Canton of Zurich

Key Rating Drivers

Rating Affirmed: The affirmation of the Canton of Zurich's ratings with Stable Outlooks reflects Fitch Ratings' expectation that Zurich's economic liability burden (net adjusted debt (+ pro rata share of central government debt / cantonal GDP)) will remain well below 20% in the medium term in our rating case scenario.

Rating Derivation Summary: Zurich's Long-Term Foreign-Currency Issuer Default Rating (IDR) of 'AAA' is based on the canton's standalone credit profile (SCP) of 'aaa'. The SCP results from a 'Stronger' risk profile and debt sustainability that Fitch assesses as 'aaa' under its rating case scenario. Zurich's IDR is not capped by the Switzerland sovereign rating (AAA/Stable) and no other rating factors affect the rating.

'Stronger' Risk Profile: Zurich's key risk factors (revenue robustness and adjustability, expenditure sustainability and adjustability and liability & liquidity robustness and flexibility) are all assessed as 'Stronger'. The 'Stronger' risk profile reflects a limited risk that the canton's cash flow will contract beyond expectations.

Debt Sustainability at 'aaa': In Fitch's ratings case scenario, Zurich's economic liability burden, which is the primary metrics for a Type A issuer, would remain well below 20% in 2023 (2018: 16.1%), corresponding to an 'aaa' assessment. This assessment is supported by the issuer's secondary metrics results.

The fiscal debt burden will slightly increase to 36.1% in 2023 from 29.3% in 2018, corresponding to an 'aaa' assessment and well below the trigger of 50%. Debt service coverage (Fitch's synthetic calculation) would decline to 0.6x in 2023 from 1.8x in 2018, corresponding to a 'b' assessment. The primary metrics is driving the debt sustainability and the canton's weak debt service coverage is largely mitigated by its prudent debt management and sound access to liquidity.

Neutral Additional Rating Factors: Zurich's Long-Term IDR is rated on a par with the sovereign, reflecting its SCP of 'aaa'. Its rating does not take into account any other extraordinary support from the central government. No additional risk factors have been identified.

ESG Considerations: The highest ESG score is '3', meaning that ESG issues are credit-neutral. These issues are minimally relevant to the rating due to the mission of the issuer and the institutional framework.

Rating Sensitivities

Downgrade Unlikely: Given the canton's tax dynamics and tax-raising potential, a downgrade is unlikely. However, an economic liability burden consistently above 40% according to Fitch's rating case coupled with a materialisation of its contingent liabilities, or its government-related entities requiring ongoing capital injections, would lead us to review Zurich's ratings.

Financial Obligations, Sovereign Action: Significant changes in the canton's financial leeway or additional financial obligations, in either the intra- or inter-cantonal context, could also be rating-negative. Negative rating action on Switzerland would also trigger rating action on the canton.

Ratings

Foreign Currency

Long-Term IDR	AAA
Short-Term IDR	F1+

Local Currency

Long-Term IDR	AAA
Senior Unsecured Debt – Long-Term Rating	AAA

Outlooks

Long-Term Foreign-Currency IDR	Stable
Long-Term Local-Currency IDR	Stable

Issuer Profile

Zurich is located in the north-east of Switzerland and has 1.54 million inhabitants. It has, by far, the largest economy in Switzerland and its wealth level is well above the Swiss average.

Canton of Zurich

(CHFm)	2018	2023rc
Economic liability burden (%)	16.1	10.5
Payback (x)	7.1	12.8
Synthetic coverage (x)	1.9	1.0
Actual coverage (x)	2.2	0.9
Fiscal debt burden (%)	29.3	38.3
Net adjusted debt	4,523	6,341
Operating balance	633	495
Operating revenue	15,460	16,562
Debt service	294	447

rc: Fitch's rating-case scenario
[a] Fitch's calculation (see *Appendix C*)
Source: Fitch Ratings, Canton of Zurich

Applicable Criteria

Rating Criteria for International Local and Regional Governments (September 2019)

Related Research

Fitch Affirms Swiss Canton of Zurich at 'AAA'; Outlook Stable (July 2019)

Switzerland (September 2019)

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Rating Synopsis

SCP Positioning Table

Risk profile	Debt sustainability					
Stronger	aaa or aa	a	bbb	bb	b	
High midrange	aaa	aa	a	bbb	bb	b
Midrange		aaa	aa	a	bbb	bb or below
Low midrange			aaa	aa	a	bbb or below
Weaker				aaa	aa	a or below
Vulnerable					aaa	aa or below
Suggested analytical outcome (SCP)	**aaa**	**aa**	**a**	**bbb**	**bb**	**b**

Source: Fitch Ratings

Zurich's Long Term Foreign-Currency IDR of 'AAA' is driven by the canton's SCP assessed at 'aaa'. This reflects a combination of a 'Stronger' risk profile (see *Risk Profile: Stronger*) and sound debt sustainability, which Fitch assesses at 'aaa' under its rating case scenario (see *Debt Sustainability of 'aaa'*). Zurich's IDR is not capped by the Switzerland sovereign and no other rating factors affect the rating (see *Other Rating Factors*).

Issuer Profile

Zurich is one of Switzerland's 26 cantons, located in the north-east of the country with an international border to Germany. The canton has a sustainable increasing population of about 1.536 million inhabitants at end-2019. The canton's capital is the city of Zurich (415,367 inhabitants) and the city's greater urban area accounts for one million inhabitants.

Wealthy and Dynamic Economy

Zurich has by far the largest economic region in Switzerland, and probably the most diversified and dynamic, but it is also volatile because it is closely linked to the economic cycle and the progress of the financial and insurance sectors. The canton is one of the wealthiest in Switzerland, and its GDP accounted for about 21% of the national GDP in 2017 (most recent data). Its GDP per capita of CHF95,608 in 2017 ranked Zurich fourth among the 26 cantons and was 21% above the average for Switzerland (CHF79,218), which has one of the highest GDP levels per capita in Europe. Zurich's GDP is relatively volatile and it grew by 2.7% in nominal terms in 2017 (Switzerland: 1.2%, last data). Fitch estimates that national GDP should grow by 1.4% in real terms in 2020 and 2021.

Demographics and Employment

At end-2019, Zurich had 1,536,000 inhabitants. The population is increasing sustainably, driven by net migration mainly of foreigners, who account for 27% of the canton's population. Given its wealthy and above-average economic profile, Zurich is attractive to foreigners, and there is high demand for well-qualified jobseekers from abroad. The employment market is healthy, and the unemployment rate was low at 2.3% in November 2019, slightly below that of Switzerland (2.5%).

Risk Profile: Stronger

Fitch assesses Zurich's risk profile at 'Stronger'. This reflects a 'Stronger' assessment of all six sub-factors listed below.

Canton of Zurich – Risk Profile Assessment

Risk profile	Revenue robustness	Revenue adjustability	Expenditure sustainability	Expenditure adjustability	Liabilities & liquidity robustness	Liabilities & liquidity flexibility
Stronger	Stronger	Stronger	Stronger	Stronger	Stronger	Stronger

Source: Fitch Ratings

Rating History

Date	Long-Term Foreign-Currency IDR	Long-Term Local-Currency IDR
21 Nov 05	AAA	AAA

Source: Fitch Ratings

Canton of Zurich

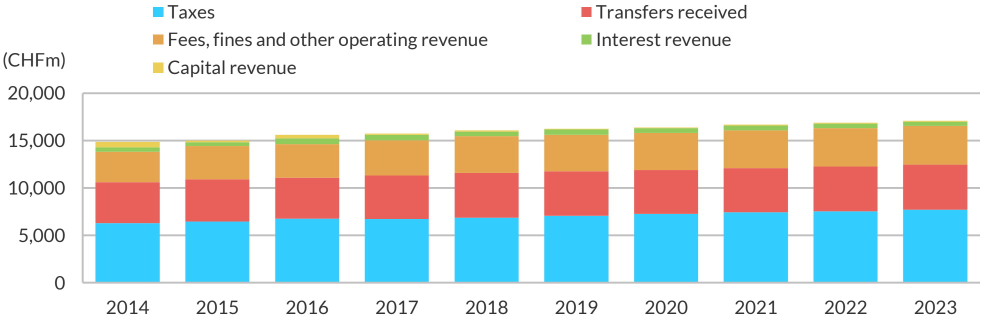
Source: Fitch Ratings

Socioeconomic Indicators

	Zurich	Switzerland
Population (m)	1.536	8.586
(2017-2018) average annual population growth (%)	1.1	0.7
GDP per capita, 2017 (CHF)	95,608	79,218
Unemployment rate, November 2019 (%)	2.3	2.5

Source: Fitch Ratings, Bundesamt fuer Statistik, Schweiz, Staatssekretariat fuer Wirtschaft SECO

Revenue Structure



Source: Fitch Ratings, Canton of Zurich

Revenue Breakdown, 2018

	Operating revenue (%)	Total revenue (%)
PIT	31.2	
CIT	9.5	
Other tax items	3.7	
Transfers received	30.6	
Fees, fines and other operating revenue	28.7	
Operating revenue	**15,460**	**93.3**
Financial revenue		**2.9**
Capital revenue		**3.8**

Source: Fitch Ratings, Canton of Zurich

Revenue Robustness: Stronger

Zurich's revenue robustness is assessed as 'Stronger' in view of the canton's stable revenue sources with revenue growth prospects in line with the national GDP growth. Tax revenue accounts for more than 45% of Zurich's operating revenue (in 2018), being based on moderately cyclical economic activities, with personal income tax (PIT) for natural and judicial persons accounting solely to 92% of the canton's tax revenue.

The other two main sources of the canton's operating revenues are transfers (31% of operating revenue) and charges and fees (25%).

We assume all of the canton's operating revenue to be of moderate cyclical nature, as proceeds from PIT are not necessarily changing in line with the economic cycle and transfers and fees have not shown large volatility in the past.

Zurich's operating revenue growth has been consistently in line with the nominal and deflated GDP growth of Switzerland. Zurich is the main contributor to Switzerland's GDP and is showing well above average wealth levels. The GDP base of the canton is largely driven by the service sector and the financial sector, insurance and real-estate services in particular. The operating revenue of the canton has shown a stable record even in times of the financial crisis where the banks located in the canton faced losses, because the taxes are largely driven by PIT.

Zurich can rely on a stable tax base, consisting of PIT and corporate income tax (CIT) shares, transfers and fees. Both tax items are less volatile and have shown consistent growth. Charges and fees as well as transfers received are also showing a stable trend in line with the cantonal GDP growth.

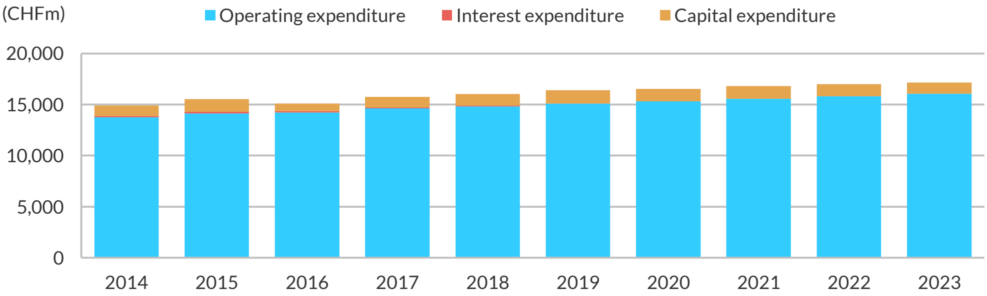
Revenue Adjustability: Stronger

Zurich's ability to generate additional revenue in response to possible economic downturn is assessed as 'Stronger', supported by a proven record of revenue growth, even in times of lower GDP growth.

Cantons in Switzerland enjoy a high degree of autonomy and are independent from the central government. This is expressed by a high degree of fiscal autonomy. Cantons have some leeway in adjusting tax rates on the income of natural and judicial persons. In the case of real need, Zurich has the theoretical leeway to adjust these tax rates but we assume the canton to be very reluctant in applying, as this could lead to severe political and public discussions as well as a competitive disadvantage as firms as well as people may decide to move to other cantons, which apply lower tax rates. However, Zurich is currently applying below-average tax rates for natural persons in the cantonal context.

The canton's 'Stronger' assessment of the revenue adjustability is further supported by a proven record of revenue equalisation among the cantons.

Expenditure Structure



Source: Fitch Ratings, Canton of Zurich

Expenditure Sustainability: Stronger

Zurich has a record and good prospects of tight control over total expenditure growth. Spending growth is generally below revenue growth. The canton's main responsibilities are non-cyclical, including education, healthcare, social welfare and public safety as well as public transport.

Zurich has shown a good record of controlling operating expenditure (opex) growth. Zurich's opex has grown generally in line with operating revenue, which has resulted in an operating surplus. Zurich has effective budget rules in place and commits itself to a medium-term balanced budget, which needs to show an overall surplus in an eight-year tenor (considering the past three actual years, the current budgetary year and the four year forecast). This is subject to review and, in case the medium-term surplus is not met, all departments are required to apply cost consolidation.

Zurich has also had a good record of adjusting capital expenditure (capex) in case of need. The canton usually underspends its budgeted investments by about 30%. Since the budget needs to be balanced, we assume Zurich's ability to cut capital spending in line with a reasonable decline of revenue and the canton has shown strong affordability of reduction in the past.

Expenditure Adjustability: Stronger

The canton's ability to reduce spending in response to shrinking revenue is assessed as 'Stronger'. This is due to effective budget balance rules in place. According to the canton, all necessary adjustments required to achieve a balanced budget, or to cope with a slowdown of revenue, will be adjusted towards spending rather than adjusting tax rates. The budget used to have some leeway for smaller adjustments to cope with cyclical swings of revenue and the canton used to underperform its investment budget. According to the financial data of the canton for 2008-2018, capex realised has always been well below the budget, which Fitch assumes as additional fiscal flexibility.

Liabilities & Liquidity Robustness: Stronger

Fitch assesses the liability and liquidity robustness of the canton as 'Stronger'. Zurich has a prudent debt management in place and well-established access to the capital market. The debt is dominantly funded by bonds, which have a bullet repayment, but there is no concentration risk in its maturity profile, which exceeds 20% of its debt outstanding at end-2018. Further, the canton is not exposed to floating rates and has no foreign-currency debt pending. Zurich has a strong record of liquidity in the past and its liquidity ratio covered debt servicing by at least 1x between 2008 and 2018. Zurich's liquidity level reduced following the lower interest-rate environment and as the canton was partly required to pay for its cash holdings, and the canton now aims to finance more of its maturing debt in the short term.

The canton is exposed to contingent liabilities, which Fitch views to be of moderate risk. The largest single contingent liability stems from the guarantee Zurich provided to its 100% owned cantonal bank, Zuercher Kantonalbank (ZKB; AAA/Stable). This incorporates the bank's liabilities of CHF21.3 billion at end-2018, but we assume the canton would rather support the bank in terms of capital measures to prevent any event of default. Furthermore, the bank is

Expenditure Breakdown, 2018

	Opex (%)	Total expenditure (%)
Personnel costs	36.1	
Goods & services	20.8	
Current transfers made	43.0	
Other	0.0	
Operating expenditure	**14,827**	**91.3**
Financial charges		**0.5**
Capital expenditure		**8.2**

Source: Fitch Ratings, Canton of Zurich

Debt Analysis

	End-2018
Fixed rate (% of adjusted debt)	100
Short term debt (% of adjusted debt)	22.2
Apparent cost of debt (%)	1.7
Average maturity (year)	
Debt service (CHFm)	294
Operating balance (CHFm)	633

Source: Fitch Ratings, Canton of Zurich

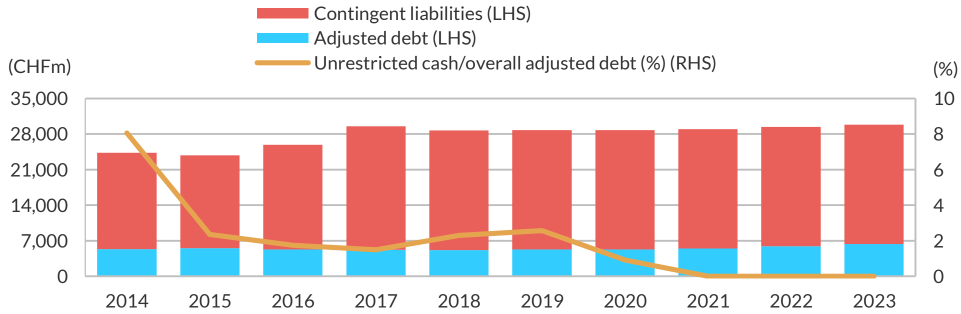
Liquidity

(CHFm)	End-2019
Available cash	736
Unrestricted cash[a]	0.0
Undrawn committed credit lines	500

[a] Fitch's calculation (see *Appendix C*)
Source: Fitch Ratings, Canton of Zurich

supervised by the canton and its business profile is of limited risk. In addition to ZKB, the canton had CHF1.9 billion of contingent liabilities at end-2018, with the bulk of it being commitments to its employees. The canton also has a 100% share in two entities, for which we view it as finally liable for. Their debt was a moderate CHF293 million at end-2018, which is of low risk.

Overall Adjusted Debt Structure



Source: Fitch Ratings, ICanton of Zurich

Liabilities & Liquidity Flexibility: Stronger

The canton's liabilities and liquidity flexibility is assessed as 'Stronger'. This is based on its well-established access to funding in capital markets, being a frequent bond issuer in the domestic market. Zurich is not largely focused on international placements, as its demand is fully satisfied in the domestic market and most recent funding has even been placed at negative rates. Zurich has further sufficient liquidity in place usually covering its annual debt repayment needs and has a committed credit line with ZKB. We assume additional access to emergency liquidity to be available in the short term, as reflected in Zurich's good record in capital markets and its history of being rated 'AAA' as well as the availability of the Swiss National Bank, which may also provide liquidity in case of need.

Debt Sustainability of 'aaa'

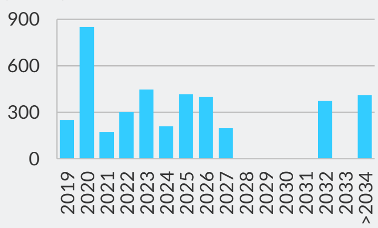
Debt Sustainability – Type A

	Primary metrics		Secondary metrics	
	Economic liability burden (%)	Payback (x)	Coverage (x)	Fiscal debt burden (%)
aaa	**X ≤ 40**	X ≤ 5	X >= 4	**X ≤ 50**
aa	40 < X ≤ 70	5 < X ≤ 9	2 ≤ X < 4	50 < X ≤ 100
a	70 < X ≤ 100	9 < X ≤ 13	1.5 ≤ X < 2	100 < X ≤ 150
bbb	100 < X ≤ 140	13 < X ≤ 18	1.2 ≤ X < 1.5	150 < X ≤ 200
bb	140 < X ≤ 180	**18 < X ≤ 25**	1 ≤ X < 1.2	200 < X ≤ 250
b	X >180	X > 25	**X < 1**	X > 250

Source: Fitch Ratings

Zurich's debt sustainability is assessed at 'aaa'. This assessment reflects an economic liability burden likely to remain below 20% in the medium term in our rating case scenario, which corresponds to a sound fiscal debt burden that is expected to increase to 36.1% in 2023 from 29.3% in 2018, but to remain well below 50%, in line with an 'aaa' assessment. Debt service coverage (Fitch's synthetic calculation) would decline to 0.6x in 2023 from 1.8x in 2018, corresponding to a 'b' assessment. The primary metrics are driving the debt sustainability, and the canton's weak debt service coverage is largely mitigated by its prudent debt management and sound access to liquidity.

Debt Amortisation Schedule 2019-2034 – Capital Repayments

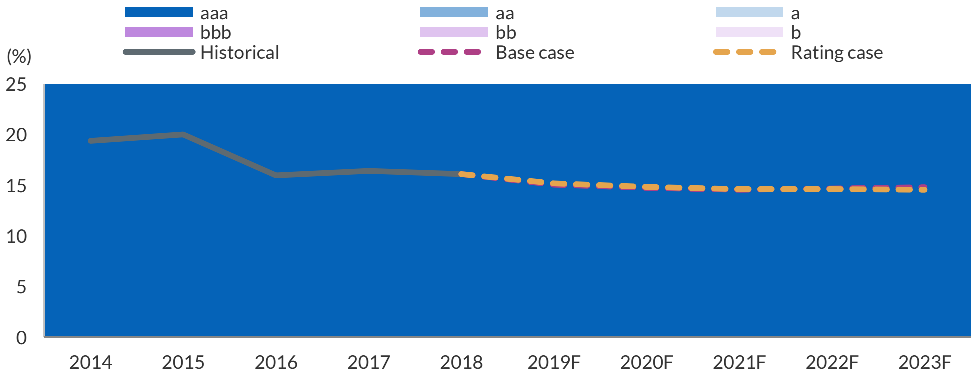


Source: Fitch Ratings, Canton of Zurich

Debt Sustainability Ratios:

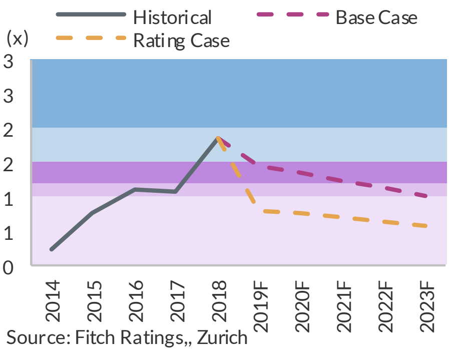
- **Economic liability burden**: (net adjusted debt + pro rate share of the central government's debt)/cantonal GDP
- **Payback:** Net adjusted debt/Operating balance (x)
- **Fiscal debt burden:** Net adjusted debt/operating revenue (%)
- **Synthetic debt service coverage ratio (DSCR):** operating balance/mortgage style debt annuity; Fitch's synthetic calculation (x; see *Appendix C*)

Economic Liability Burden - Fitch's Base and Rating Case Scenarios



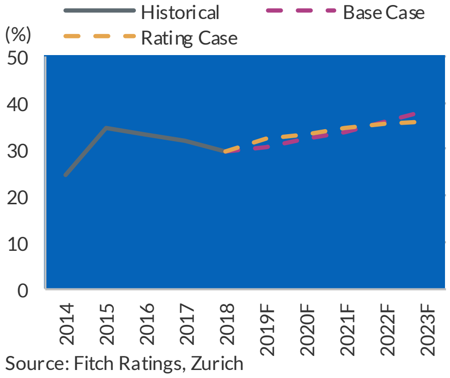
Source: Fitch Ratings, Zurich

Synthetic Debt Service Coverage Ratio - Fitch's Base and Rating Case Scenarios



Source: Fitch Ratings,, Zurich

Fiscal Debt Burden - Fitch's Base and Rating Case Scenarios



Source: Fitch Ratings, Zurich

Fitch's rating case scenario ends in 2023 and is based on conservative assumptions as reflected in the table below.

Fitch's Base and Rating Cases Main Assumptions

		2019-2023 CAGR	
	2014-2018	**Base case**	**Rating case**
National nominal GDP growth (Fitch's assumptions)[a]	2.8	1.3	1.3
Operating revenue growth (%)		1.6	1.3
Tax revenue and transfers received growth (%)		2.4	2.2[b]
Charges and fees growth (%)		1.4	1.3
Operating expenditure growth (%)		1.6	1.8[c]
Capital expenditure growth (%)		5.3	0.1[d]
Interest expenses growth (%)		5.8	8.4
Net capital expenditure (average per year; CHFm)		1,367	1,211

[a] Base case is based on Fitch's sovereign assumptions. Rating case is a stressed assumption used for Zurich's rating case scenario.
[b] Additional stress of -1pp for tax revenue.
[c] Additional stress of 1pp for opex.
[d] Starting 2020, adjustments in capex as the canton has shown a track record of underspending in case of need in the past.
Source: Fitch Ratings

Debt Sustainability Ratios – Fitch's Rating Case Scenario

	2018	**2023rc**
Economic liability burden (%)	16.1	14.6
Synthetic coverage (x)	1.8	0.6
Fiscal debt burden (%)	29.3	36.1

rc: Fitch's rating case
Source: Fitch Ratings, Canton of Zurich

Fitch's Rating-Case Scenario:

The rating case is a through-the-cycle scenario that incorporates a combination of revenue, cost or financial risk stresses.

Sound Operating Performance and Improving Debt Ratios

Zurich has a sound operating performance record and its operating margin improved to 4.1% in 2018 from 1.5% in 2017. Zurich's operating balance was CHF633 million in 2018 (2017: CHF409 million). In our rating case scenario, we expect it to stay at about CHF250 million to CHF300 million, mainly driven by conservative assumptions, including that opex will slightly grow above operating revenue. The margin may drop to below 2% but will remain sufficient to cover interest payments by over 2x. Only half of the canton's capex may be covered by its current balance and require additional debt. Our rating case assumptions towards the canton's capex plans are below the medium-term planning, considering that the canton used to underspend its investment plans, in case of a decline of revenue.

At end-2019, Zurich's total direct risk was CHF5,252 million (2018: CHF5,182 million) and we assume its debt will increase to CHF6,341 million in 2023. This is due to its capex considered in our rating case but that is well below the debt amount (CHF7.7 billion) that the canton has scheduled in its medium-term forecast. The canton's IDRs are driven by its 'Stronger' risk profile and its 'aaa' debt sustainability offering large leeway. Its economic liability burden was 16.1% in 2018 and our rating case is expecting a minor decline to 14.6% in 2023. Both are well below the trigger of 40%, which would then correspond to a debt sustainability assessment in the 'aa' category.

Other Rating Factors

Zurich's final IDR is driven by the canton's SCP that Fitch assesses as 'aaa'. No other rating factor affects the final rating.

From SCP to IDR: Factors Beyond the SCP

	Cap				
SCP	Sovereign rating	Rating cap	Support	Asymmetric risks	IDR
aaa	AAA	-	-	-	AAA

Source: Fitch Ratings

Peer Analysis

Canton of Zurich and International Peers

LRGs	Risk Profile	Primary metric (x)	SCP	IDR	Outlook
Canton of Zurich	Stronger	14.6	aaa	AAA	Stable
State of Berlin	Stronger	64.2	aa	AAA	Stable
State of Hamburg	Stronger	38.0	aaa	AAA	Stable
State of North Rhine-Westphalia	Stronger	55.8	aa+	AAA	Stable
State of Saxony-Anhalt	Stronger	62.1	aa	AAA	Stable
State of Schleswig-Holstein	Stronger	52.6	aa+	AAA	Stable

Source: Fitch Ratings

ESG Considerations

Unless otherwise disclosed in this section, the highest level of ESG credit relevance is a score of '3' – ESG issues are credit-neutral or have only a minimal credit impact on the entity, either due to their nature or the way in which they are being managed by the entity.

For more information on our ESG Relevance Scores, visit https://www.fitchratings.com/site/esg.

Appendix A

Canton of Zurich

(CHFm)	2015	2016	2017	2018	2019rc	2023rc
Taxes	6,448	6,751	6,744	6,851	7,078	7,721
Transfers received	4,450	4,332	4,591	4,742	4,665	4,735
Fees, fines and other operating revenues	3,541	3,559	3,692	3,867	3,870	4,106
Operating revenue	**14,439**	**14,642**	**15,027**	**15,460**	**15,613**	**16,562**
Operating expenditure	-14,114	-14,223	-14,617	-14,827	-15,089	-16,067
Operating balance	**325**	**418**	**409**	**633**	**524**	**495**
Interest revenue	399	594	564	488	562	442
Interest expenditure	-182	-117	-118	-87	-92	-130
Current balance	**543**	**896**	**855**	**1,034**	**994**	**807**
Capital revenue	168	363	145	121	87	92
Capital expenditure	-1,249	-770	-1,006	-1,110	-1,323	-1,089
Capital balance	**-1,081**	**-407**	**-861**	**-989**	**-1,236**	**-997**
Total revenue	15,006	15,598	15,736	16,068	16,262	17,096
Total expenditure	-15,545	-15,110	-15,742	-16,024	-16,504	-17,286
Surplus (deficit) before net financing	**-538**	**489**	**-6**	**45**	**-242**	**-190**
New direct debt borrowing	0	50	275	490	300	874
Direct debt repayment	-225	-500	-1,200	-207	-250	-447
Net direct debt movement	**-225**	**-450**	**-925**	**283**	**50**	**427**
Overall results	**-763**	**39**	**-931**	**328**	**-192**	**237**
Debt						
Short-term debt	400	600	1,450	1,150	1,170	2,259
Long-term debt	5,124	4,674	3,749	4,032	4,082	4,082
Intergovernmental debt	0	0	0	0	0	0
Direct debt	**5,524**	**5,274**	**5,199**	**5,182**	**5,252**	**6,341**
Other Fitch-classified debt	0	0	0	0	0	0
Adjusted debt	**5,524**	**5,274**	**5,199**	**5,182**	**5,252**	**6,341**
Guarantees issued (excluding adjusted debt portion)	15,654	17,948	21,885	21,296	23,205	23,205
Majority-owned GRE debt and other contingent liabilities	2,607	2,648	2,405	2,202	293	293
Overall adjusted debt	**23,785**	**25,870**	**29,489**	**28,680**	**28,750**	**29,839**
Total cash, liquid deposits, and sinking funds	561	452	439	659	736	0
Restricted cash	0	0	0	0	0	0
Unrestricted cash	561	452	439	659	736	0
Net adjusted debt	**4,963**	**4,822**	**4,760**	**4,523**	**4,516**	**6,341**
Net overall debt	**23,224**	**25,418**	**29,050**	**28,021**	**28,014**	**29,839**

rc: Fitch's rating case, based on conservative assumptions (see Debt Sustainability assessed at 'aaa'). 2023 is the last year of the rating case scenario.
Source: Fitch Ratings, Canton of Zurich

Appendix B

Canton of Zurich

	2015	2016	2017	2018	2019rc	2023rc
Fiscal performance ratios	.	2.9	2.7	4.1	3.4	3.0
Operating balance/operating revenue (%)	2.2	2.9	2.7	4.1	3.4	3.0
Current balance/current revenue (%)	3.7	5.9	5.5	6.5	6.2	4.8
Operating revenue growth (annual % change)	4.6	1.4	2.6	2.9	1.0	1.5
Operating expenditure growth (annual % change)	2.7	0.8	2.8	1.4	1.8	1.6
Surplus (deficit) before net financing/total revenue (%)	-3.6	3.1	0.0	0.3	-1.5	-1.1
Surplus (deficit) before net financing/GDP (%)	-0.5	0.3	0.0	0.0	-0.2	-0.1
Total revenue growth (annual % change)	0.9	4.0	0.9	2.1	.12	1.3
Total expenditure growth (annual % change)	4.3	-2.8	4.2	1.8	3.0	1.0
Debt ratios - type A						
Primary metrics						
Economic liability burden (%)	20.0	16.0	16.4	16.1	15.9	10.5
Enhanced economic liability burden (%)	20.0	16.0	16.4	16.1	15.9	10.5
Secondary metrics						
Payback ratio (x)	15.3	11.5	11.6	7.1	8.6	12.8
Overall payback ratio (x)	71.4	60.8	71.0	44.3	53.5	60.3
Fiscal debt burden (%)	34.4	32.9	31.7	29.3	28.9	38.3
Synthetic debt service coverage ratio (x)	0.8	1.1	1.1	1.9	1.6	1.0
Actual debt service coverage ratio (x)	0.8	0.7	0.3	2.2	1.5	0.9
Other debt ratios						
Liquidity coverage ratio (x)	5.6	1.6	0.7	3.6	3.5	0.9
Direct debt maturing in one year/total direct debt (%)	7.2	11.4	27.9	22.2	22.3	35.6
Direct debt (annual % change)	3.3	-4.5	-1.4	-0.3	1.4	7.2
Apparent cost of direct debt (interest paid/direct debt) (%)	3.4	2.2	2.3	1.7	1.8	1.9
Revenue ratios						
Tax revenue/total revenue (%)	43.0	43.3	42.9	42.6	43.5	45.2
Current transfers received/total revenue (%)	29.7	27.8	29.2	29.5	28.7	27.7
Interest revenue/total revenue (%)	2.7	3.8	3.6	3.0	3.5	2.6
Capital revenue/total revenue (%)	1.2	2.3	0.9	0.8	0.5	0.5
GDP deflated total revenue growth (annual % change)	1.6	4.6	1.3	0.9	1.0	0.9
Expenditure ratios						
Staff expenditure/total expenditure (%)	32.8	33.7	33.4	33.4	33.5	32.2
Current transfers made/total expenditure (%)	39.0	40.9	40.2	39.8	39.8	39.0
Interest expenditure/total expenditure (%)	1.2	0.8	0.8	0.5	0.6	0.8
Capital expenditure/total expenditure (%)	8.0	5.1	6.4	6.9	8.0	6.3
GDP deflated total expenditure growth (annual % change)	5.0	-2.2	4.6	0.9	1.0	0.9

rc: Fitch's rating case, based on conservative assumptions (see Debt Sustainability assessed at 'aaa'). 2023 is the last year of the rating case scenario.
Source: Fitch Ratings, Canton of Zurich

Appendix C: Data Adjustments

Net Adjusted Debt Calculation

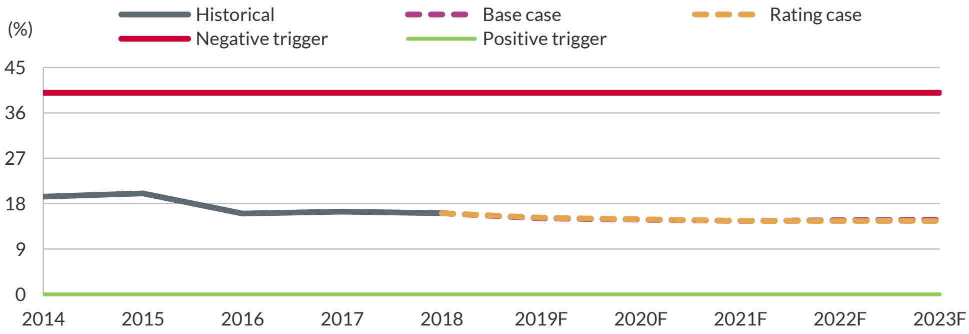
- Net adjusted debt calculation (including unrestricted cash calculation, if applicable).

Synthetic Coverage Calculation

- Fitch's synthetic coverage calculation assumes a mortgage-style amortisation over 15 years of the entity's net adjusted debt, using its average cost of debt. This synthetic calculation is used to assess the Canton of Zurich's debt sustainability.

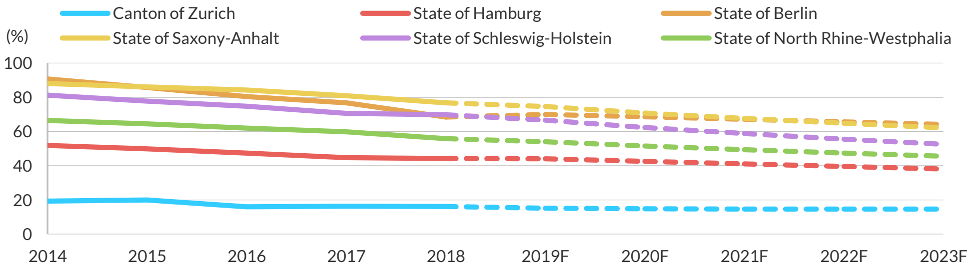
Appendix D: Rating Cases Comparisons and Rating Sensitivities

Economic Liability Burden - Fitch's Base and Rating Case Scenario



Source: Fitch Ratings, Canton of Zurich

Zurich and Fitch-Rated German States: Rating Case Scenarios - Economic Liability Burden



Source: Fitch Ratings, Fitch-rated LRGs

The ratings above were unsolicited and have been provided by Fitch as a service to investors.