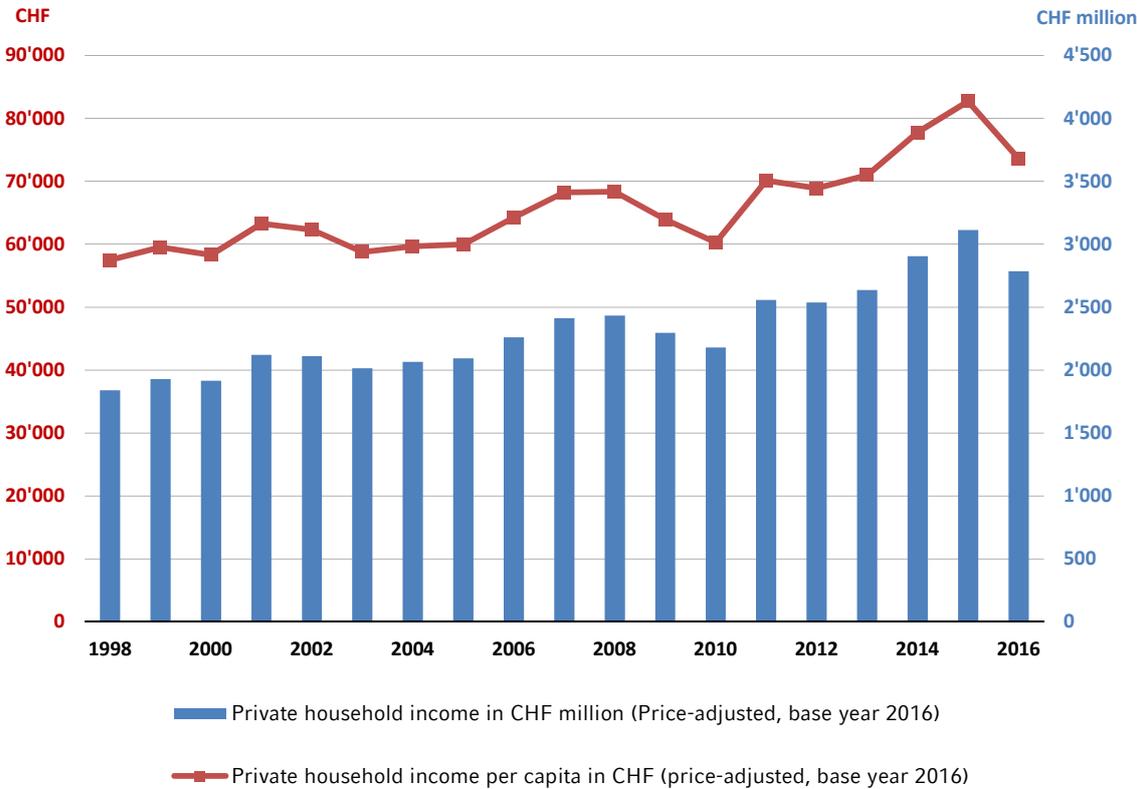
## Prices, interest rates, and exchange rates since 2000

	Inflation rate	Interest rates		Exchange rates		
	Consumer prices (CPI)	Short-term	Long-term	CHF/€	CHF/£	CHF/\$
2000	1.6%	0.5%	3.6%	1.56	2.56	1.69
2001	1.0%	0.4%	3.1%	1.51	2.43	1.69
2002	0.6%	0.3%	2.9%	1.47	2.33	1.56
2003	0.6%	0.1%	2.0%	1.52	2.20	1.35
2004	0.8%	0.1%	2.2%	1.54	2.27	1.24
2005	1.2%	0.1%	1.8%	1.55	2.26	1.25
2006	1.1%	0.1%	2.4%	1.57	2.31	1.25
2007	0.7%	0.2%	2.3%	1.64	2.40	1.20
2008	2.4%	0.4%	2.4%	1.59	2.00	1.08
2009	-0.5%	0.1%	1.7%	1.51	1.70	1.09
2010	0.7%	0.1%	1.8%	1.38	1.61	1.04
2011	0.2%	0.1%	1.6%	1.23	1.42	0.89
2012	-0.7%	0.0%	1.5%	1.21	1.49	0.94
2013	-0.2%	0.0%	1.3%	1.23	1.45	0.93
2014	0.0%	0.0%	1.1%	1.21	1.51	0.92
2015	-1.1%	0.0%	0.4%	1.07	1.47	0.96
2016	-0.4%	0.0%	0.3%	1.09	1.33	0.99
2017	0.5%	0.0%	0.3%	1.11	1.27	0.98
2018	0.9%			1.15	1.31	0.98

Data source: FSO (Swiss Consumer Price Index), OSL (Banking Statistics), SNB. Short-term interest rates: Sight deposits (2000-2016), current account (2017). Long-term interest rates: medium-term notes 7-8 years (2000-2016), medium-term notes 8-10 years (2017).

Pursuant to the Currency Treaty with Switzerland, the Swiss franc is the legal tender in Liechtenstein. The interest rate level is influenced strongly by the common currency area. This also applies to inflation, where common customs duties and jointly levied indirect taxes (e.g. VAT) result in additional alignment of the two countries. Historically by international standards, Liechtenstein has a very low inflation rate and a low interest rate level, both of which have fallen even further since the financial crisis. The Swiss franc has appreciated significantly against the major currencies since the turn of the millennium, especially in the wake of the financial crisis and the discontinuation of the SNB's minimum exchange rate target against the euro at the beginning of 2015. But there have been signs of a slight turnaround against the euro since 2015 (already since 2011 against the US dollar).

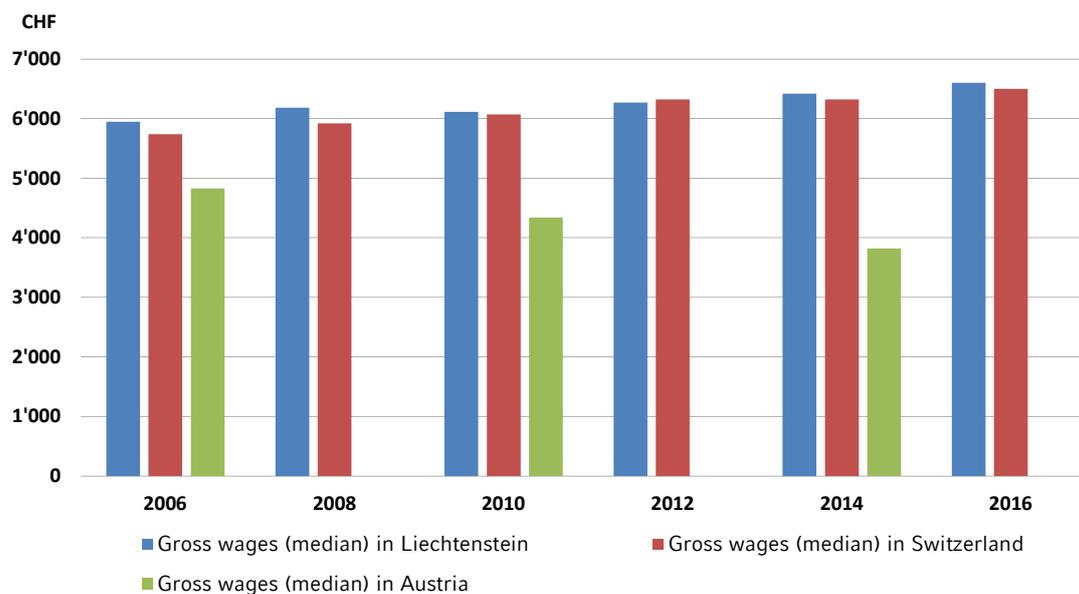
### Private household income since 1998



Private household income consists of compensation of employees, income of unincorporated enterprises and property income of households (national income accounts of Liechtenstein National Accounts).  
 Data source: OSL (National Accounts). Price adjustment (Liechtenstein Institute) based on Swiss Consumer Price Index (FSO).

The income of private households (income from self-employment and employment as well as asset income) can be calculated from the national income accounts of the Liechtenstein National Accounts. After a decline following the financial crisis, income has returned to its original growth path, also in per capita figures. There was another decline in 2016 due to lower asset income of private households.

## Gross monthly wages since 2006 (adjusted for inflation, base year 2016)



Data source: OSL (Wage Statistics, Tax Statistics). Price adjustment (Liechtenstein Institute) based on FSO (Consumer Price Index), Statistik Austria (Consumer Price Index), SNB (exchange rates).

In 2016, the effective gross monthly wage (median) of persons employed in Liechtenstein was CHF 6'603, compared with CHF 6'502 in Switzerland. After 2008, wages in Liechtenstein stagnated for a long time. During that period, Switzerland was able to overtake Liechtenstein in this respect. The strong wage increase since 2010 – price-adjusted wages are meanwhile significantly higher than they were in 2008 – has again caused the median wage in Liechtenstein to exceed the median wage in Switzerland. Both countries are well ahead of Austria. The decline in Austrian wages in Swiss francs is mainly due to the strong appreciation of the Swiss franc against the euro. In 2014, cross-border commuters to Liechtenstein for the first time earned more than the working resident population in Liechtenstein (the difference slightly increased in 2016). In 2016, the median taxed net assets of Liechtenstein residents amounted to CHF 37'137 per capita (average CHF 415'054 per capita) and CHF 103'886 per household (average CHF 806'048 per household).

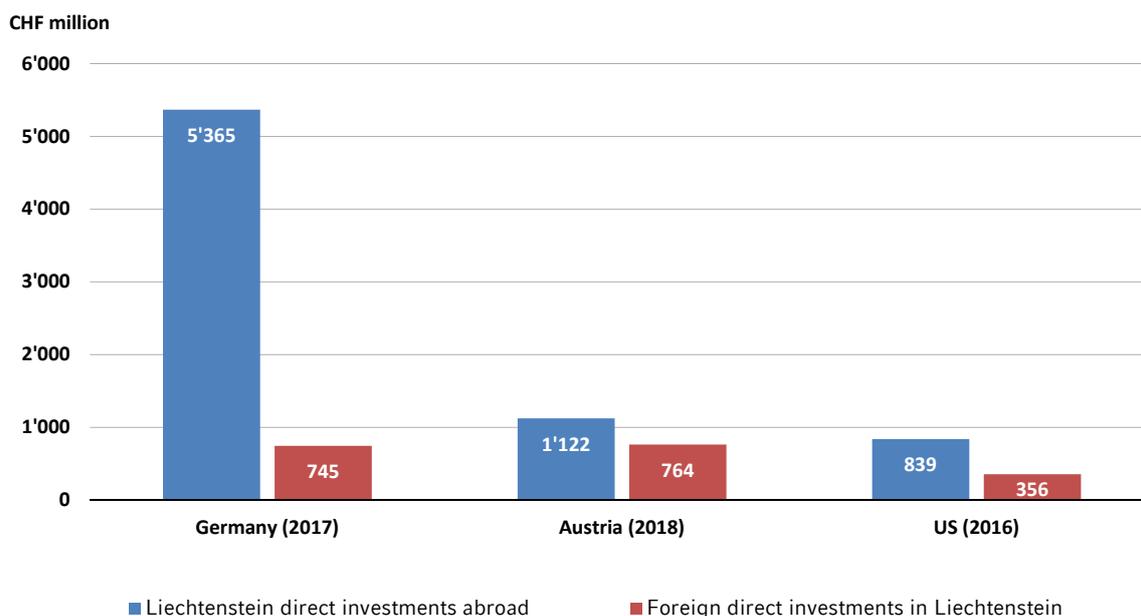
## Average disposable income

Rank	Municipality	Average weighted disposable income	Rank	Municipality	Average weighted disposable income
1.	<b>Triesenberg</b>	61.5%	16.	Herisau AR	48.5%
2.	<b>Schellenberg</b>	59.5%	17.	Chur GR	48.4%
3.	<b>Balzers</b>	59.3%	18.	Frauenfeld TG	48.4%
4.	<b>Schaan</b>	59.1%	19.	Fläsch GR	48.3%
5.	<b>Triesen</b>	58.9%	20.	Buchs SG	47.8%
6.	<b>Mauren</b>	58.8%	21.	Sennwald SG	47.1%
7.	<b>Gamprin</b>	58.7%	22.	Schwyz SZ	47.1%
8.	<b>Vaduz</b>	58.6%	23.	St. Gallen SG	47.0%
9.	<b>Ruggell</b>	58.3%	24.	Sevelen SG	46.8%
10.	<b>Eschen</b>	58.3%	25.	Wartau SG	46.5%
11.	<b>Planken</b>	57.8%	26.	Zug ZG	46.5%
12.	Altdorf UR	51.1%	27.	Geneva GE	45.2%
13.	Glarus GL	50.3%	28.	Zurich ZH	42.9%
14.	Appenzell AI	50.2%	29.	Basel BS	42.5%
15.	Maienfeld GR	48.7%			

Data source: Brunhart and Büchel (2016)

A study of the Liechtenstein Institute commissioned by the Government (Brunhart and Büchel 2016) determined the percentage disposable income of the Liechtenstein population for the base year 2013, comparing the consumption and savings possibilities of households and the financial attractiveness of living in Liechtenstein municipalities. It was determined how market income, i.e. original household income from work and assets, is reduced after taxes and social insurance contributions (in addition, state transfer income is taken into account) and how much of the income remains after urgently needed expenditures for housing, food, and mobility. Weighted by household type as well as income and asset classes, the disposable income in Liechtenstein averages 59% of the generated market income, while that of Swiss municipalities averages 44%. This applies regardless of the household type selected (single, couple, family, pensioner) or the income and asset class. The causes of the higher disposable income in Liechtenstein are primarily the lower tax burden, but also the lower social insurance contributions (and in some cases higher transfer income); this is not compensated by housing costs, which tend to be higher in Liechtenstein.

## Direct investments



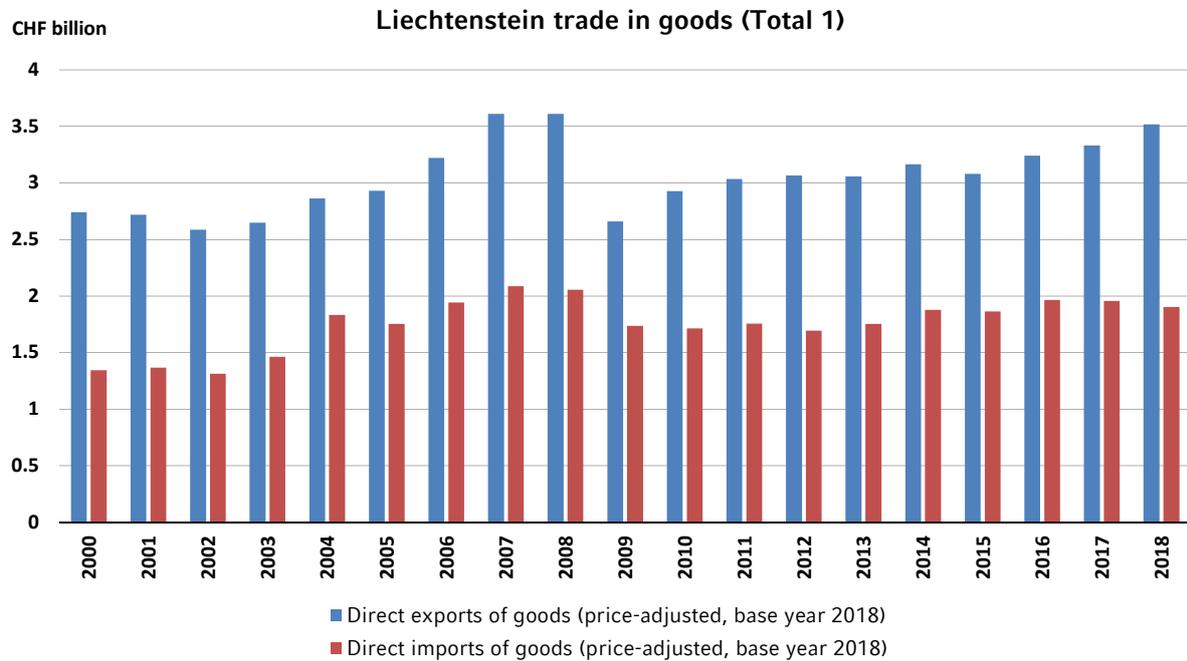
The most important types of foreign assets (also referred to as foreign investments) are direct investments and portfolio investments. While portfolio investments are monetary or financial investments abroad, direct investments represent long-term investments by companies, individuals, or other economic actors abroad which result in holdings in foreign companies or subsidiaries and normally involve corresponding influence/cooperation.

Data source: Central Bank of Germany (inventory of direct investments), Office for National Statistics (Pink Book), Bureau of Economic Analysis, Austrian National Bank.

Liechtenstein has invested more capital abroad than foreign countries have invested in Liechtenstein, which is primarily due to Liechtenstein's decades of trade surpluses. However, it is not possible to provide any precise details, given that Liechtenstein does not have its own balance of payments and the Swiss National Bank does not report Liechtenstein separately. Some foreign central banks do publish the economic exchange with Liechtenstein. For Austria, Germany, the United Kingdom, and the United States, for instance, some important data on foreign assets (households, companies, public sector) and especially direct investments is available. Accordingly, Liechtenstein's direct investments in Germany amounted to CHF 6.0 billion in 2017, in Austria to CHF 1.3 billion in 2018, and in the United States to CHF 0.8 billion in 2017. Conversely, the direct investments of those countries in Liechtenstein are significantly lower. The Bank of England provides figures on its total foreign assets (direct investments, portfolio investments, and other asset investments) with respect to Liechtenstein: In 2017, Liechtenstein's inhabitants and companies had CHF 6.6 billion in foreign assets in the United Kingdom, while the United Kingdom had CHF 0.9 billion in Liechtenstein. In other countries, Liechtenstein's pattern is most likely similar to that in the four countries mentioned above.

# Industry and manufacturing

## Price-adjusted development of exports and imports of goods



Direct exports and imports of goods (Total 1) excluding exports/imports of services and exports/imports between Liechtenstein and Switzerland. While in the case of FCA exports and imports, "Total 2" includes the total of all product groups, "Total 1" takes an economic perspective and thus excludes trade in gold bars, other precious metals, coins, precious and semi-precious stones, as well as works of art and antiques.

Data source: OSL (Foreign Trade Statistics), FCA (IMPEX), price adjustment (Liechtenstein Institute) based on Swiss export price index and import price index (SECO).

Liechtenstein's direct exports and imports of goods (excluding trade in goods with Switzerland) collapsed dramatically in the wake of the financial crisis, after having risen strongly for decades, and they have recovered only gradually since – mainly due to the continued strength of the Swiss franc. Nevertheless, Liechtenstein still has a clear trade surplus in direct exports/imports of goods. In 2018, this figure was a high 81% (Total 2) compared to 68% in 2017, while Switzerland's trade surplus in goods amounted to 11% in 2018. Direct exports of goods (Total 1) in 2018 grew by a price-adjusted 5.6% compared with the previous year (2017: +2.8%), while imports of goods fell by 2.7% in real terms year-on-year (2017: -0.4%).

## Export and foreign trade ratio

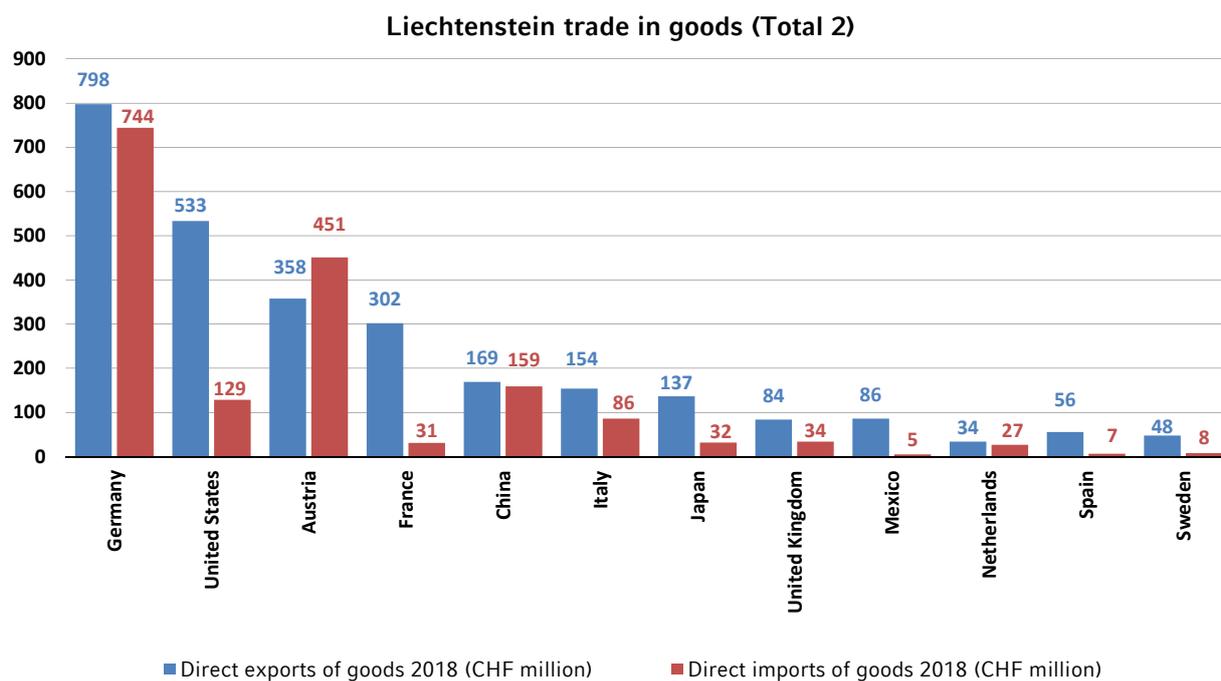
Trade in goods 2018	Liechtenstein	Switzerland	Austria	Germany	Luxembourg	Iceland
Imports of goods (€ billion)	1.8	239.0	155.6	1'029.7	20.2	6.0
Exports of goods (€ billion)	3.1	265.6	148.8	1'281.9	14.0	4.7
GDP (€ billion)	5.7	601.4	369.9	3'277.3	55.3	21.7
Export ratio	53.8%	44.2%	40.2%	39.1%	25.3%	21.7%
Foreign trade ratio	85.3%	83.9%	82.3%	70.5%	61.8%	49.3%

Export ratio: exports of goods/GDP. Foreign trade ratio: (goods exports+imports)/GDP. The Federal Customs Administration provides figures for Liechtenstein's direct trade in goods, but these do not include exports/imports to or from Switzerland. Looking at the foreign trade revenues of LCCI member companies (in 2017, CHF 0.9 billion of CHF 7.2 billion in total foreign trade revenue was attributable to Switzerland), the actual Liechtenstein export ratio is probably over 60%, while the foreign trade ratio is more likely in the region of 100%. For Liechtenstein, there are also no figures for exports and imports of services (as there is no Liechtenstein balance of payments), which is why they have been excluded here for all countries in the comparison.

Data source for goods exports/imports, GDP: FCA, Eurostat.

Due to its small size, high level of economic development, and competitive industry, Liechtenstein has a very high export ratio: Total direct exports of goods from Liechtenstein (without exports to Switzerland, Total 2) in 2018 amounted to approximately CHF 3.657 billion (2017: CHF 3.372 billion); in relation to GDP, they amounted to 54% in 2017. Even without exports to Switzerland, which are not included in the statistics of the Federal Customs Administration, the export ratio is thus significantly higher than that of neighbouring countries. The foreign trade ratio is also very high by international standards. This is due more to goods exports than imports due to the striking foreign trade surplus.

## Direct exports and imports of goods by trading partner



While in the case of FCA exports and imports, "Total 2" includes the total of all product groups, "Total 1" takes an economic perspective and thus excludes trade in gold bars, other precious metals, coins, precious and semi-precious stones, as well as works of art and antiques. Data source for goods exports/imports (Total 2): OSL (Foreign Trade Statistics), FCA (IMPEX). Data source for foreign trade revenues: LCCI (Statistics Report).

As already shown above, Liechtenstein has a high surplus in trade in goods. This is also true for the trade in goods with all of Liechtenstein's most important trading partners, with the exception of Austria. The most important of the 150 trading partners compiled by the Federal Customs Administration in 2018 for Liechtenstein was by far Germany, followed by Austria, the United States, France, and China. The Federal Customs Administration does not provide any figures for trade in goods between Switzerland and Liechtenstein. In terms of foreign sales of LCCI member companies, however, Switzerland ranks third behind Germany and the US. Of the total foreign sales of CHF 7.9 billion, CHF 981 million were attributable to Switzerland (2017: 867 million of CHF 7.2 billion).

## Direct exports and imports of goods by product group

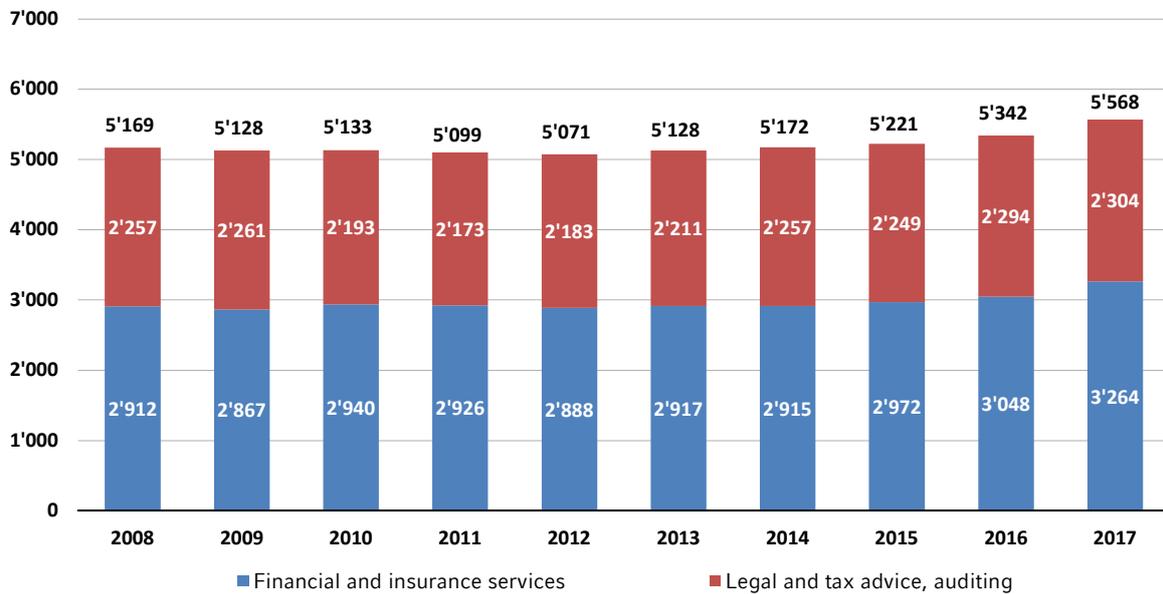
Exports/imports of goods by type and intended use	Direct exports 2018		Direct imports 2018	
	CHF million	Share	CHF million	Share
Type of goods	3'657	100%	2'015	100%
Agricultural/forestry products, fishing	240	6.6%	107	5.3%
Energy sources	7	0.2%	15	0.8%
Textiles, clothing, shoes	4	0.1%	20	1.0%
Paper, stationery, and graphic products	17	0.5%	43	2.1%
Leather, rubber, plastics	73	2.0%	78	3.8%
Chemical-pharmaceutical industry	342	9.3%	102	5.1%
Quarrying	172	4.7%	103	5.1%
Metals	845	23.1%	531	26.3%
Machinery, devices, electronics	894	24.5%	478	23.7%
Vehicles	450	12.3%	149	7.4%
Precision instruments, watches, and jewellery	418	11.4%	203	10.1%
Miscellaneous goods	56	1.5%	75	3.7%
Precious metals, precious and semi-precious stones	58	1.6%	44	2.2%
Works of art and antiques	83	2.3%	66	3.3%
Intended use	3'657	100%	2'015	100%
Raw materials and semi-finished products	1'401	38.3%	754	37.4%
Energy sources	7	0.2%	15	0.8%
Capital goods	1'512	41.3%	833	41.3%
Consumer goods	597	16.3%	302	15.0%
Precious metals, precious and semi-precious stones	58	1.6%	44	2.2%
Works of art and antiques	83	2.3%	66	3.3%

Data source: OSL (Foreign Trade Statistics), FCA (IMPEX).

Clearly the most important product groups for both Liechtenstein's exports and imports in 2018 are "Metals" and "Machinery, devices, electronics," each with a share of about a quarter. Exports and imports of goods consisted mainly of raw materials and semi-finished products as well as capital goods.

# Financial services

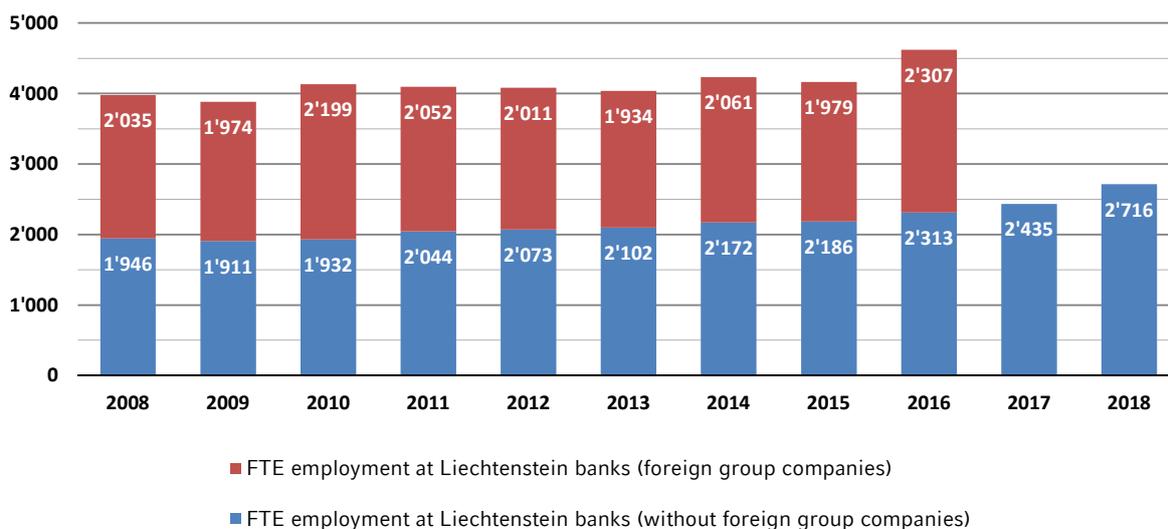
## Employees (full-time equivalents) in financial services since 2008



Data source: OSL (Employment Statistics).

Full-time equivalent employment in Liechtenstein's financial services as of the end of the year declined starting in 2009 and began rising again in 2012. The share of financial services employees in total employment in Liechtenstein has remained roughly constant since 2008 (2017: approx. 17%).

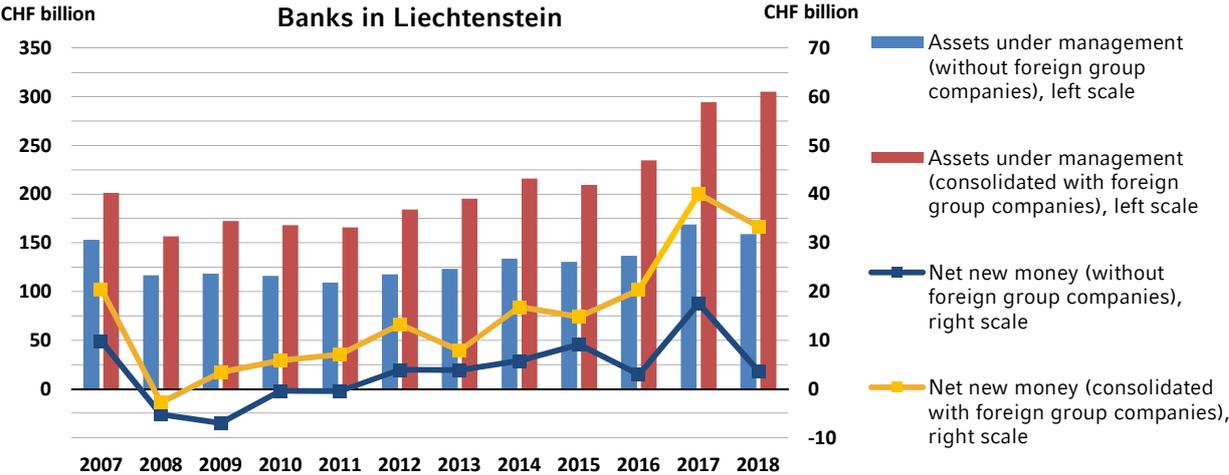
## Employment (full-time equivalents) at banks since 2008



Data source: FMA (Liechtenstein Financial Market)

The 15 banking institutions in Liechtenstein had 2'313 employees in Liechtenstein in 2016 (full-time equivalents, foreign group companies not included). Including foreign group companies, the consolidated number of employees was about twice as many (4'620). Employment continued to rise sharply in 2017 and 2018 to 2'716 full-time equivalents (excluding foreign group companies). More recent aggregated data regarding foreign group companies is not available and will not be collected by the FMA. The three large banks (LGT, LLB, VPB) had 5'571 employees in 2018 (2017: 5'036) including foreign group companies.

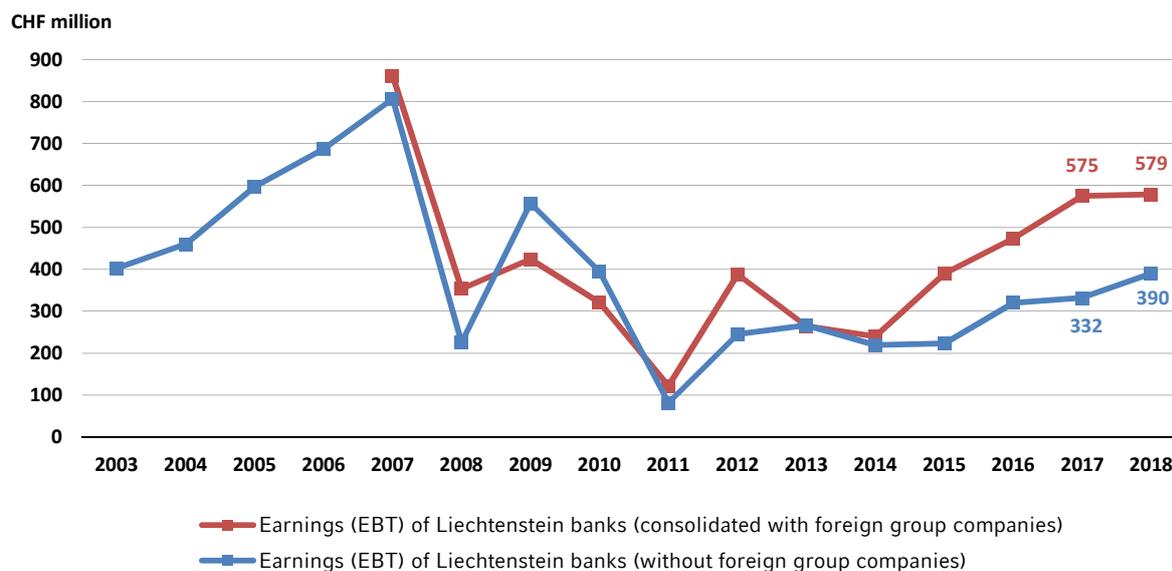
### Assets under management and net new money since 2007



Data source: FMA (Liechtenstein Financial Market).

The assets under management of Liechtenstein banks in Liechtenstein and abroad collapsed in the wake of the financial crisis and subsequent far-reaching reforms in the financial centre, but since then they have risen again quite steadily to almost CHF 300 billion (including foreign group companies) in 2018. Assets under management in Liechtenstein, excluding foreign group companies, also recovered and reached or even exceeded the level of 2007 (at least in nominal terms), amounting to CHF 159 billion in 2018. In 2018, net new money amounted to CHF 33.4 billion (2017: CHF 40.1 billion) including foreign group companies and CHF 3.7 billion (2017: CHF 17.6 billion) excluding them. The positive trend in assets under management and net new money thus seems to be continuing. According to estimates by the Boston Consulting Group (2015), Liechtenstein has a share of about 1% in the total of USD 11'000 billion in cross-border assets under management. Compared with Switzerland (25%), the United Kingdom/Ireland (25%), Hong Kong/Singapore (15%), the Caribbean/Panama (12%), the United States (7%), and Luxembourg (5%), Liechtenstein is thus a rather small niche player.

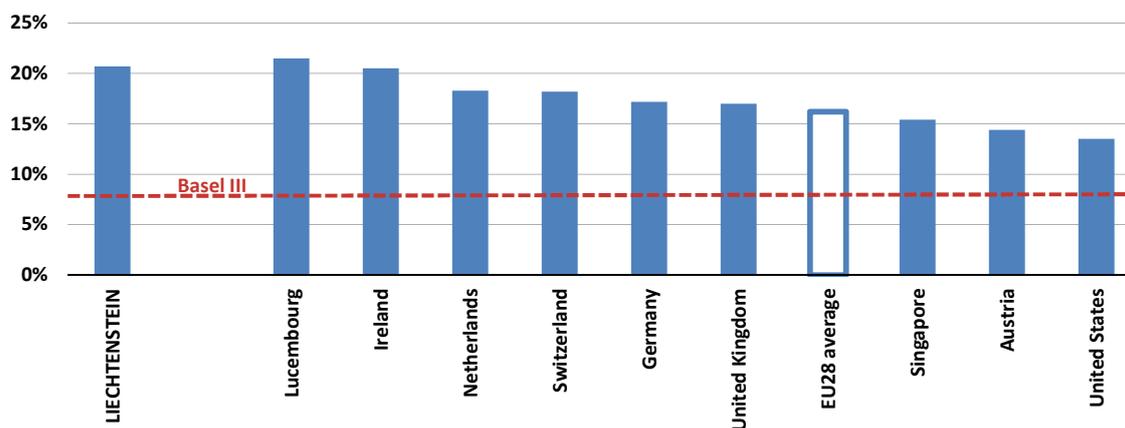
## Earnings before taxes (EBT) since 2003



Data source: FMA (Liechtenstein Financial Market), OSL (Banking Statistics).

The earnings of Liechtenstein banks in Liechtenstein and abroad tended to decline sharply after 2007. Various factors played a role here: the financial crisis, the strong Swiss franc (depreciation of assets in foreign currency), low interest rates (lower margins in the interest-difference business), structural change in the Liechtenstein financial centre, and the generally rising regulatory effort, which is a burden especially for smaller banks. Since 2011, however, earnings have been recovering.

## Tier 1 ratio



The Tier 1 ratio is the core capital ratio (ratio of equity to risk-weighted total capital). BICRA stands for S&P's Banking Industry Country Risk Assessment, with 1 being the lowest risk and 10 the highest. The leverage ratio is the unweighted equity ratio (core capital in relation to business volume).

Data source: LBA (The Liechtenstein Banking Centre), FMA (Liechtenstein Financial Market), European Banking Authority.

Liechtenstein's banks are very strongly capitalised: At the end of 2017, they had an average Tier 1 ratio of a very high 20.7% (including trading companies). This is far above the requirements of Basel III (8%, including supplementary capital) and the EU average (approx. 16%). This is also true for the leverage ratio, which at 7.8% at the end of 2018 was significantly above the requirements of Basel III

(3%). All Liechtenstein banks have a core capital ratio of over 16%, and the non-consolidated cost/income ratio of banks in the Liechtenstein financial centre was 66.9% in 2017 (good for private banking). The country rating of Standard & Poor's (AAA with a stable outlook) and the BICRA rating (risk group 2) underscore the reliability of the Liechtenstein financial sector. This was also evident in the financial crisis, when Liechtenstein banks did not need any support from the State.

## Employment in various financial services

Employment in Liechtenstein 2017/2018	Employed persons (31 Dec)
Banks (2017)	2'110
Asset management companies (2018)	676
Insurance companies (2018)	971
Legal/tax advice, auditing (2017)	2'764

Data source: OSL (Employment Statistics, Banking Statistics), FMA (Liechtenstein Financial Market).

In addition to banks, other financial services play an important role: According to figures from the Financial Market Authority, the 109 asset management companies licensed in Liechtenstein with their 676 employees (2017: 664) managed client assets of CHF 38.7 billion in 2018 (2017: CHF 40.6 billion). The 710 Liechtenstein investment funds contained net assets of CHF 50.4 billion in 2018 (2017: CHF 53.1 billion in 683 funds). In 2018, 38 insurance companies with an aggregated balance sheet total of CHF 29.5 billion were also active in Liechtenstein with 971 employees (2017: 38 insurance companies with a balance sheet total of CHF 31.1 billion and 867 employees). Within the financial services sector in Liechtenstein, the Employment Statistics for 2017 (OSL) show that legal and tax advice as well as auditing play a key role with 2'764 employees in 2017; according to the Banking Statistics (OSL), 2'110 persons worked in banks in 2017.

# Public finances

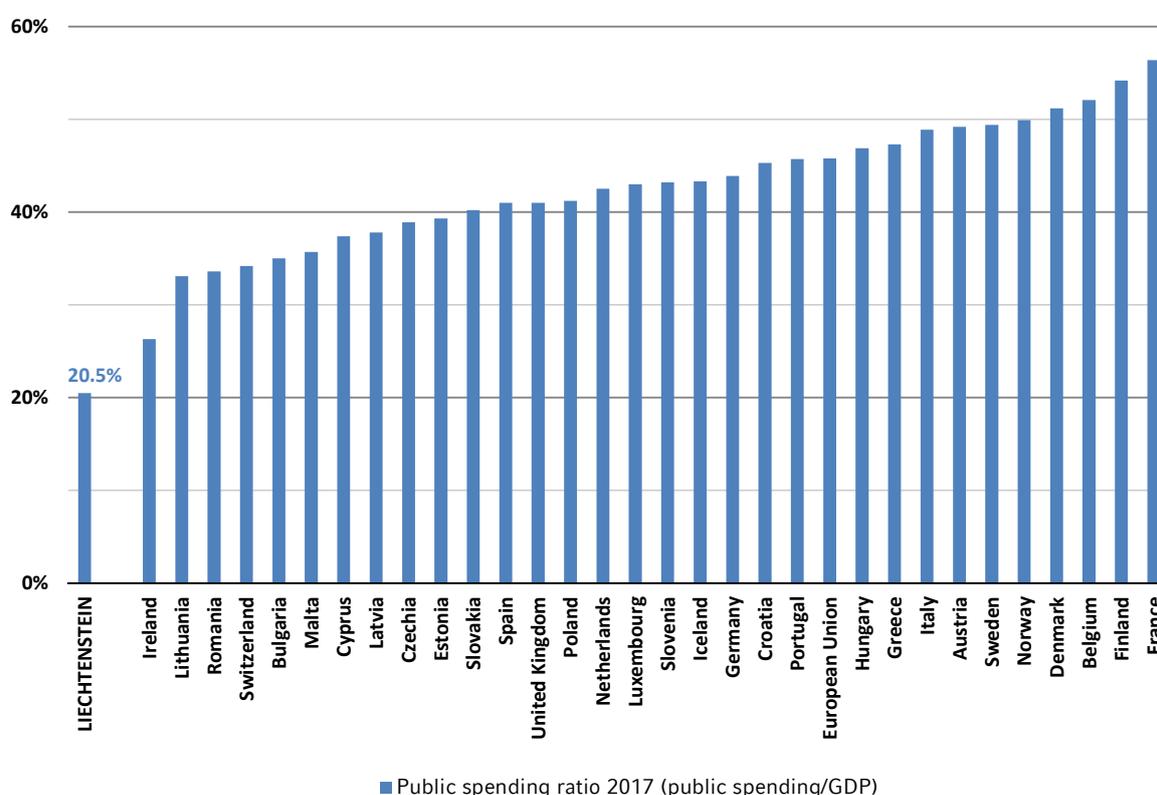
## Liechtenstein and the other AAA-rated countries (S&P)

Standard & Poor's	S&P-rating	Population 2017	Area (km <sup>2</sup> )	GDP 2017 (USD billion)	GDP/capita 2017 (USD)
LIECHTENSTEIN	AAA	37'922	160	6.3	166'022
Australia	AAA	24'450'561	7'741'200	1'408.7	66'545
Denmark	AAA	5'733'551	43'094	329.9	57'533
Germany	AAA	82'114'224	357'022	3'693.2	44'976
Canada	AAA	36'624'199	9'984'670	1'647.1	44'974
Luxembourg	AAA	583'455	2'586	62.3	106'806
Netherlands	AAA	17'035'938	41'543	830.6	48'754
Norway	AAA	5'305'383	323'802	399.5	75'295
Singapore	AAA	5'708'844	719	323.9	56'737
Sweden	AAA	9'910'701	450'295	535.6	54'043
Switzerland	AAA	8'476'005	41'277	678.9	80'101

Data source: Standard & Poor's, UN National Accounts Main Aggregates Database, CIA (The World Factbook). In international comparisons of Liechtenstein's GDP per capita, some caution is needed due to the very high number of cross-border commuters (for an international comparison of prosperity see figure „Gross national income per capita“).

Liechtenstein is distinguished by high political and economic stability as well as by an excellent situation of its public finances. Also for this reason, Liechtenstein is in Standard & Poor's highest rated group of countries (long-term rating: AAA), with a stable outlook. Only 11 of the 133 rated countries currently hold the top rating of AAA (April 2019).

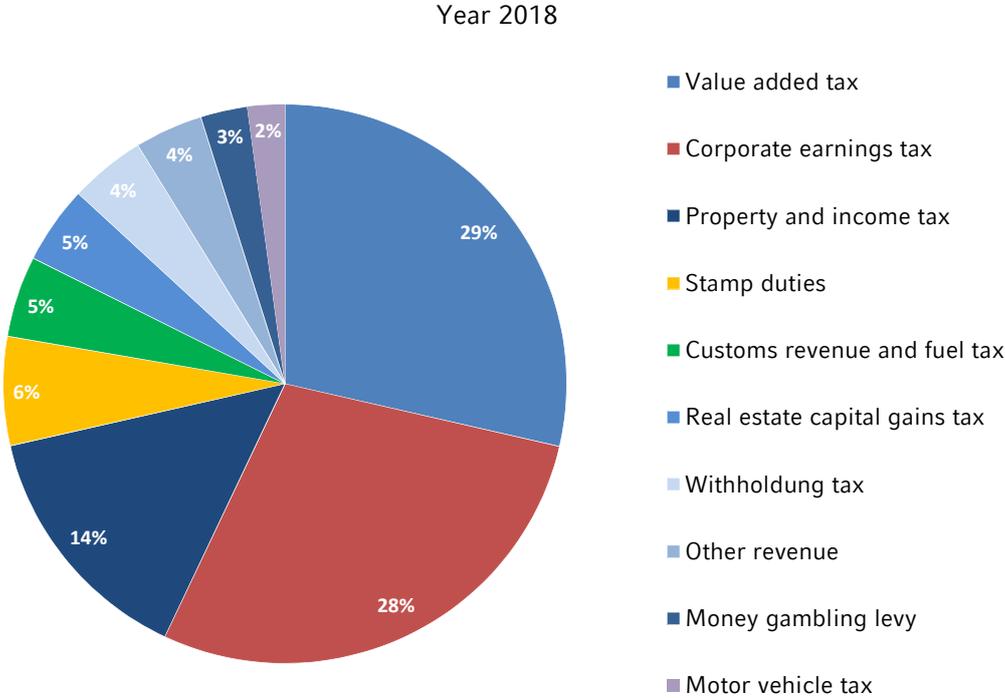
## Public spending ratio



Data source: OSL (Government finance statistics, GDP Estimate), OECD.

At 20.5%, the public spending ratio, i.e. consolidated public spending (central government, local government, social security funds) in relation to GDP, was very low in 2017, not only in a European context, but also in a global comparison (USA 38.0%, Japan 38.9%).

### Central government revenue by type of tax



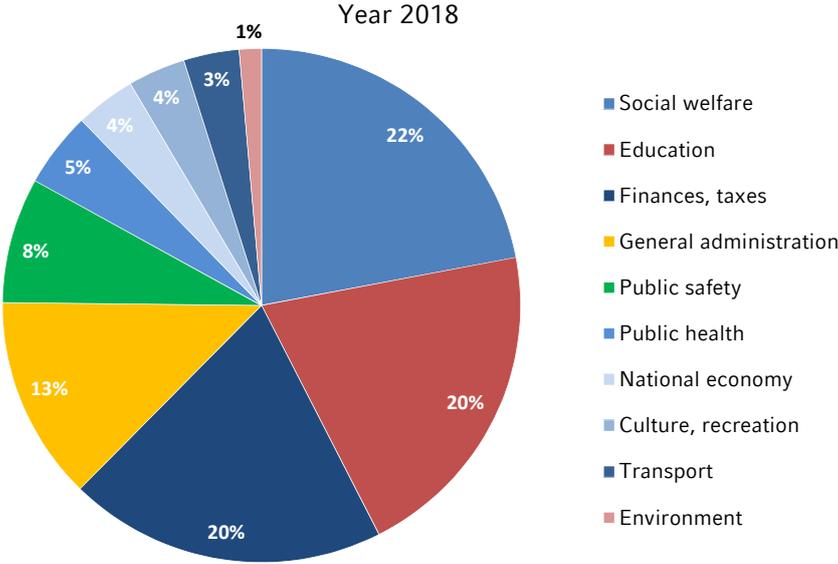
The municipal portion of the corporate earnings tax is excluded from the revenue. The tax revenues refer to the financial year and not the tax year.  
 Data source: OSL (Statistical Yearbook), Government Accountability Report.

Central government revenue from taxes and duties amounted to CHF 716 million in 2018 (2017: CHF 673 million). The three most important types of tax accounted for almost about three quarters of this amount:

- value added tax: CHF 205 million (2017: CHF 201 million),
- national share of corporate earnings tax: CHF 204 million (2017: CHF 187 million),
- national share of property and income tax: CHF 103 million (2017: CHF 98 million).

Revenue from taxes and duties accounted for approximately 84% of total current central government income of CHF 858 million in 2018, while financial income of CHF 70 million accounted for approximately 8%. In 2017, municipal tax revenues amounted to CHF 198 million (2016: CHF 194 million), comprising the municipal portion of corporate earnings taxes and property and income taxes.

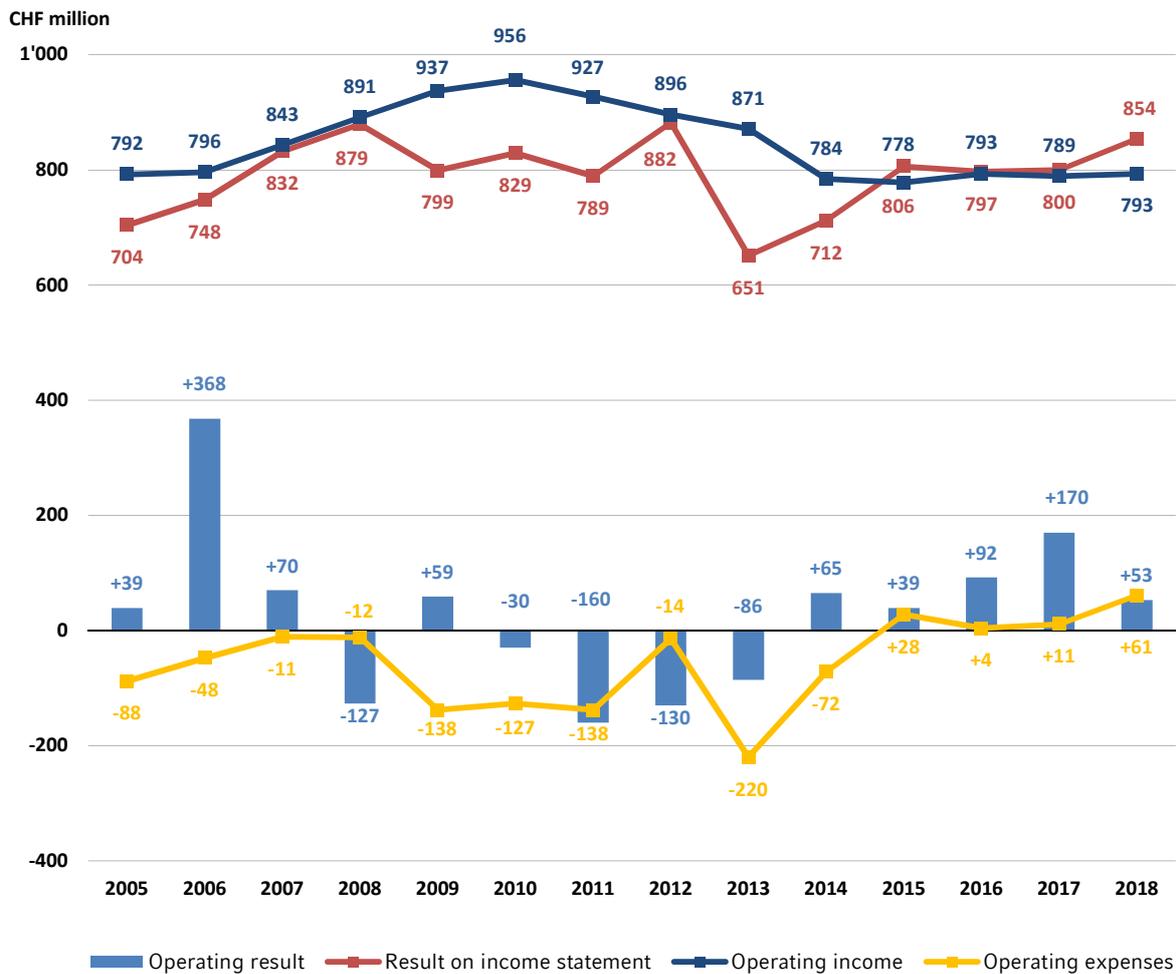
# Current expenditure of the central government by area of responsibility



Data source: OSL (Statistical Yearbook), Government Accountability Report.

The total expenditure of the central government’s current account in 2018 was approximately CHF 793 million (2017: CHF 790 million). The most significant areas in terms of expenditure were social welfare and education, which together accounted for over 40% of the total expenditure. Current expenditure of the municipalities amounted to CHF 244 million in 2017 (2016: CHF 256 million). In 2017, the central government and municipalities made non-consolidated total gross investments of CHF 114 million (2016: CHF 109 million).

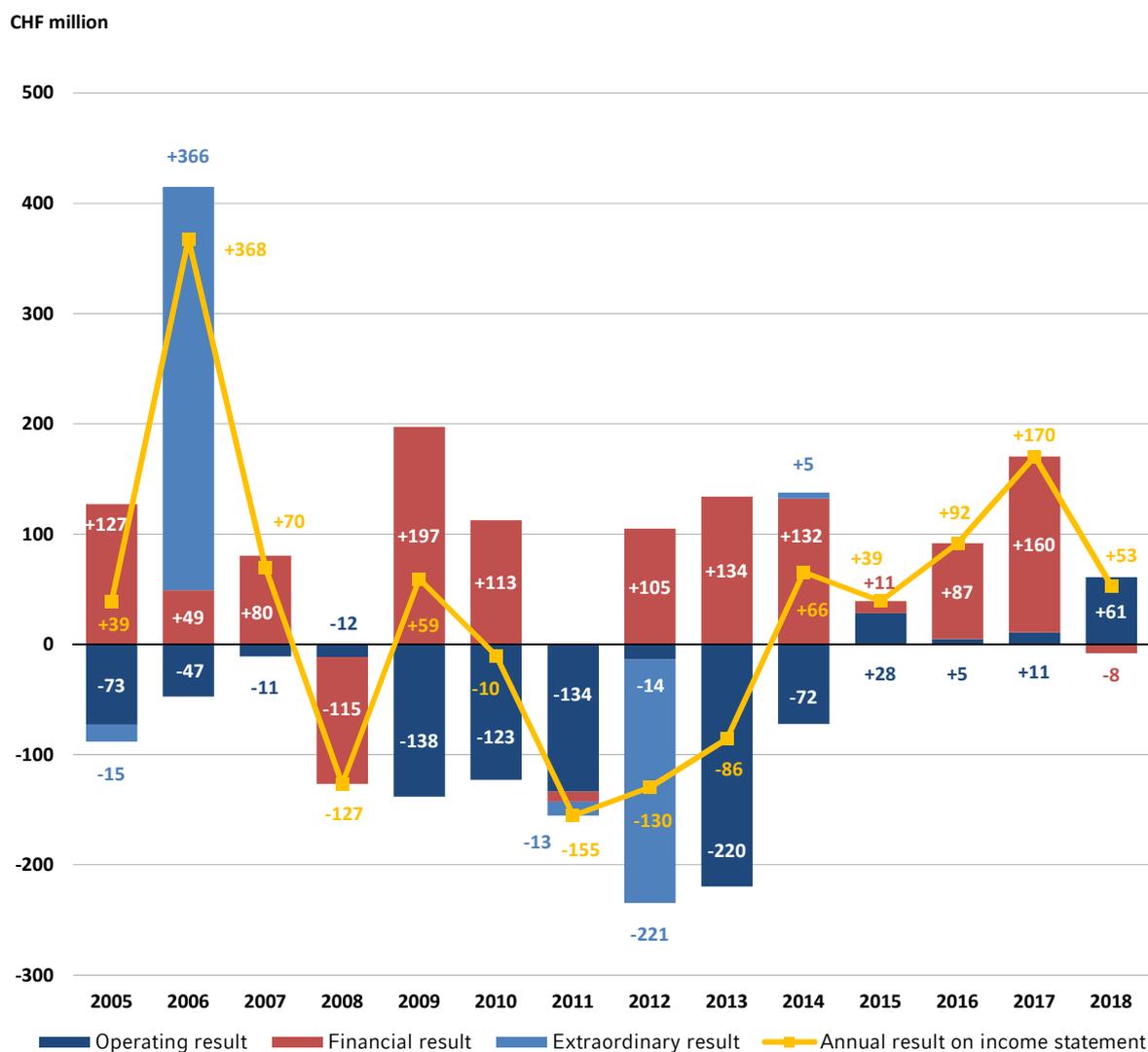
## Operating result of the central government since 2005



Data source: Government Accountability Report.

After an extended rise in operating expenses until 2010, they have stabilised at a significantly lower level in recent years. Operating income is very volatile, especially due to the economic cycle fluctuations in tax revenues; in addition, there were the strongly fluctuating special effects of the transition phase to the abolition of the coupon tax in 2011 to 2016. Beginning in 2015, the operating account has been positive again for the first time since 2001.

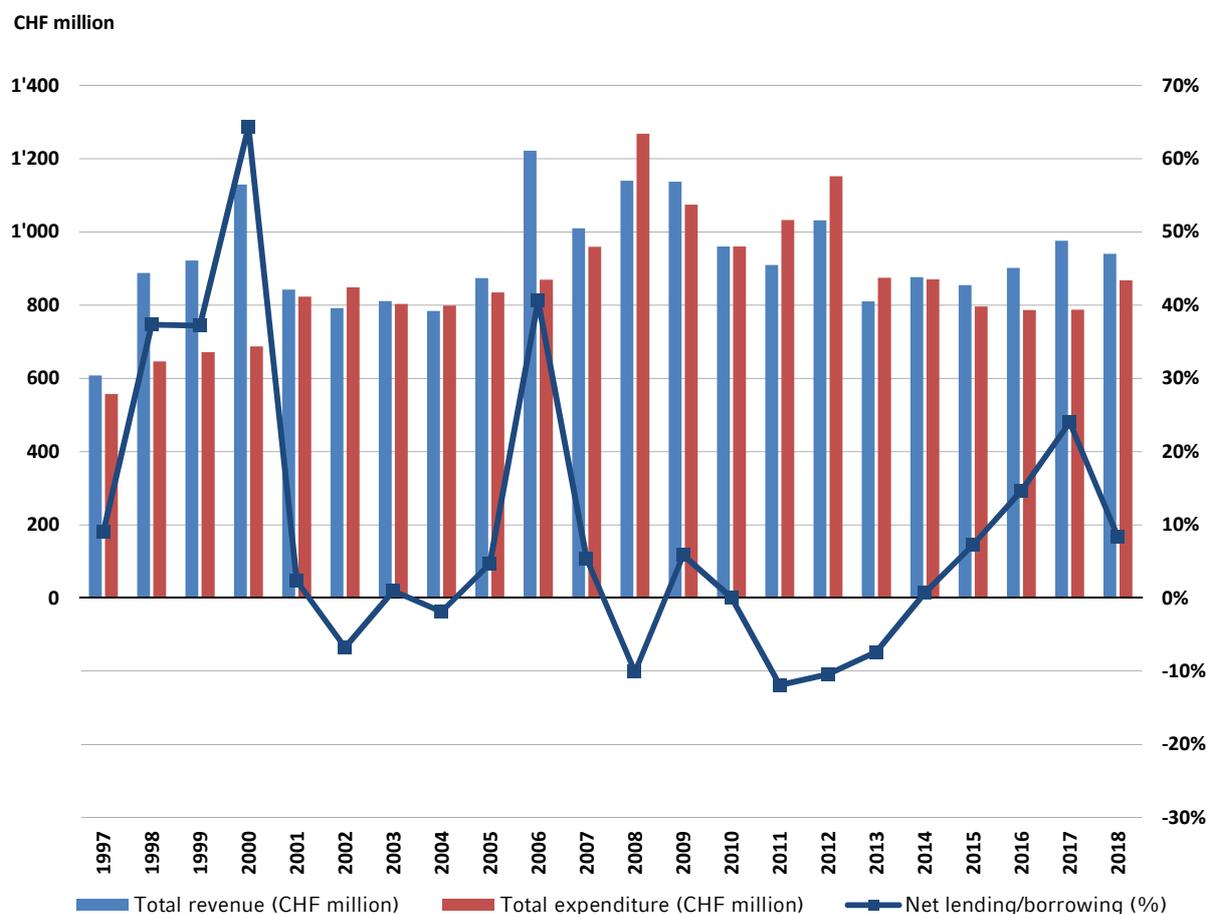
## Detailed income statement of the central government since 2005



Data source: Government Accountability Report.

The central government's income statement – i.e. operating result, financial result, and extraordinary result (excluding investment account) – fell below zero after the financial crisis, but has been positive again since 2014. The operating result has been structurally improved over the past years thanks to the three packages of measures to restructure the central government finances: Since 2015, the operating result has been positive again. In the years before (since 2002), the operating result had been negative and would have been too large in a few years to compensate with the usually positive financial result. In 2006 (sale of central government's LLB shares) and 2012 (securing the funding of the national pension insurance), high extraordinary special effects were recorded. In addition, the abolition of the coupon tax in the transitional phase from 2011 to 2016 resulted in some cases in high extraordinary revenue from the distribution of companies' old reserves.

## Revenue, expenditure, and net lending/borrowing (in %) of the central government since 1997

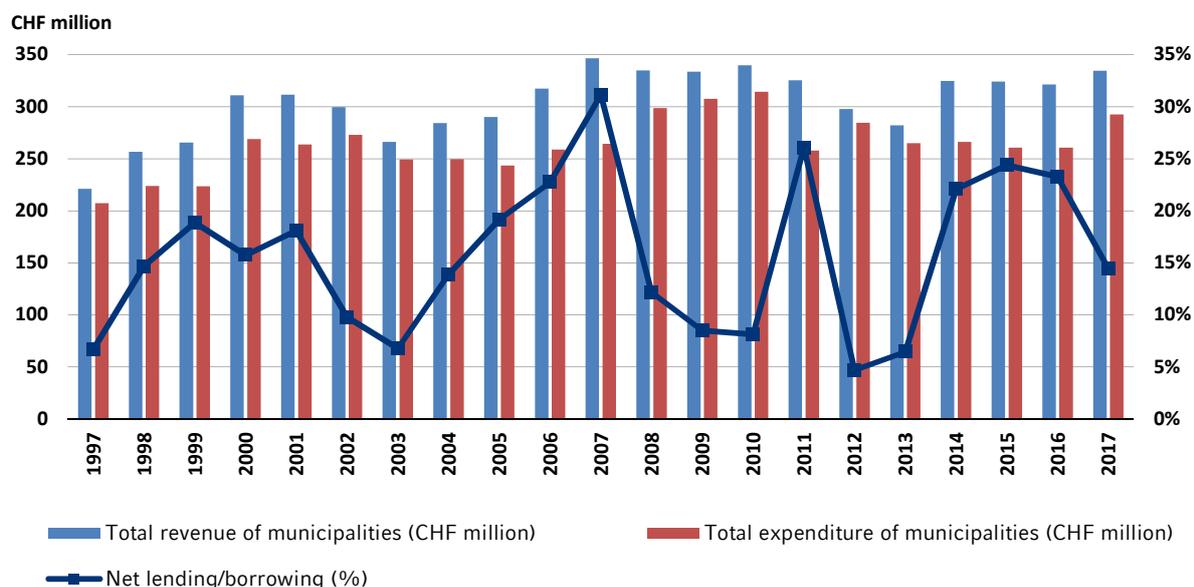


Overall result of the central government account: operating result (excl. write-offs on administrative assets) + financial result + extraordinary result + investment account. Net lending/borrowing (in %): overall revenue of the central government account/overall expenditure of the central government account.

Data source: recalculations of the central government account adjusted for structural breaks (Liechtenstein Institute and Thomas Lorenz/Stiftung Zukunft.li) based on OSL (Statistical Yearbook) and Government Accountability Reports.

Over the 22 years presented in the chart, Liechtenstein reported a positive net lending/borrowing ratio in 16 of these years, i.e. the revenue from the overall central government account was higher than the expenditure (overall result of the central government account: income statement and investment account, excluding write-offs on administrative assets). The central government account recovered strongly in recent years, and since 2014 there has been a financial surplus again (the operating result has also stabilised). Despite a strongly negative financial result (the first negative financial result since 2011) the central government account in 2018 was able to close with a positive net lending/borrowing of CHF 73 million or +8.4% (2017: CHF 189 Mio., +24.0%). The years 1998 to 2000 and 2006 were marked by very high revenue from the sale of shares in the Liechtensteinische Landesbank.

## Revenue, expenditure, and net lending/borrowing (in %) of the municipalities of Liechtenstein since 1997

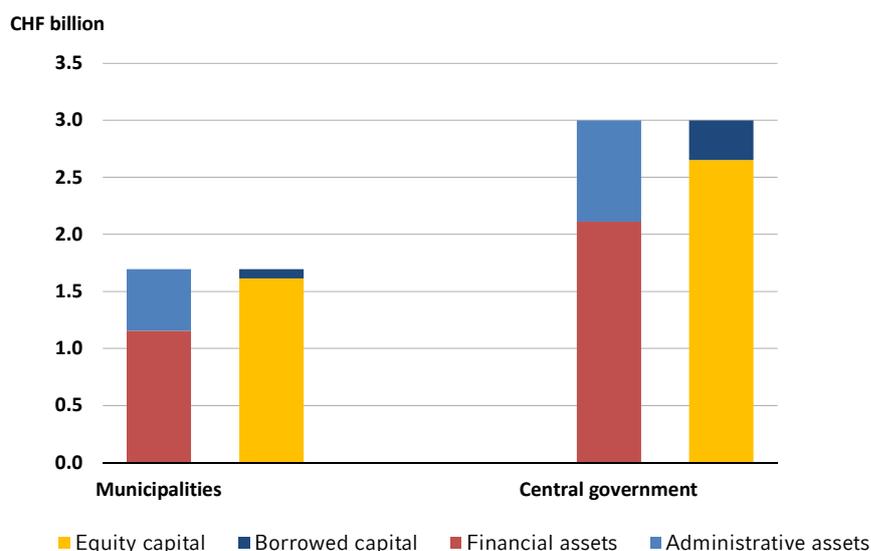


Overall result of the municipal accounts: operating result (excl. write-offs on administrative assets) + financial result + extraordinary result + investment account. Net lending/borrowing (in %): overall revenue of the municipal accounts/overall expenditure of the municipal accounts.

Data source: OSL (Statistical Yearbook)

Over the entire period presented, net lending/borrowing (overall result of the municipal accounts: income statement and investment account, excluding write-offs on administrative assets) of the Liechtenstein municipalities was clearly positive; the last deficit was in 1994. Moreover, the municipalities' net lending/borrowing as a percentage has been almost consistently (and generally significantly) higher than at the central government level over the past 21 years.

## Asset/liability items of central government and municipalities (as of 31 Dec 2017)



Data source: OSL (Statistical Yearbook), Government Accountability Report.

The net assets – i.e. equity plus surplus at the end of the year (assets minus liabilities) – of the municipalities were CHF 1.6 billion in 2017, more than half the amount of the central government (CHF 2.7 billion). The net assets of the municipalities of Vaduz (CHF 565 million) and Schaan (CHF 278 million) were particularly significant. The very high proportion of financial assets on the assets side of both levels of government is also evident.

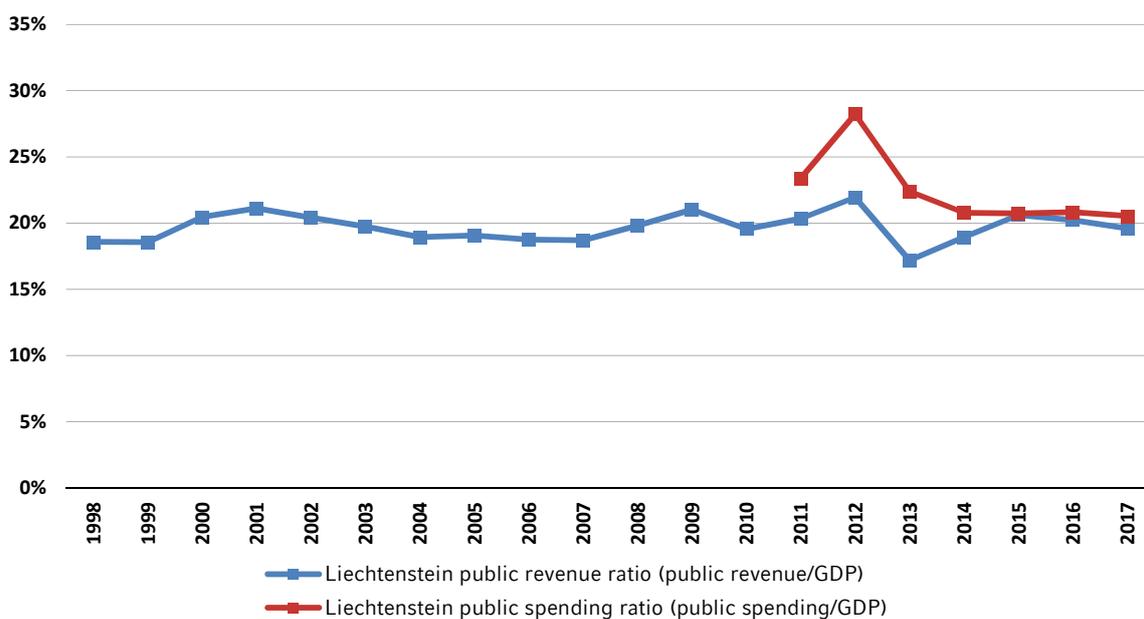
## Net assets (as of 31 Dec) of the central government and municipalities since 1998

	Municipalities			Central government		
	Net assets (CHF million)	Net assets per capita (CHF)	Net assets/annual expenditure	Net assets (CHF million)	Net assets per capita (CHF)	Net assets/annual expenditure
1998	332.5	10'386	1.5	1'100.7	34'381	1.7
2007	911.6	25'783	3.5	2'764.1	78'179	3.1
2013	1'134.2	30'548	4.4	2'285.1	61'545	2.6
2016	1'320.2	34'917	5.3	2'481.4	65'628	3.2
2017	1'613.1	42'323	5.9	2'651.9	69'578	3.4
2018				2'704.8	70'475	3.4

Annual expenditure: current expenditure including capital expenditure, excluding write-offs on financial and administrative assets. Approximate structural break adjustment of the central government's net assets (1998 and 2007): see footnote 11 in Brunhart (2018).  
Data source: Calculations based on OSL (Statistical Yearbook) and Government Accountability Reports. Net assets data for municipalities for 2018 are not yet available.

After a similarly steep increase in the net assets of the municipalities and the central government from 1998 to 2007, the net assets of the central government declined until 2013 and then rose again until 2018. In contrast, the net assets of the municipalities increased each year over the entire period since 1998. These conclusions are true in regard to absolute net assets, net assets per capita, and also in relation to annual expenditure for the year in question. Adjusted for structural breaks, the central government's net assets in 2018 have not yet returned to the 2007 level, but instead are still slightly lower (approx. CHF 60 million) at CHF 2.7 billion. The ratio of net assets to annual expenditure, at 3.43 in 2018 (2017: 3.37), has steadily increased since 2013 and is now significantly higher compared to the 2013 level. This is due not only to the slight increase in net assets, but also to the significantly lower level of expenditure, which has been achieved primarily through the three packages of measures to restructure the central government finances since 2010.

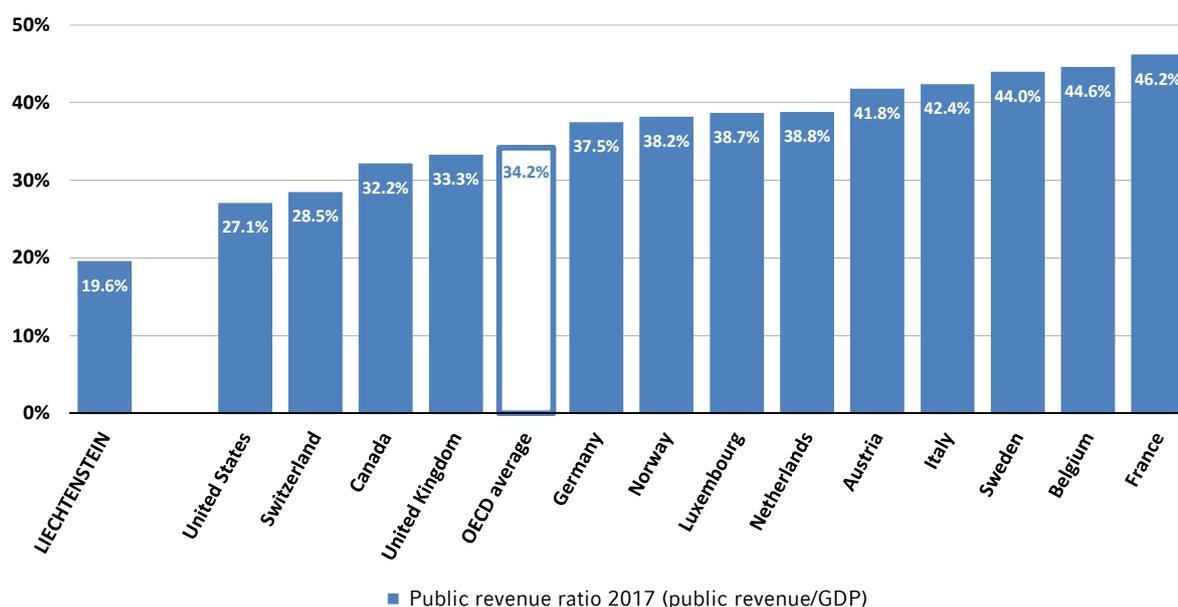
## Public revenue ratio and public spending ratio since 1998



Public revenue ratio: consolidated public revenue (central government, local government, social security funds) in % of GDP. Public spending ratio: consolidated public expenditure (central government, local government, social security funds) in % of GDP. Data source: OSL (Government tax statistics, Government finance statistics, GDP Estimate).

The public revenue ratio (consolidated public revenue of central government, local government, social security funds in relation to GDP) in Liechtenstein has been stable for the last two decades at a low level of approx. 20% (2017: 19.6%). The public spending ratio in 2012 (consolidated expenditure of the central government, local government and social security funds in relation to GDP) was strongly influenced by the sharp temporary increase in public expenditure in the course of securing funding of the central government pension insurance. Also the public spending ratio has settled at around 20% in recent years (2017: 20.5%).

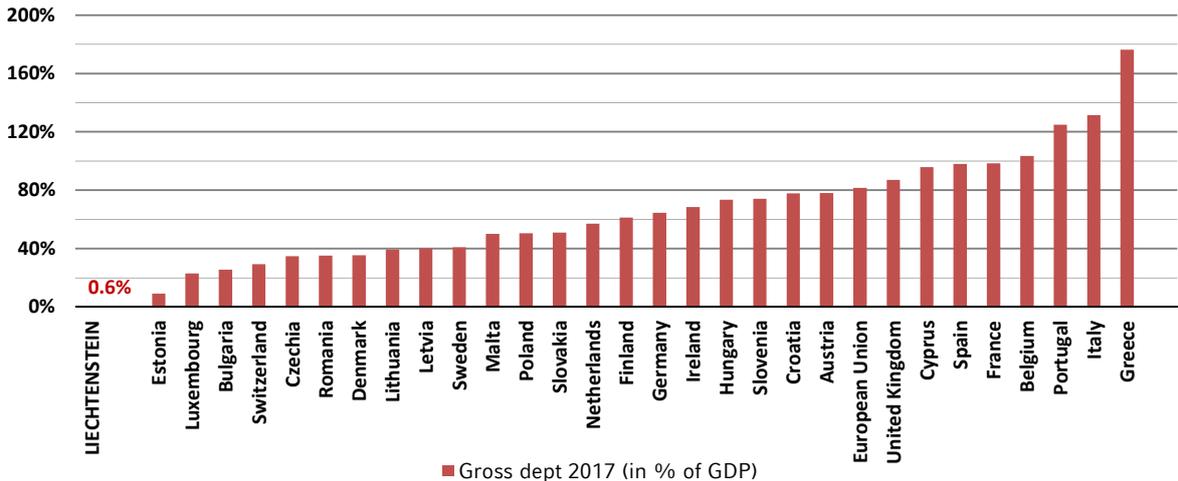
## Public revenue ratio



Data source: OSL (Tax Statistics, GDP Estimate), FFA (Switzerland's tax-to-GDP ratio and tax ratio compared internationally).

Compared internationally, the public revenue ratio (consolidated revenue of the central government, local government and social security funds in relation to GDP) in Liechtenstein is traditionally extraordinarily low; in 2017, at 19.6%, it was even significantly below that of Switzerland (28.5%) and the United States (27.1%). The relatively low ratios of Liechtenstein's public budgets can also be observed when international comparisons are based on GNI instead of GDP as a reference value for public revenue/expenditure.

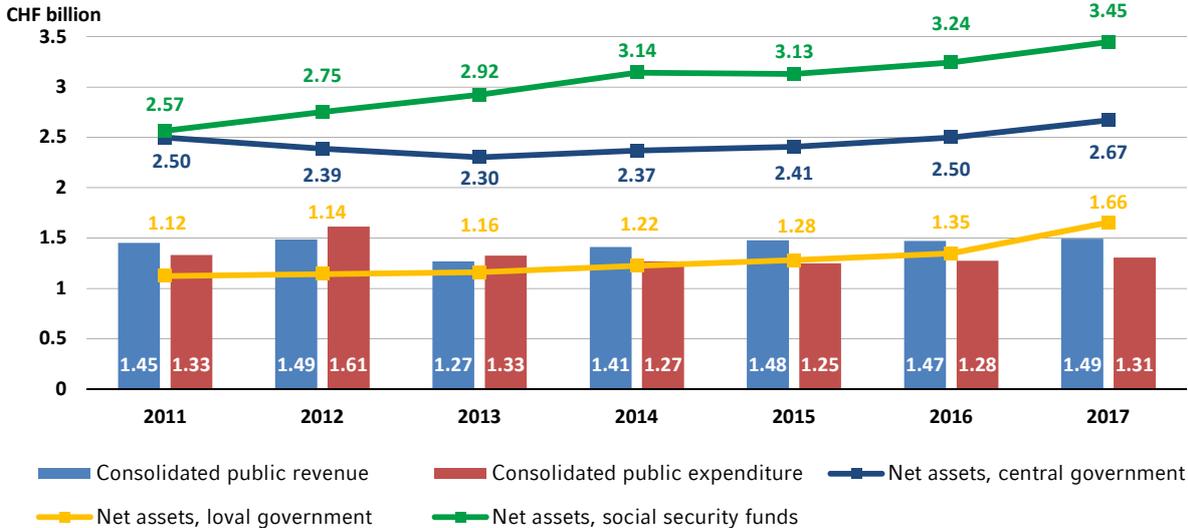
### Gross debt in relation to GDP



Data source: OSL (Government finance statistics).

The gross debt ratio in Liechtenstein's public budgets is almost zero. If assets are taken into account, the result is even clearly negative debt (i.e. a positive net worth), which is very rarely the case by international standards.

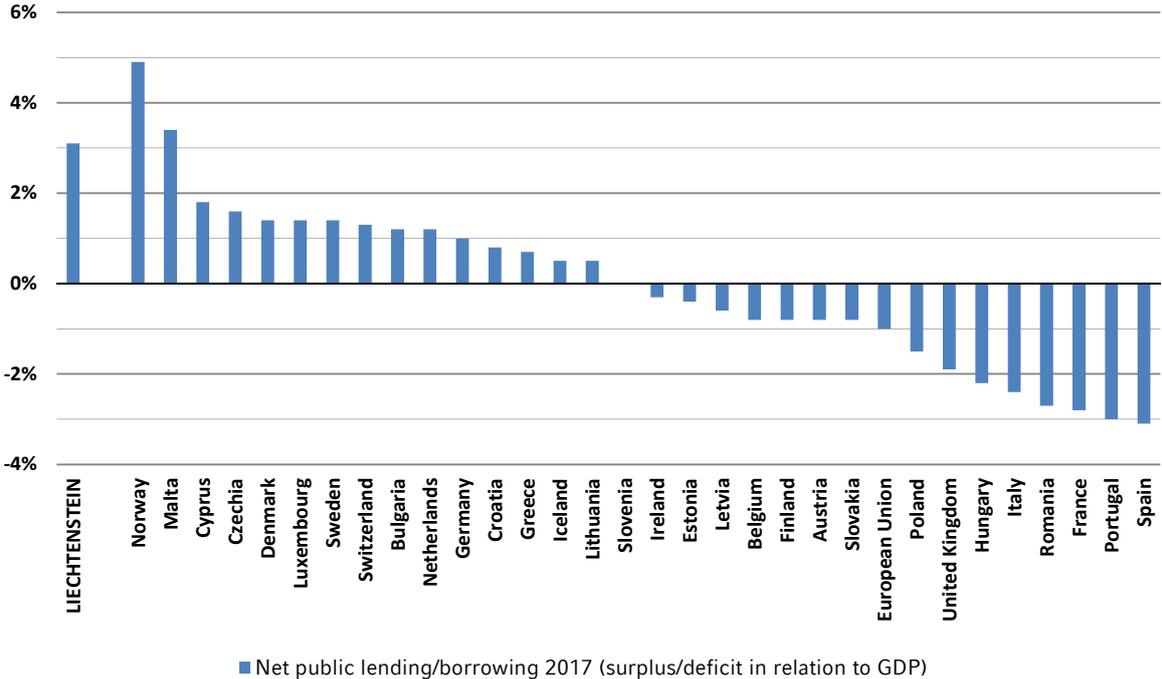
### Consolidated revenue/expenditure and net assets of the three levels of government since 2011



Data source: OSL (Government finance statistics), FCA (Government finance statistics), own calculations (Liechtenstein Institute).

After two negative years, Liechtenstein's public budgets reported a consolidated revenue surplus again since 2014. The net assets of the social security funds and the local government have risen continuously since 2011, while an increase has been observed for the central government only since 2013. In 2017, the consolidated net assets of all levels of Liechtenstein (central government, local government, social security funds) amounted to CHF 7.8 billion (2016: CHF 7.1 billion), i.e. CHF 203'962 per inhabitant. By comparison, the total net assets of all government sub-sectors in Switzerland in 2017 amounted to CHF 35'097 per capita.

### Net lending/net borrowing in relation to GDP



Data source: OSL (Government finance statistics).

Liechtenstein's consolidated net lending/borrowing as a percentage of GDP (central government, local government, social security funds) amounted to almost +3.1% in 2017. Due to the good economic situation, this ratio was positive for about half of the countries considered.

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## List of abbreviations

BICRA	Banking Industry Country Risk Assessment (S&P)
CHF	Swiss franc
CIA	Central Intelligence Agency
CPI	Swiss Consumer Price Index
Destatis	Federal Statistical Office of Germany
EBT	Earnings before taxes
EEA	European Economic Area
EU	European Union
Eurostat	Statistical Office of the European Union
FCA	Swiss Federal Customs Administration
FFA	Federal Finance Administration
FMA	Financial Market Authority Liechtenstein
FSO	Swiss Federal Statistical Office
FTE	Full-time equivalents
GDP	Gross domestic product
GNI	Gross national income (formerly gross national product)
LBA	Liechtenstein Bankers Association
LCCI	Liechtenstein Chamber of Commerce and Industry
LGT	Liechtenstein Global Trust
LLB	Liechtensteinische Landesbank
OECD	Organisation for Economic Co-operation and Development
OSL	Office of Statistics Liechtenstein
SECO	Swiss State Secretariat for Economic Affairs
SNB	Swiss National Bank
STATEC	Institut national de la statistique et des études économiques du Grand-Duché de Luxembourg
S&P	Standard & Poor's
VPB	Verwaltungs- und Privatbank





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