



KOF International Forecasts

The Global Economy from a Swiss Perspective

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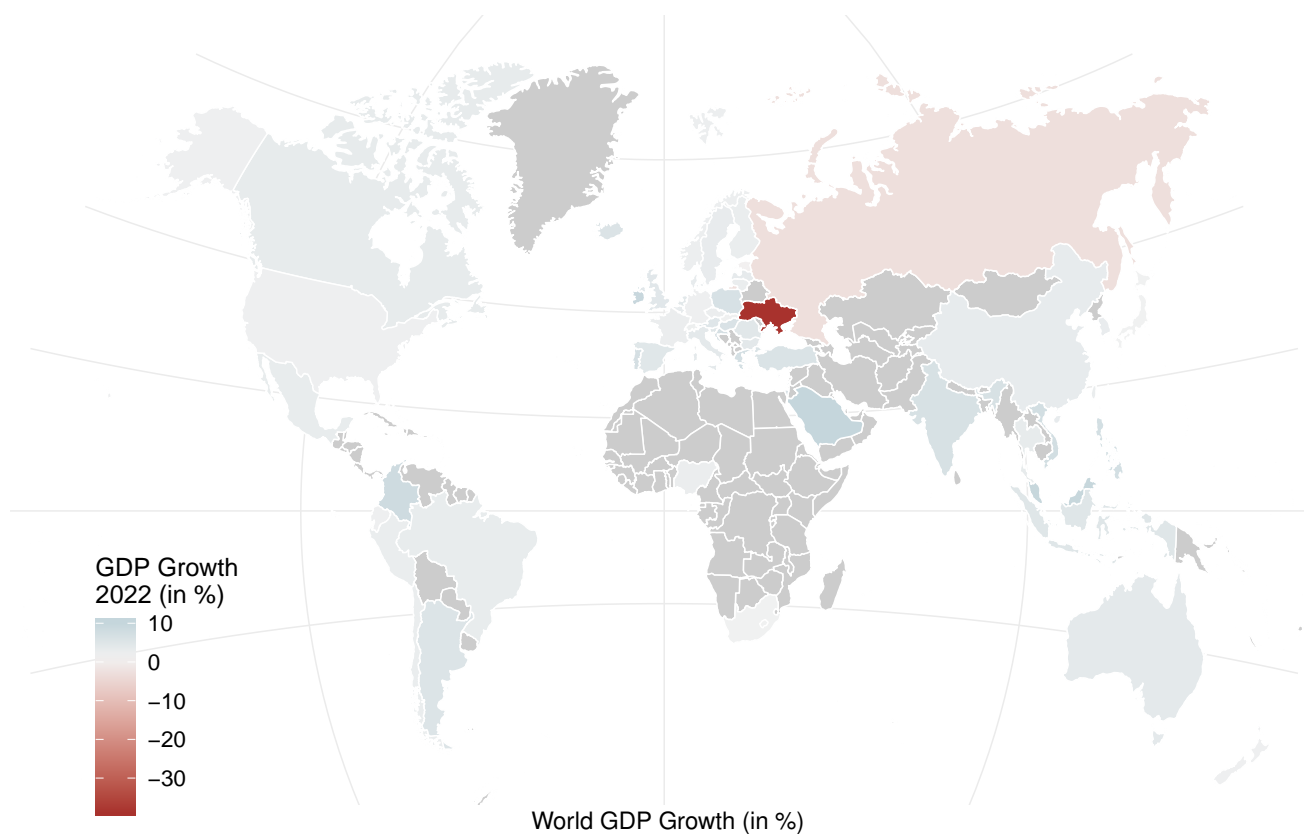
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Comments? Suggestions? Questions?

Do not hesitate to contact internationalforecasts@kof.ethz.ch.

1 Global Overview

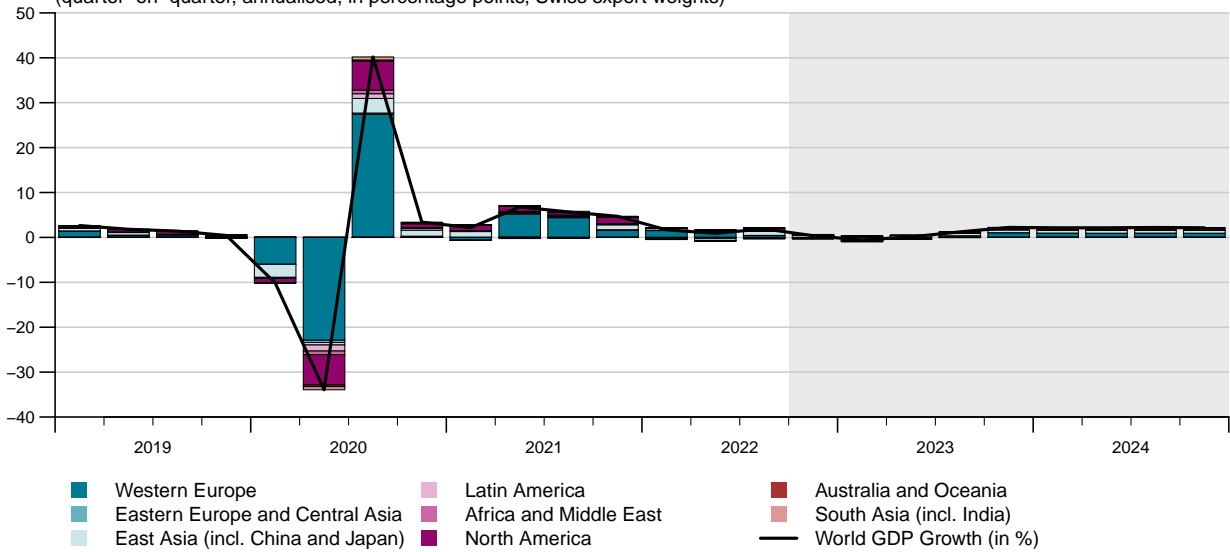


	2020	2021	2022	2023	2024
World	-3.4	6.3	3.1	1.5	2.6
Western Europe	-6.4	5.6	3.6	0.2	1.4
Germany	-4.1	2.6	1.8	-0.7	1.4
United Kingdom	-11.0	7.5	4.4	-0.7	0.2
France	-7.9	6.8	2.5	-0.3	0.8
Italy	-9.1	6.7	3.8	0.0	0.6
North America	-3.0	5.8	1.9	0.3	1.7
United States	-2.8	5.9	1.8	0.3	1.7
East Asia	-0.3	6.5	3.1	3.5	4.0
China	1.8	8.6	3.2	4.5	4.8
Japan	-4.7	1.7	1.4	0.0	1.1
South Asia	-6.8	8.4	6.5	6.0	5.7
India	-6.8	8.4	6.5	6.0	5.7
Eastern Europe and Central Asia	-2.6	4.5	-6.7	-5.9	-0.1
Russia	-2.5	4.6	-3.0	-2.8	0.7
Latin America	-7.5	7.8	4.4	0.9	2.3
Brazil	-4.2	4.9	3.0	1.3	2.1
Africa and Middle East	-1.3	8.1	6.0	2.7	3.3
Australia and Oceania	-2.0	4.9	3.7	2.2	2.9
Euro Area	-6.3	5.3	3.3	0.1	1.4
European Union	-5.8	5.3	3.5	0.3	1.6
OECD	-4.5	5.6	3.0	0.7	1.9
G20	-3.3	6.4	3.1	1.5	2.5

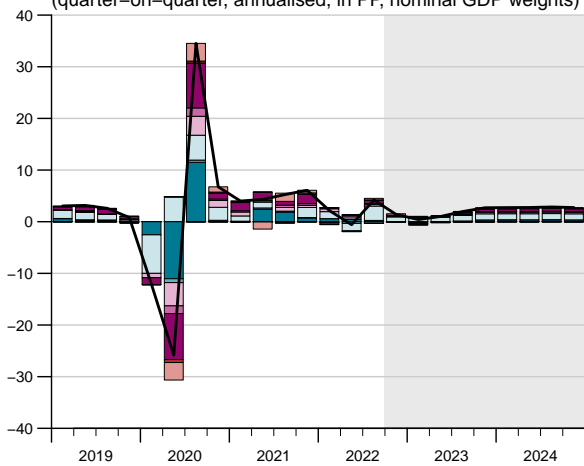
World and regional GDPs are aggregated from the GDPs of the individual countries using the annual overlap method and nominal GDP weights.

1.1 Real Variables

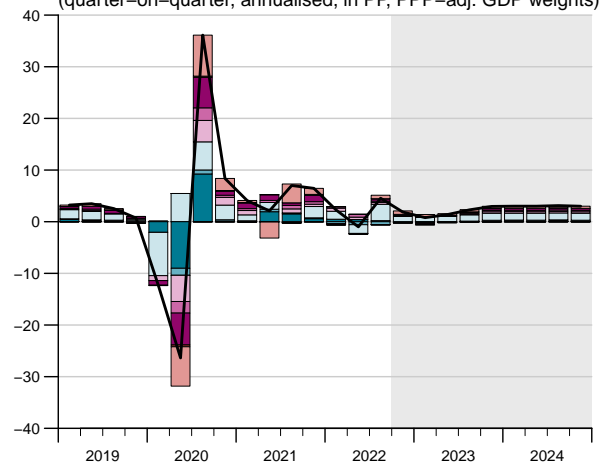
Regional Contributions to World GDP Growth: The Swiss Perspective
(quarter-on-quarter, annualised, in percentage points, Swiss export weights)



Regional Contributions to World GDP Growth
(quarter-on-quarter, annualised, in PP, nominal GDP weights)

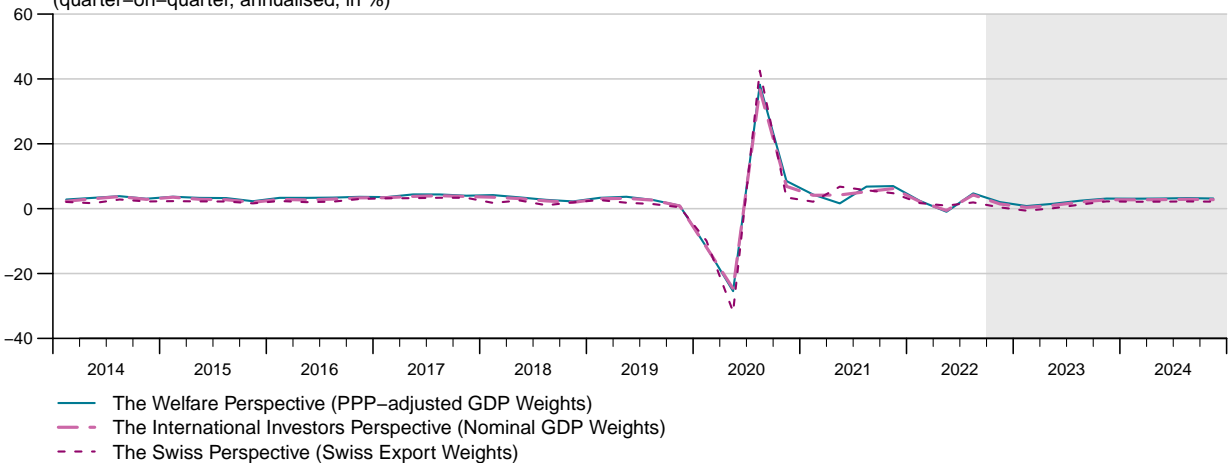


Regional Contributions to World GDP Growth
(quarter-on-quarter, annualised, in PP, PPP-adj. GDP weights)

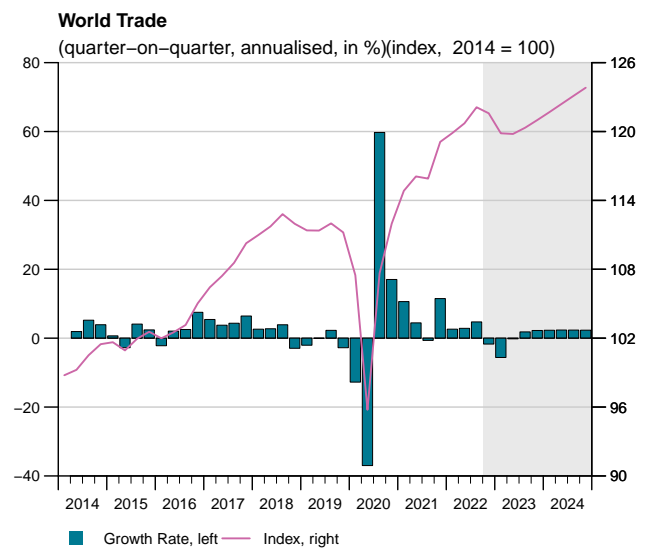
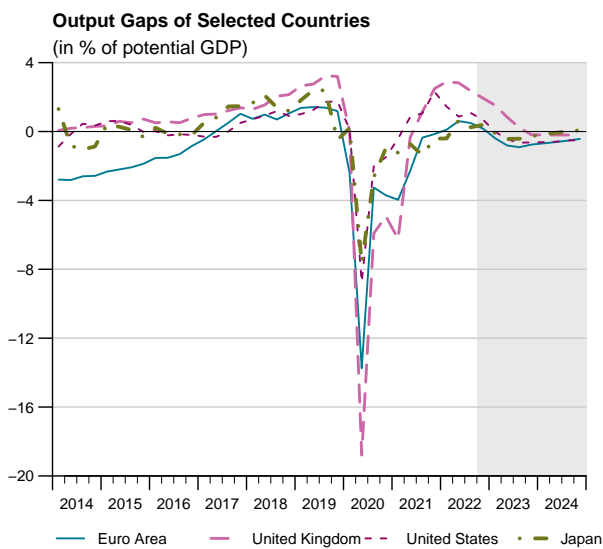
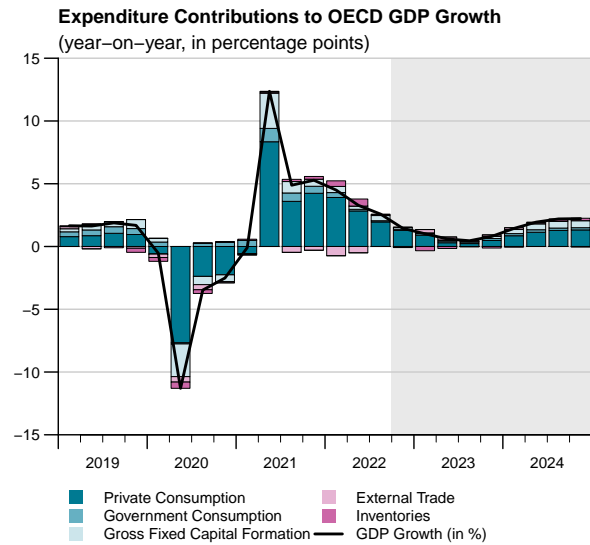
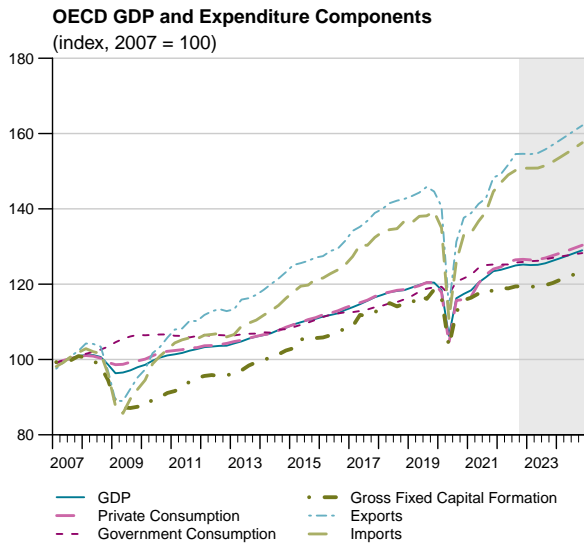


Switzerland is a small open economy which is strongly integrated in the global economy. The business cycle development in the international destinations of Swiss exports is a crucial driving factor for the Swiss business cycle. An important measure is therefore real world GDP growth with the individual trading partner countries' GDP growth weighted by their share of total nominal exports of Swiss goods. From a financial investors perspective, a better measure is obtained by using nominal GDP weights because this allows for comparable changes in value added. From a welfare perspective, it is best to use nominal GDP weights that are adjusted for purchasing power in the corresponding countries. This accounts for the fact that goods and services tend to be cheaper in developing economies.

Perspectives on World GDP Growth
(quarter-on-quarter, annualised, in %)



Due to data limitations for some emerging economies KOF refrains from forecasting expenditure components of world GDP. Instead KOF forecasts expenditure components of OECD GDP. The OECD comprises all major developed economies. Nominal OECD GDP accounts for around 67% of world nominal GDP. The OECD GDP forecasts and the OECD expenditure component forecasts result from aggregating the GDP forecasts and expenditure component forecasts for the individual OECD member countries (bottom-up approach).

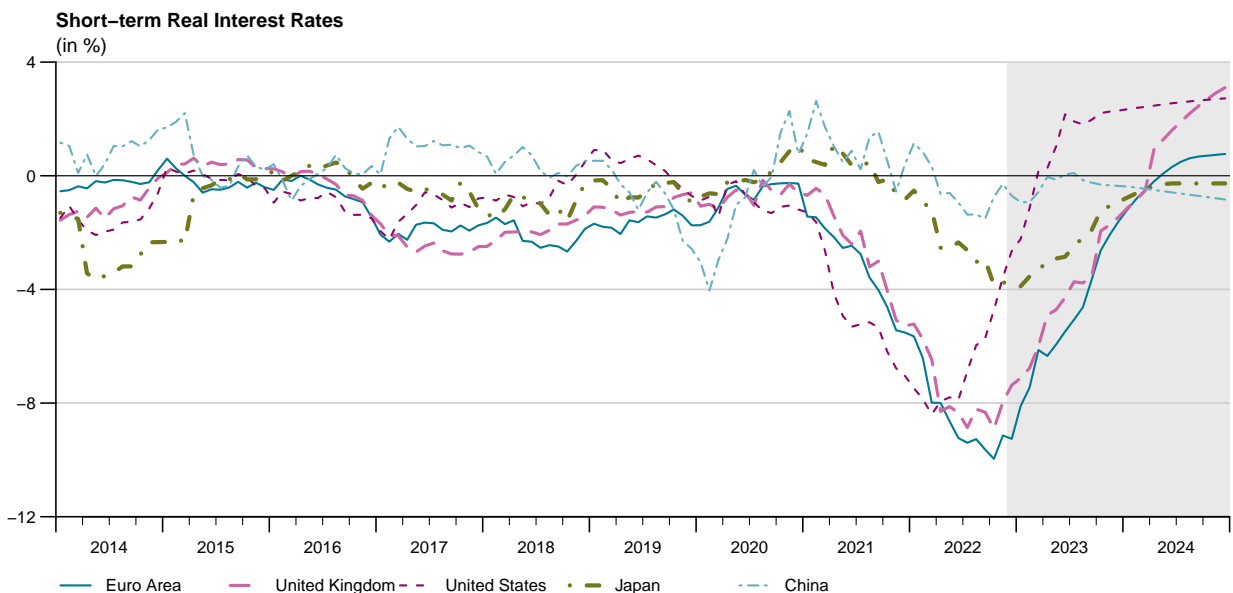
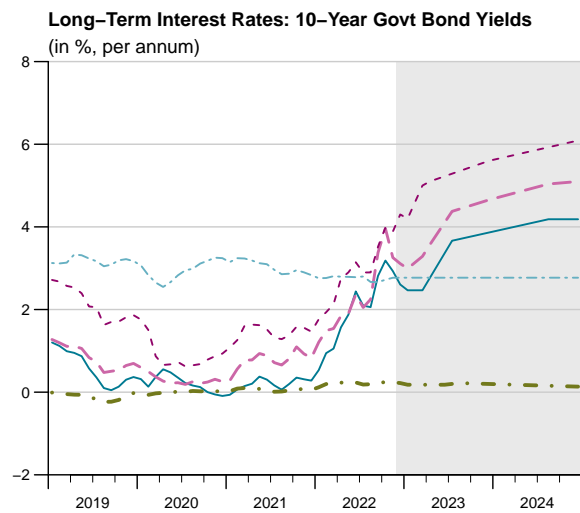
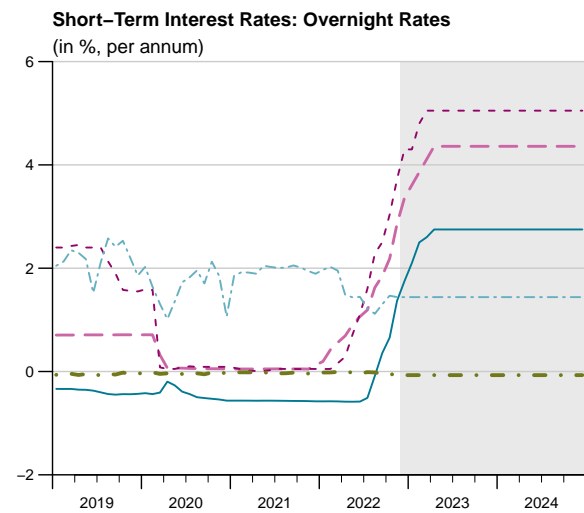
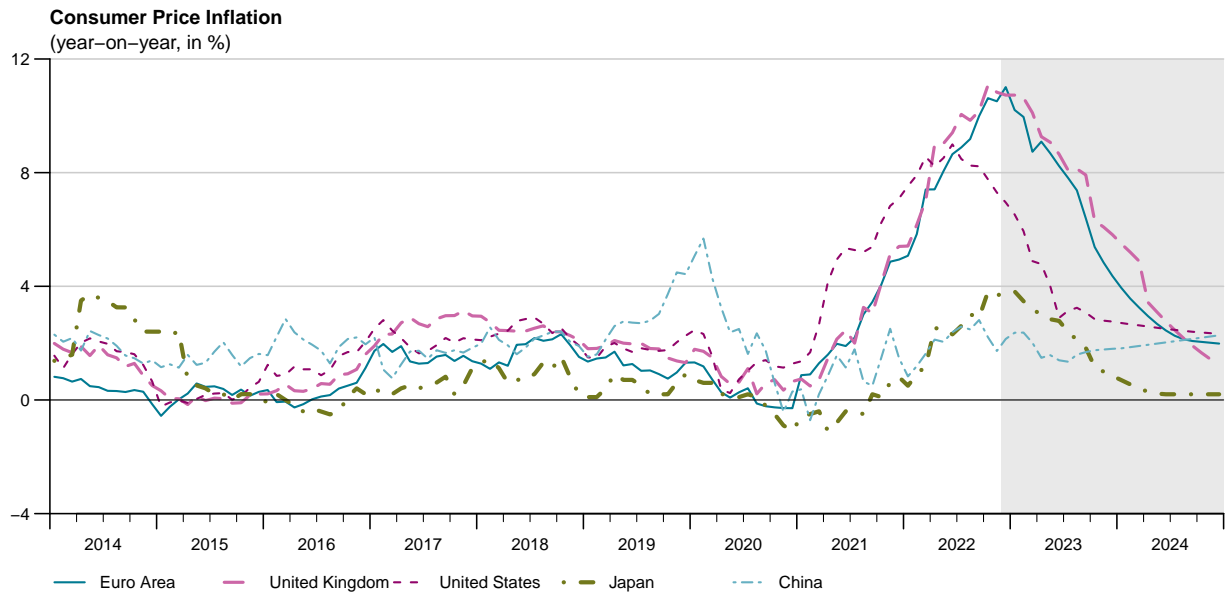


Key Economic Variables for the OECD

	2009-19	2020	2021	2022	2023	2024
Gross Domestic Product	2.1	-4.5	5.6	3.0	0.7	1.9
Domestic Demand (1)	2.1	-3.9	5.7	3.0	0.7	1.8
Private Consumption Expenditures	1.9	-5.4	6.6	4.2	0.8	1.9
Government Consumption Expenditures	1.1	1.3	3.8	1.0	0.8	1.0
Gross Domestic Capital Formation	2.9	-3.9	4.8	1.5	0.4	2.2
Inventories (1)	0.0	-0.3	0.1	0.3	-0.1	0.1
External Trade Balance (1)	0.1	-0.3	-0.2	-0.3	0.2	0.1
Exports	4.7	-9.5	9.2	6.8	2.0	3.0
Imports	4.5	-8.5	9.8	7.7	1.4	2.8

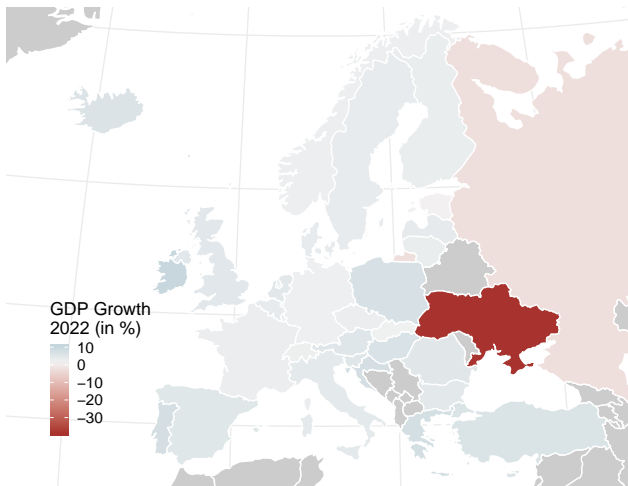
(1) Growth Contributions

1.2 Monetary Variables



Short-term real interest rates are calculated using the theory of adaptive inflation expectations, i.e. the short-term real interest rate is the difference between the short-term nominal interest rate and the current inflation rate.

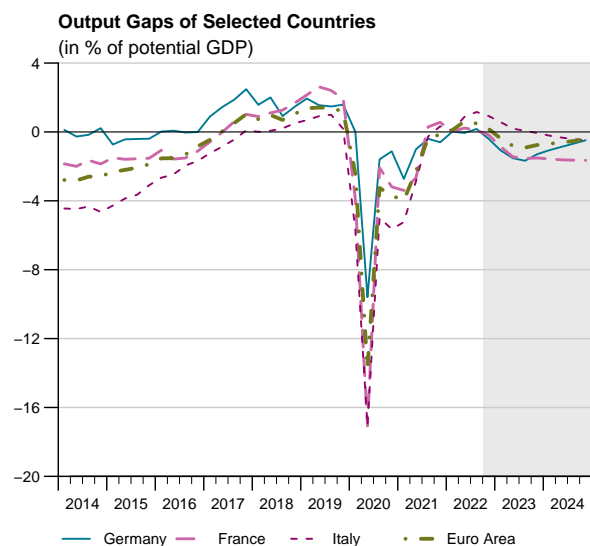
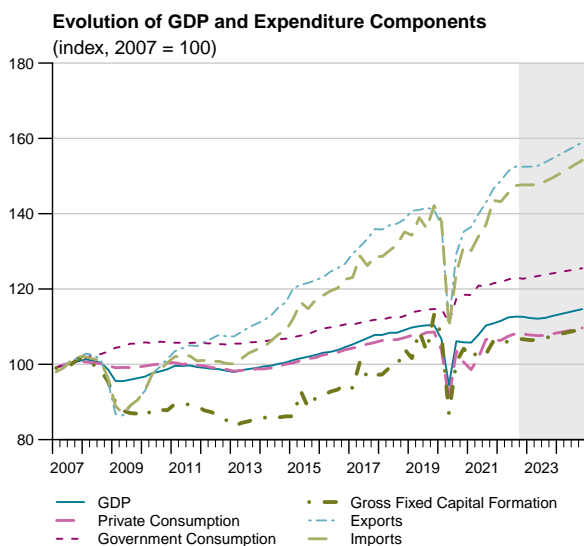
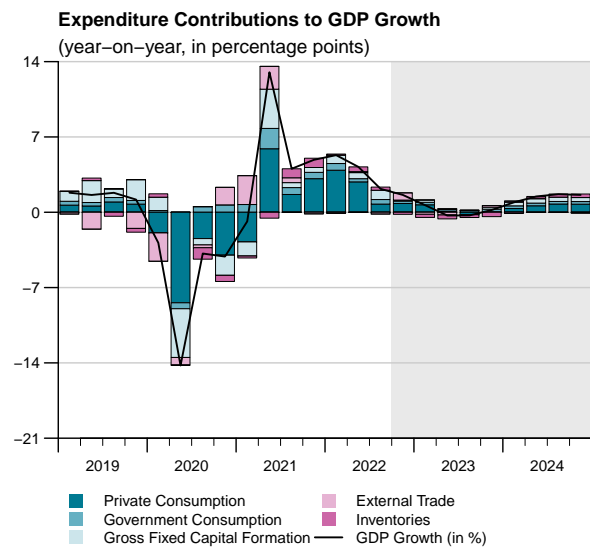
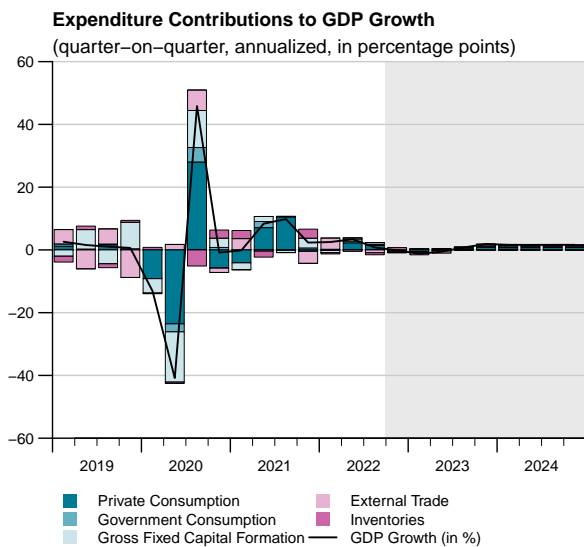
2 Europe Overview

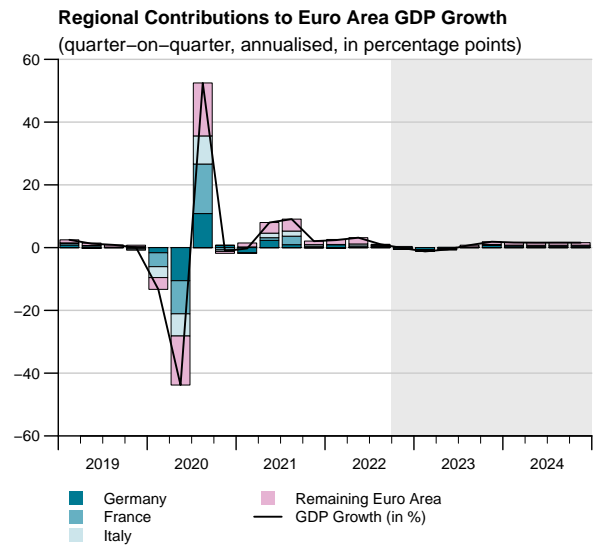
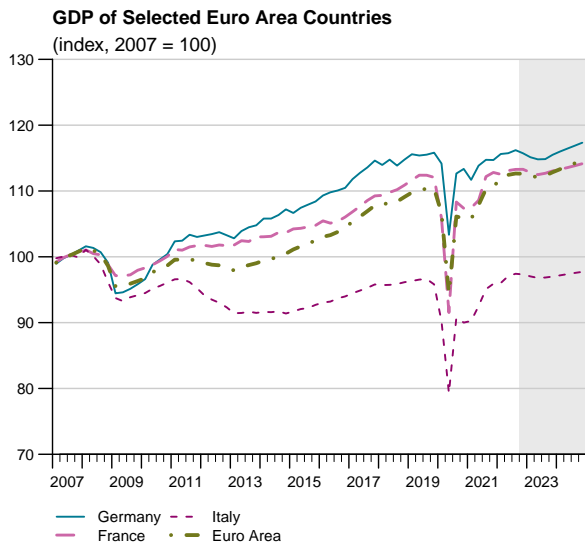


GDP Growth in Europe (in %)

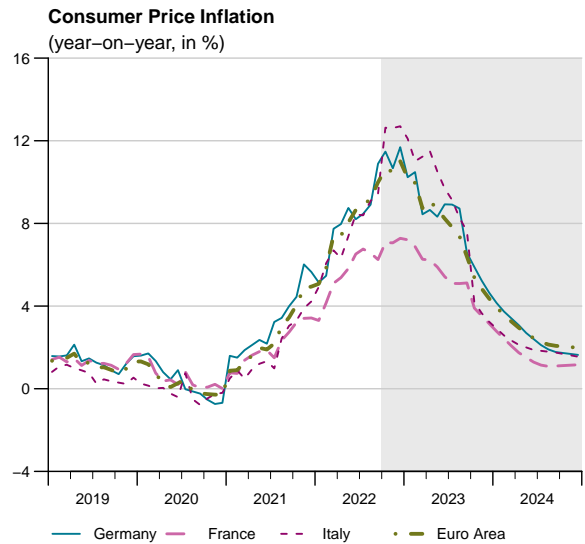
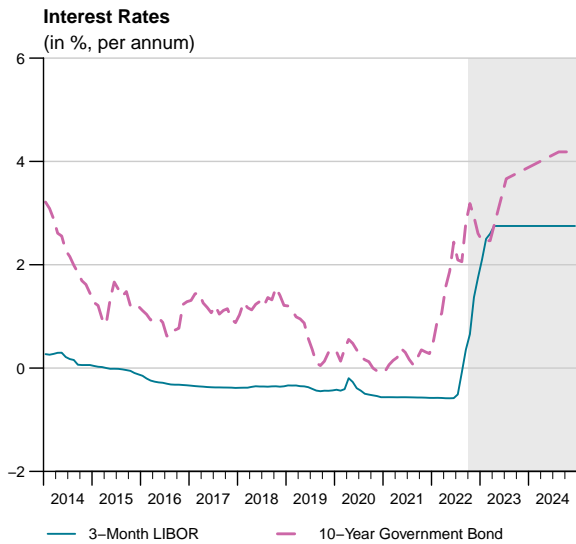
	2022	2023	2024
Western Europe	3.6	0.2	1.4
Germany	1.8	-0.7	1.4
United Kingdom	4.4	-0.7	0.2
France	2.5	-0.3	0.8
Italy	3.8	0.0	0.6
Spain	4.6	0.0	1.7
Netherlands	4.3	1.0	1.8
Switzerland	2.0	0.7	2.1
Sweden	3.1	1.5	2.3
Poland	6.4	2.5	3.8
Belgium	3.2	0.4	1.7
Austria	4.8	0.5	1.6
Norway	2.3	1.5	1.9
Ireland	9.5	4.6	5.0
Euro Area	3.3	0.1	1.4
European Union	3.5	0.3	1.6

2.1 Euro Area Real Variables





2.2 Euro Area Monetary Variables

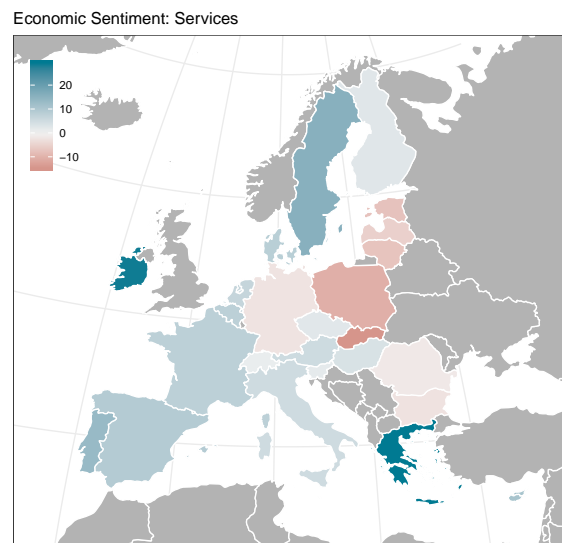
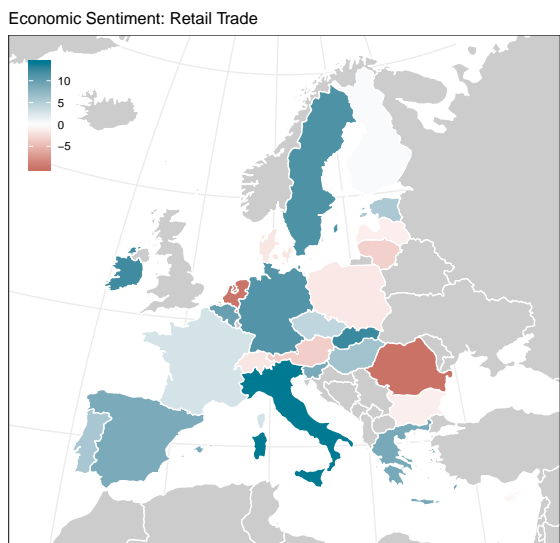
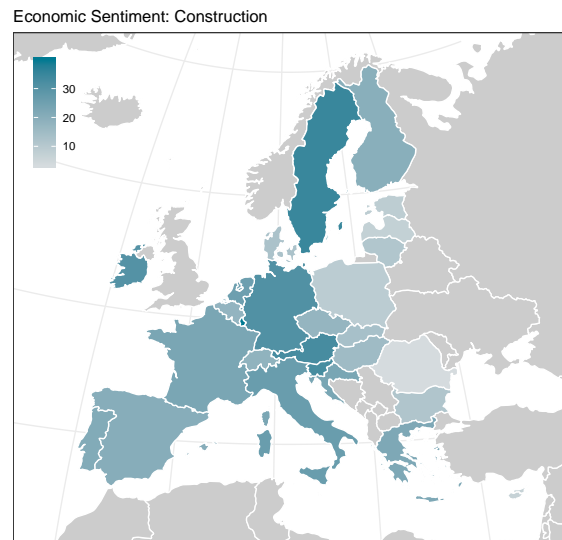
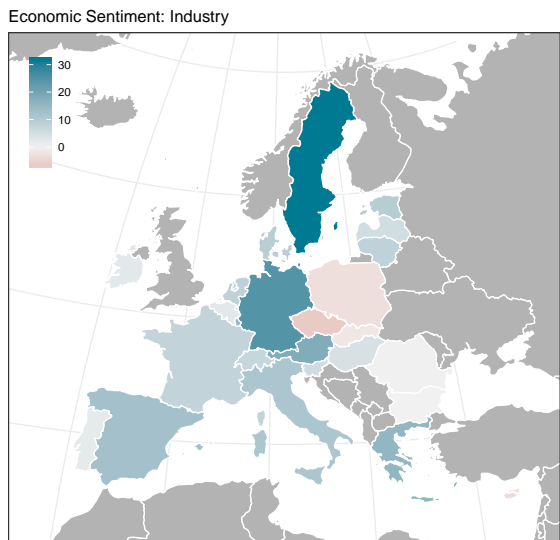
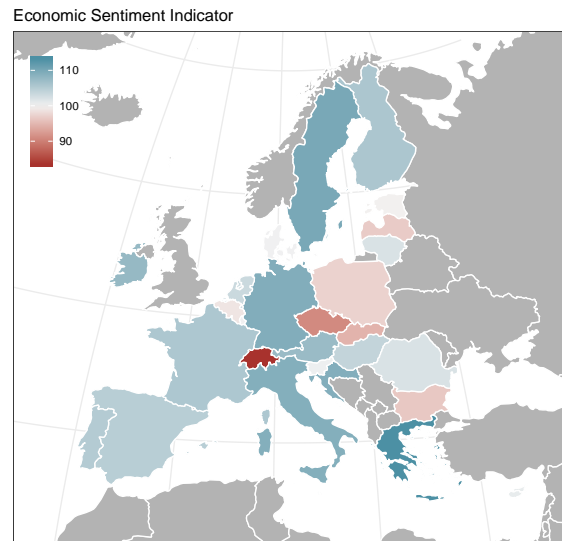
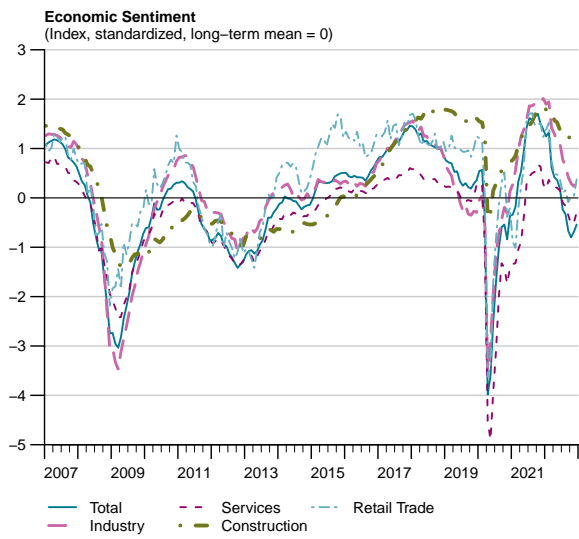


Key Economic Variables for the Euro Area

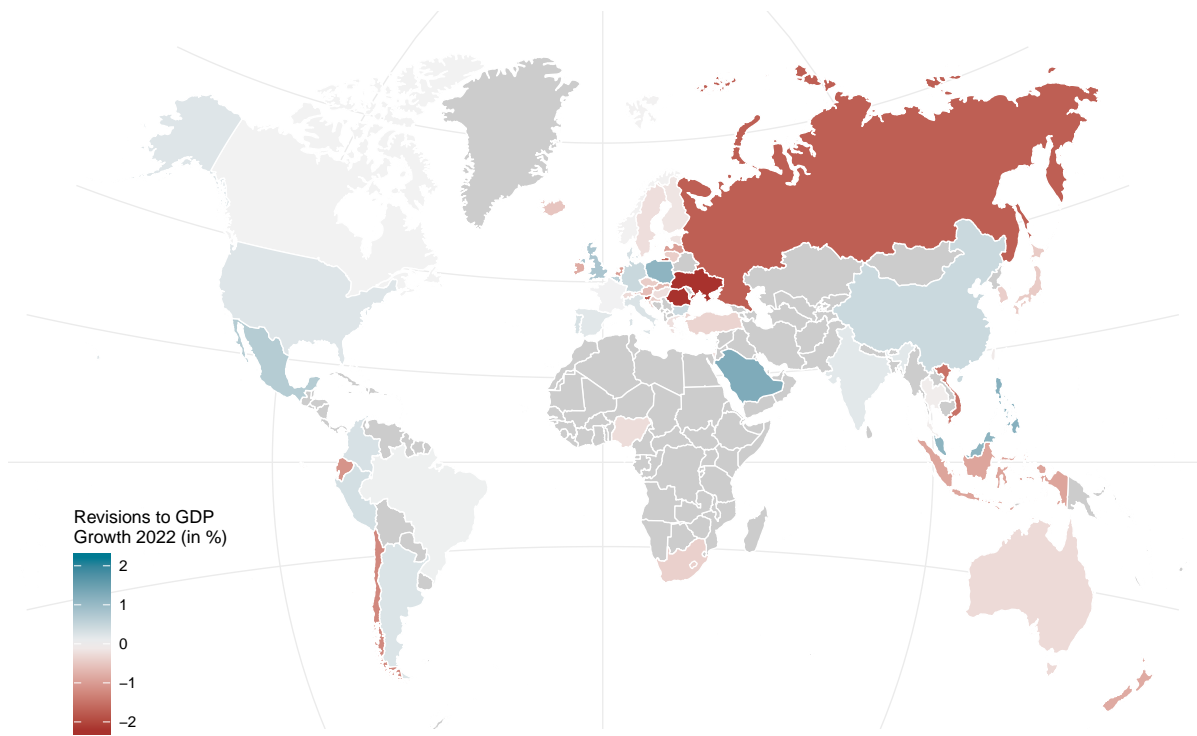
	2009-19	2020	2021	2022	2023	2024
Gross Domestic Product	1.4	-6.3	5.3	3.3	0.1	1.4
Domestic Demand (1)	1.3	-5.4	3.8	3.0	0.5	1.2
Private Consumption Expenditures	0.9	-7.8	3.7	4.0	0.3	1.2
Government Consumption Expenditures	0.9	1.0	4.3	1.8	0.9	1.1
Gross Domestic Capital Formation	2.0	-6.5	3.7	2.6	0.6	1.7
Inventories (1)	0.0	-0.3	0.2	0.2	-0.3	0.2
External Trade Balance (1)	0.2	-0.5	1.3	0.1	-0.1	0.0
Exports	4.8	-9.2	10.5	6.9	1.4	2.6
Imports	4.5	-8.7	8.3	7.2	1.7	2.7
Consumer Price Inflation	1.4	0.3	2.6	8.6	7.5	2.6
3-Month LIBOR	0.2	-0.4	-0.6	0.0	2.7	2.8
10-Year Government Bond Yield	2.3	0.2	0.2	2.0	3.3	4.1

(1) Growth Contributions

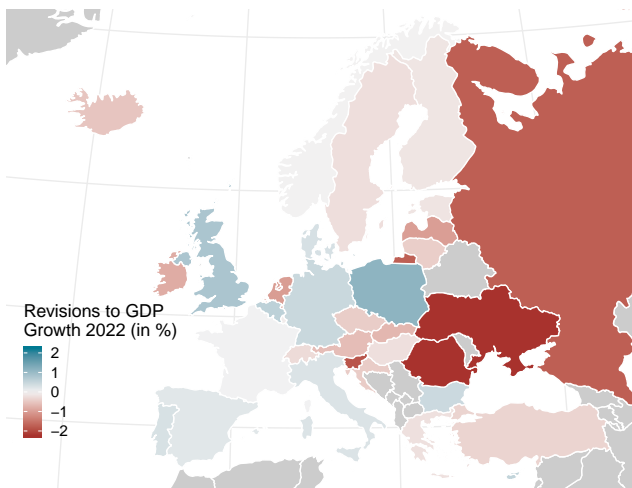
2.3 Europe Economic Sentiment



3 Forecast Revisions

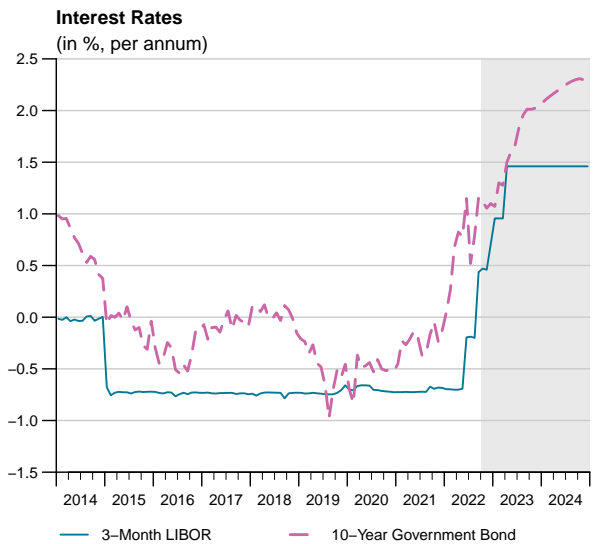
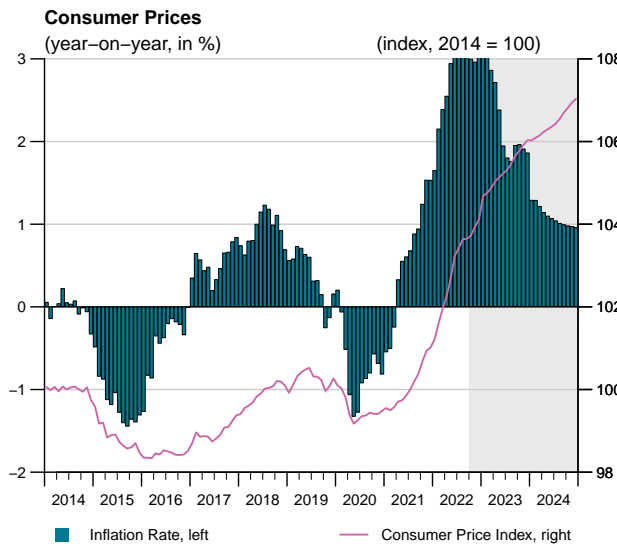
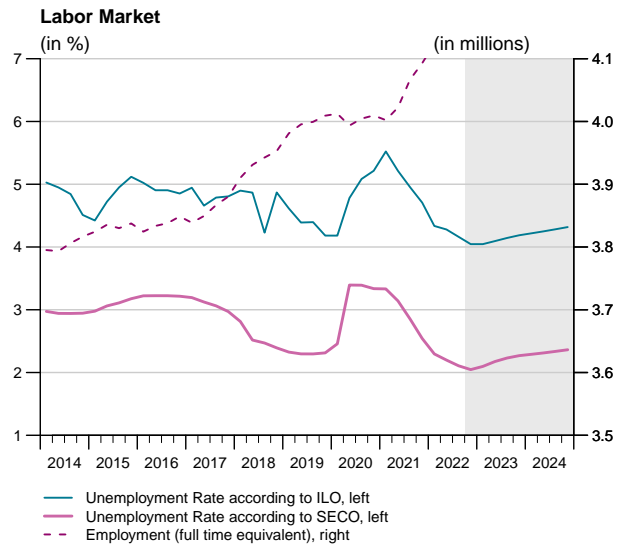
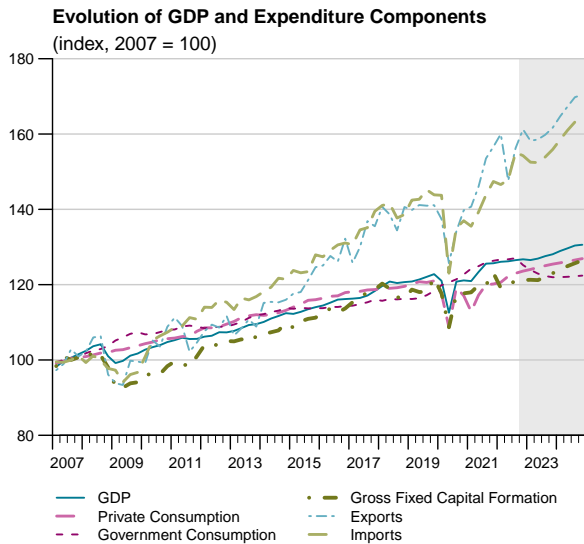
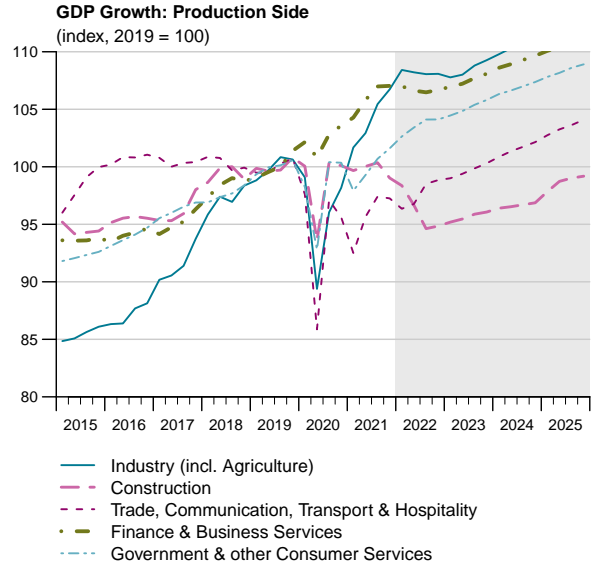
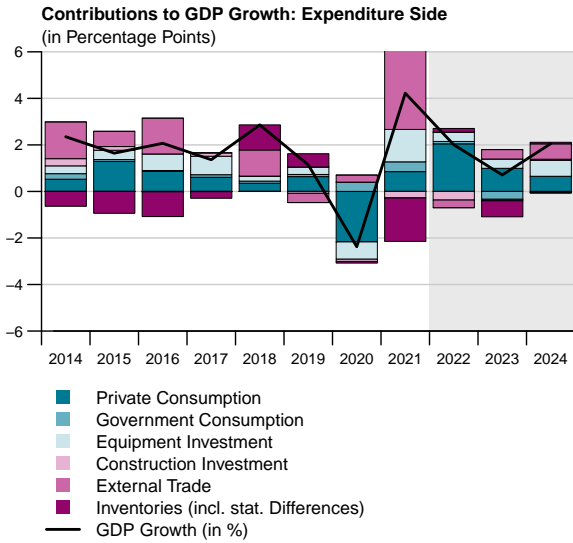


These maps show the revisions to our GDP forecasts as compared to the projections in the preceding quarter. The revisions reflect new information such as positive or negative shocks, surprises and other exogenous factors that have affected the predictions.

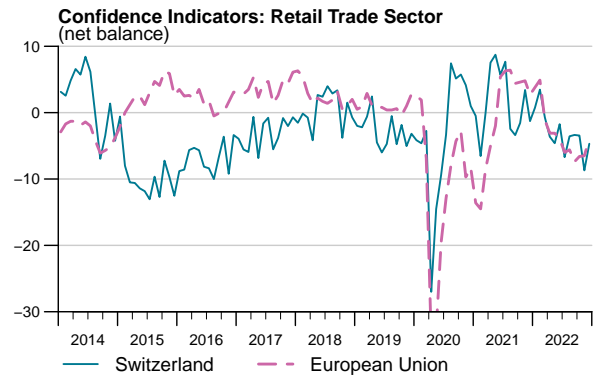
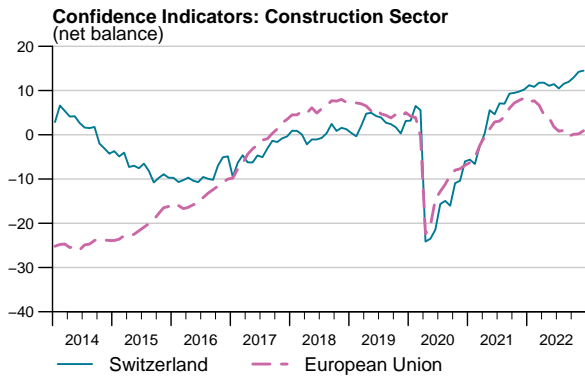
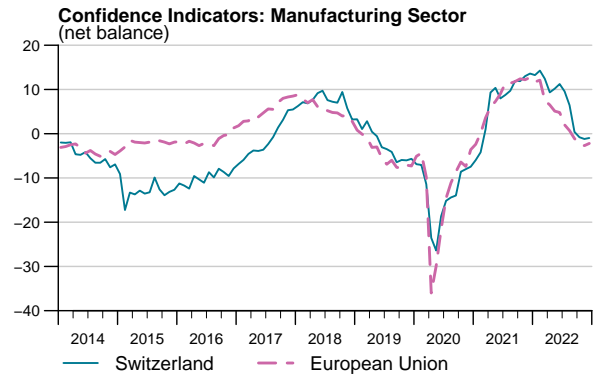
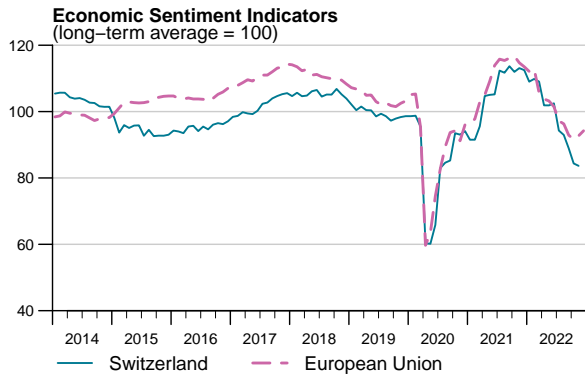


4 Switzerland

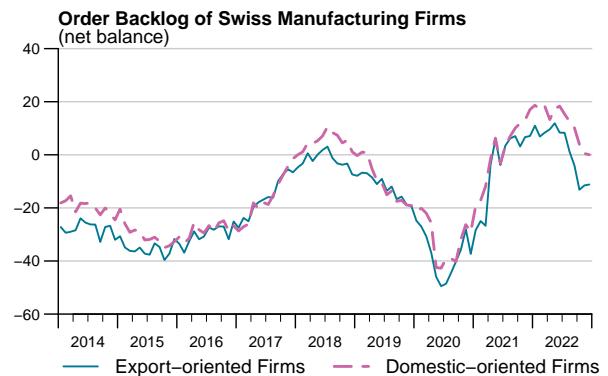
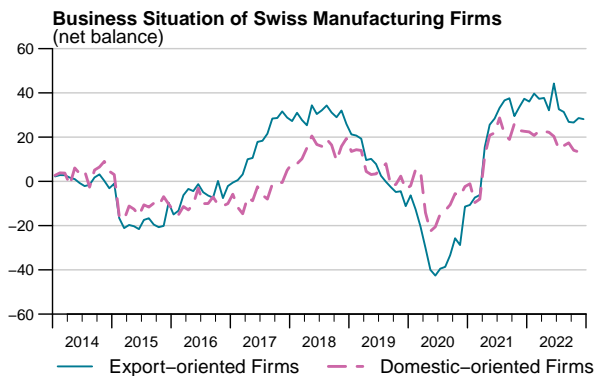
4.1 Real and Monetary Variables



4.2 Survey Indicators

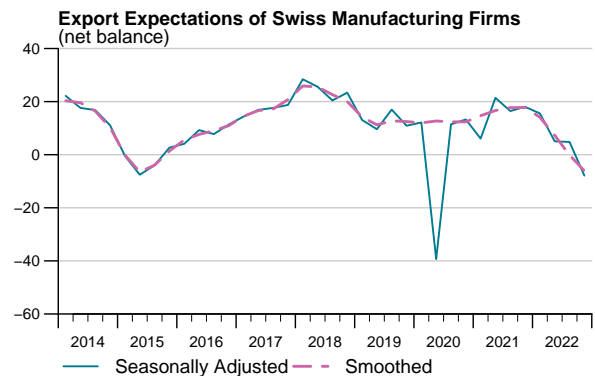
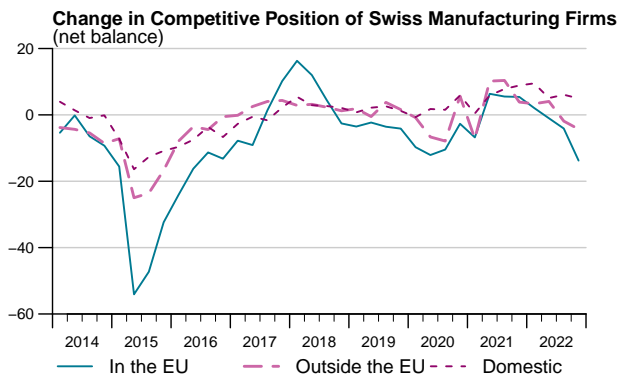


Economic Sentiment Indicator (ESI): A composite indicator made up of five sectoral confidence indicators with different weights: industrial (40 %), construction (5 %), services (30 %), retail trade (5 %), and consumers (20 %). **Confidence indicator (CI):** A statistical indicator based on the results from business tendency surveys. Each confidence indicator is calculated as the simple arithmetic average of the (seasonally adjusted) balances of positive and negative answers to specific questions. The **ESI and the CIs for Switzerland** base on the KOF Business Tendency Surveys among Swiss firms and a survey among Swiss consumers conducted by the Swiss State Secretariat for Economic Affairs SECO. The **ESI and the CIs for the EU** base on surveys conducted by various European institutes and are assembled by the European Commission.



Business situation indicator: Share of firms that judge their business situation as good minus share of firms that judge their business situation as bad.

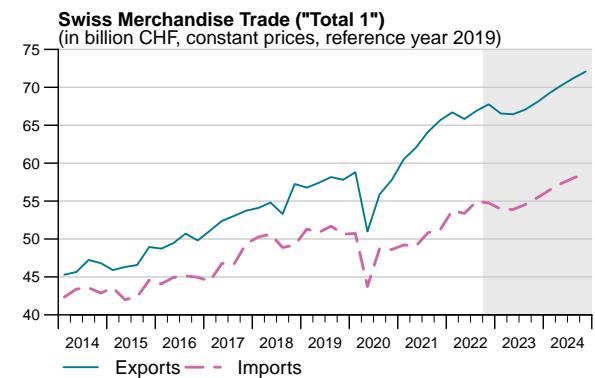
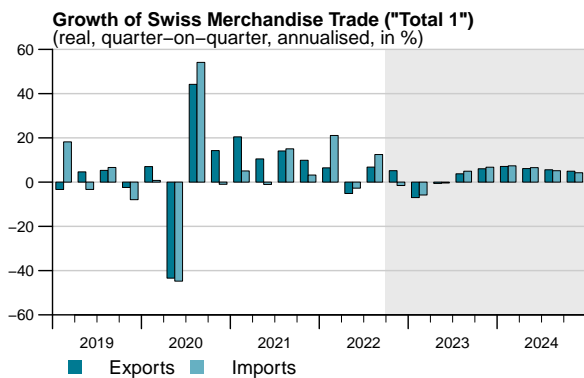
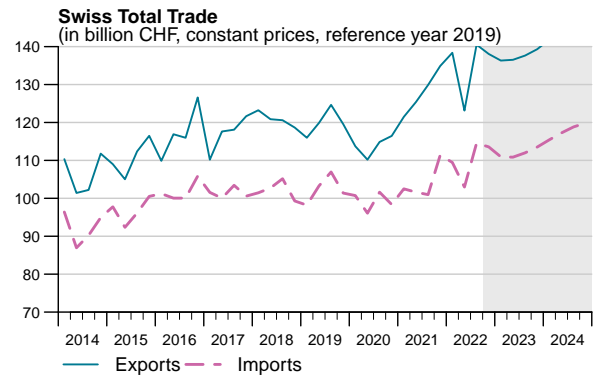
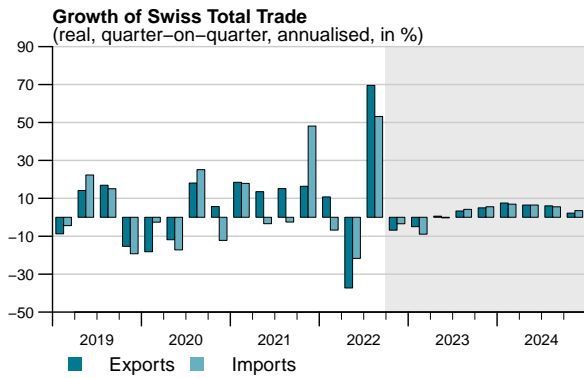
Order backlog indicator: Share of firms that judge their order backlog as high minus share of firms that judge their order backlog as too small.



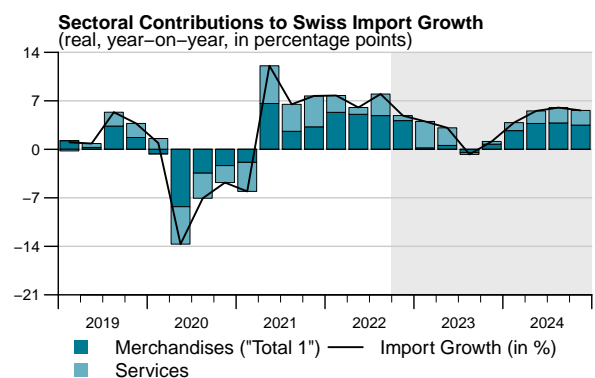
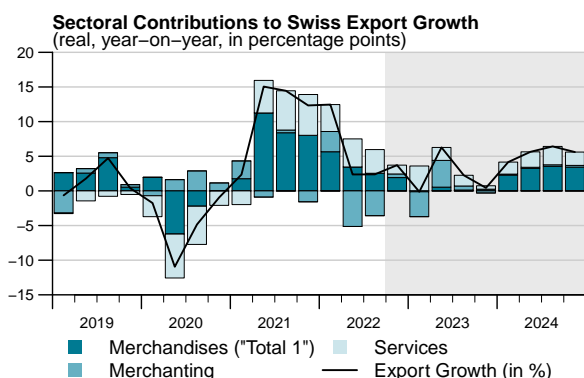
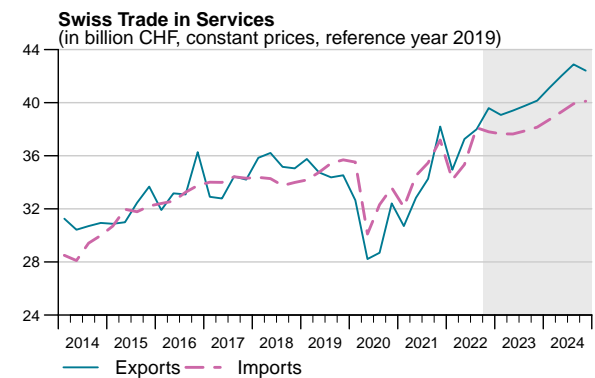
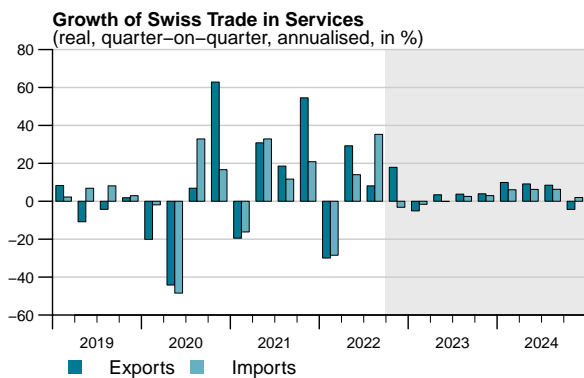
Competitive position indicator: Share of firms that judge that their competitive position has improved during the past three months minus share of firms that judge that their position has worsened.

Export expectations indicator: Share of firms that expect their exports to increase during the next three months minus share of firms that expect their exports to decrease during the next three months.

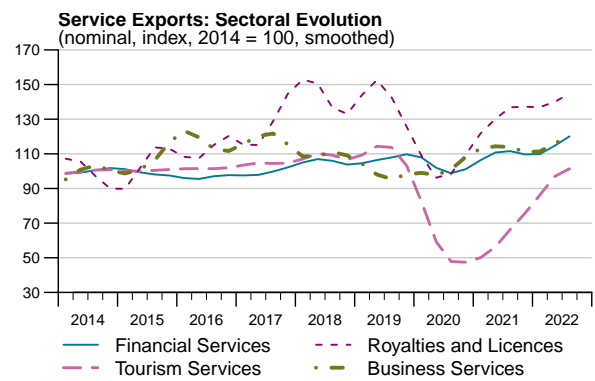
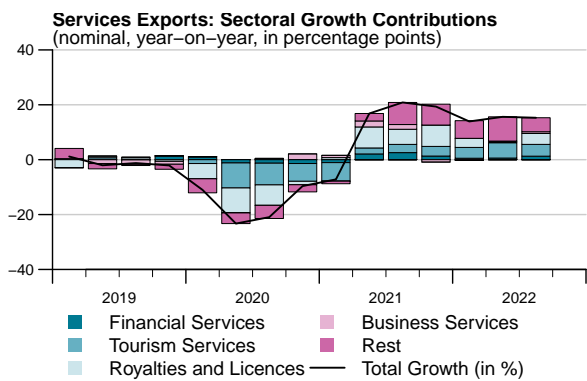
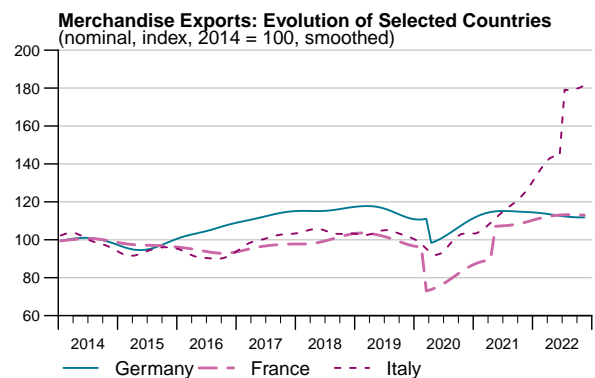
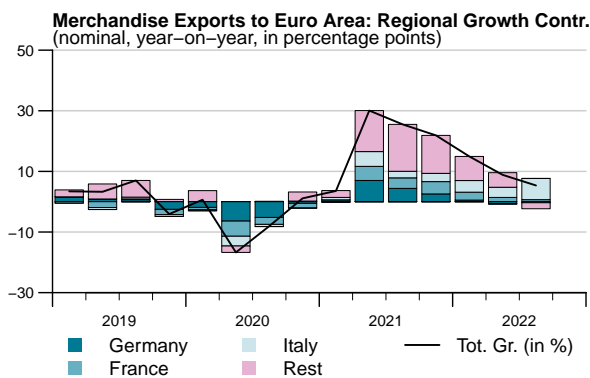
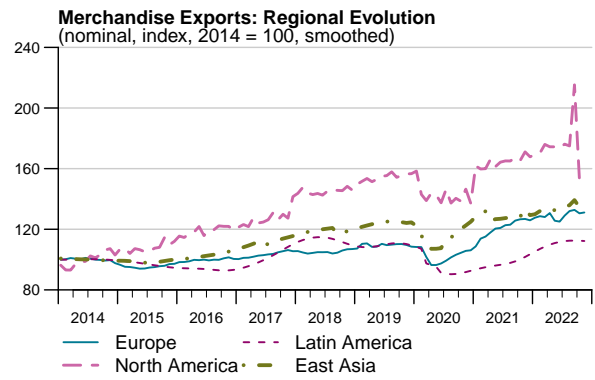
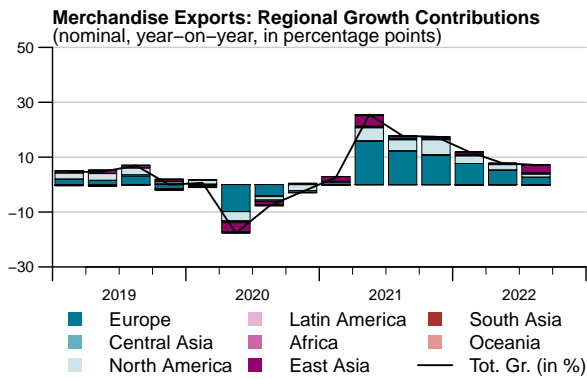
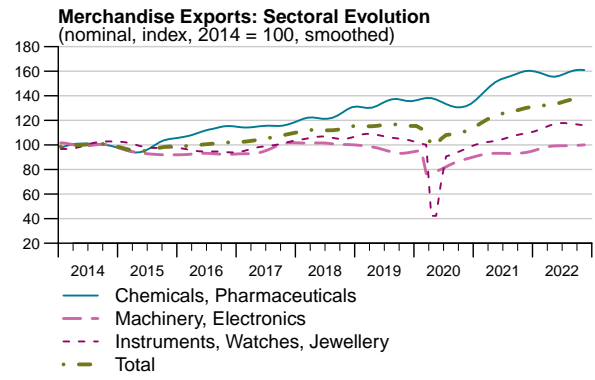
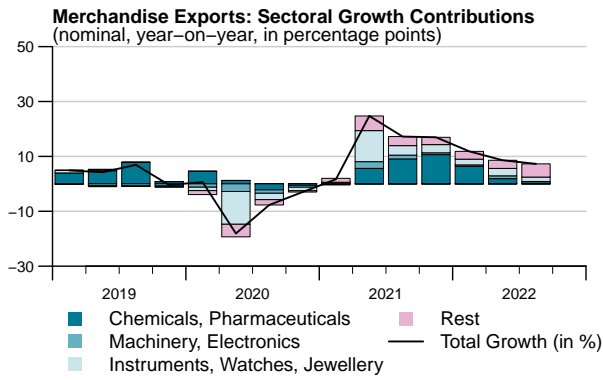
4.3 Foreign Trade



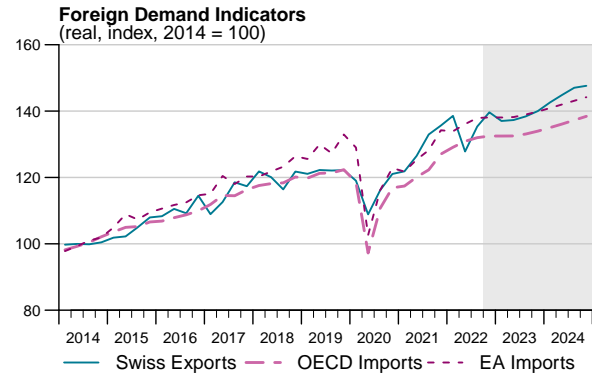
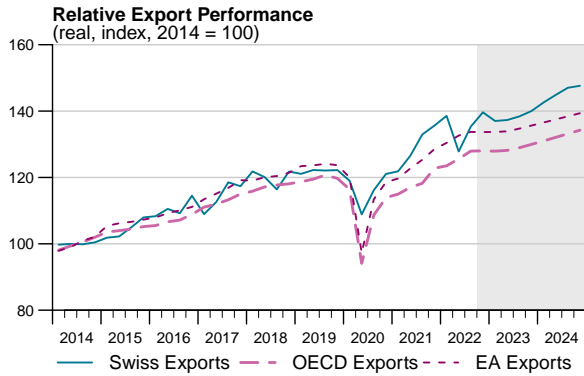
Total 1 comprises the total of merchandise trade excluding merchandising and valuables (precious metals, precious stones and gems, works of art and antiques). These trade categories are very volatile and their development is only weakly connected to the Swiss business cycle.



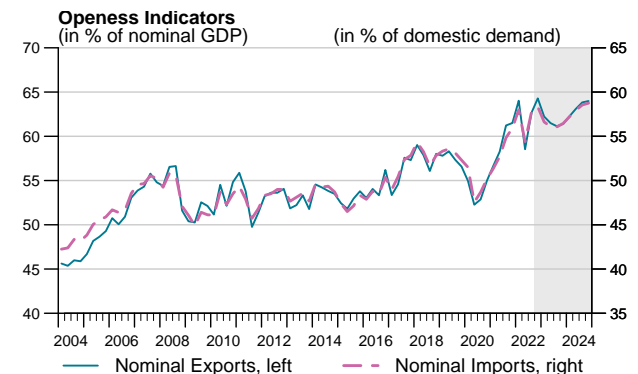
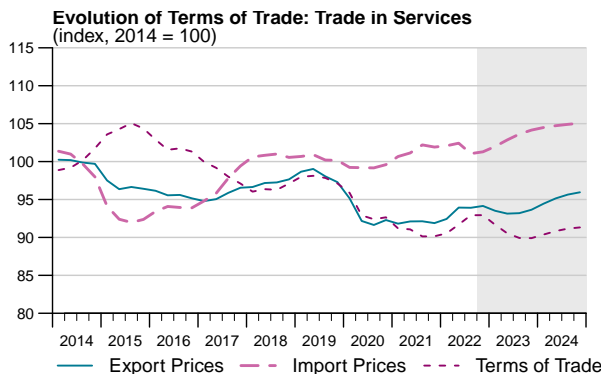
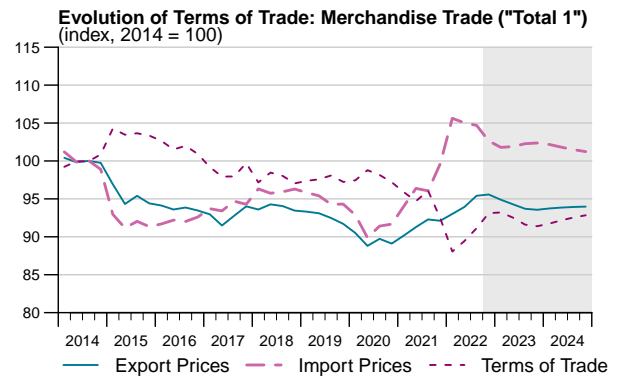
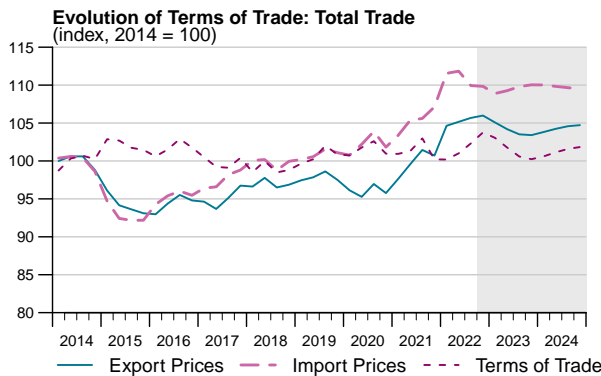
4.4 Disaggregated Exports



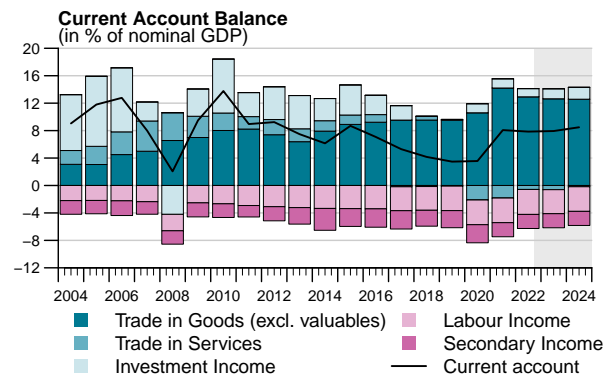
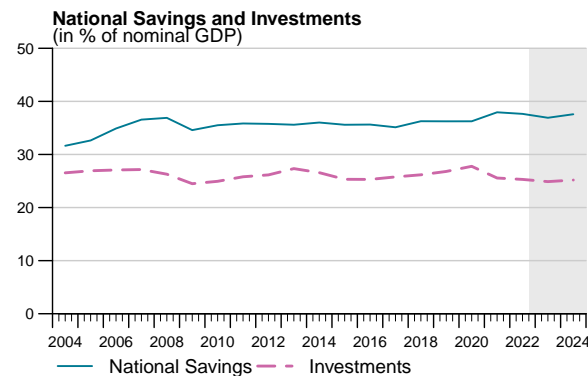
4.5 Trade Indicators



The **relative export performance** displays how Swiss exports fare relative to OECD and euro area (EA) exports. The **foreign demand indicators** display potential demand for Swiss exports from imports from the OECD or the EA.



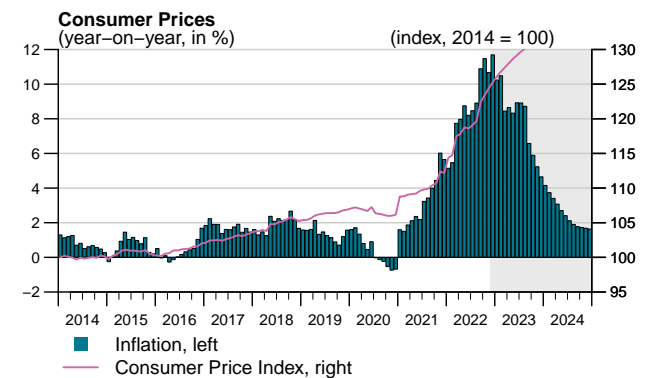
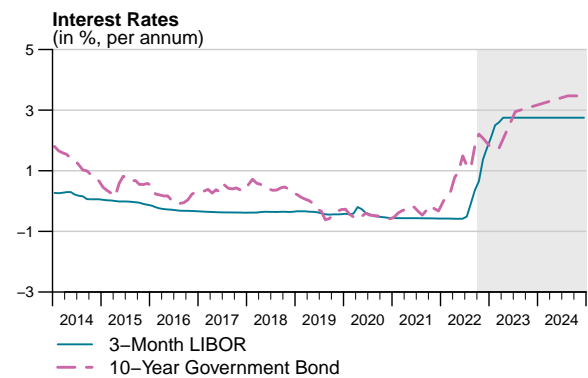
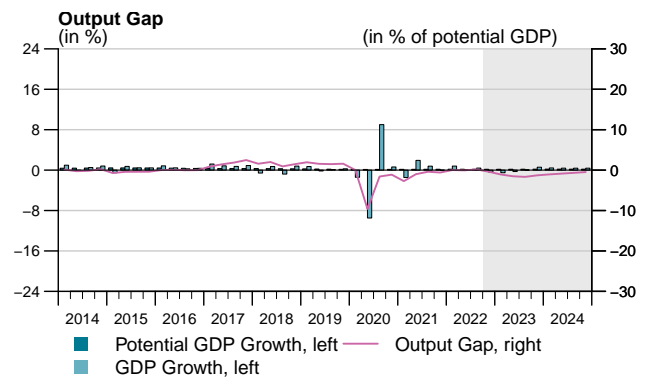
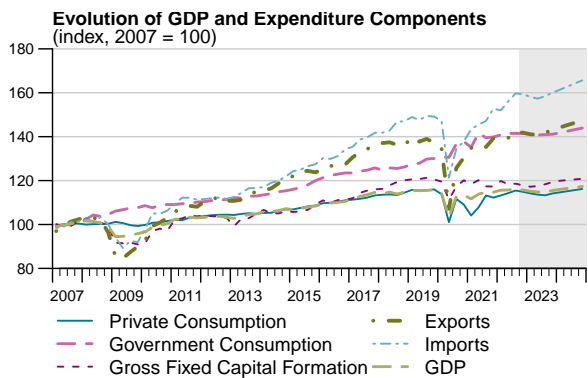
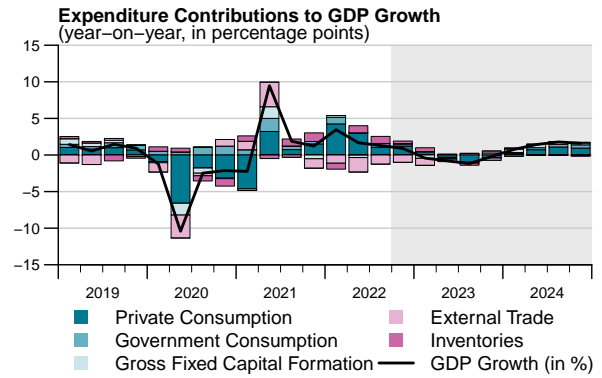
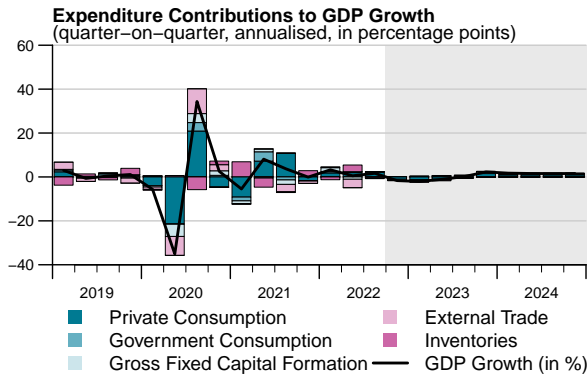
The **terms of trade** is the relative price of Switzerland's exports compared to its imports on world markets. If the price of Switzerland's exports rises relative to that of its imports, the country improves its purchasing power on world markets.



The **current account balance** shows flows of goods, services, primary income and secondary income between residents and nonresidents. By definition, the current account balance equals the difference between national savings and investments. Switzerland for a long time has a savings surplus, which is reflected in a current account surplus. The main contributor to the surplus is the goods balance. The services balance is positive but smaller. Within the primary income balance, the capital income balance is positive in most years but volatile and the labor income balance is negative.

5 Main Trading Partners

5.1 Germany

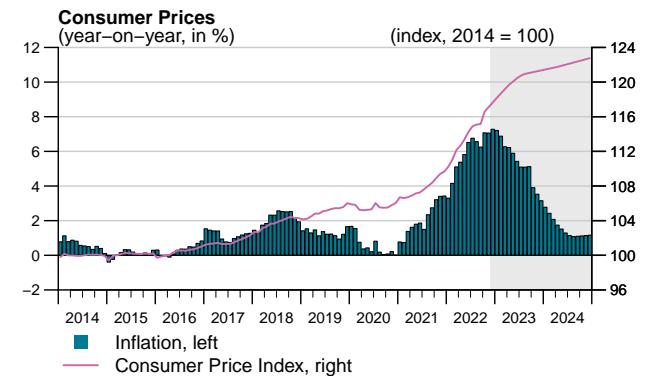
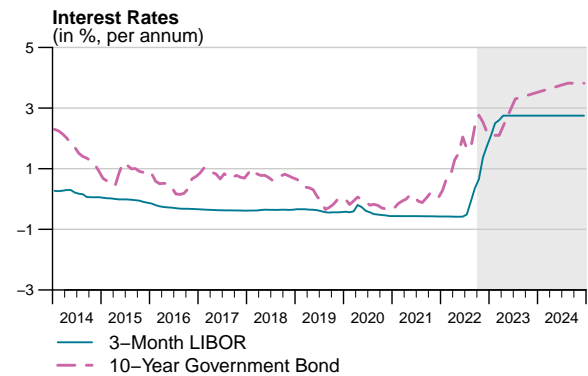
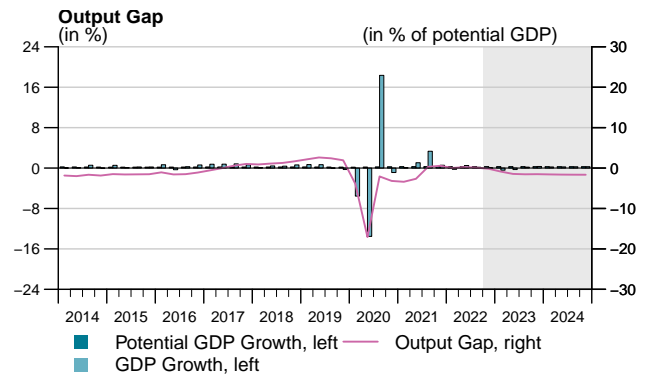
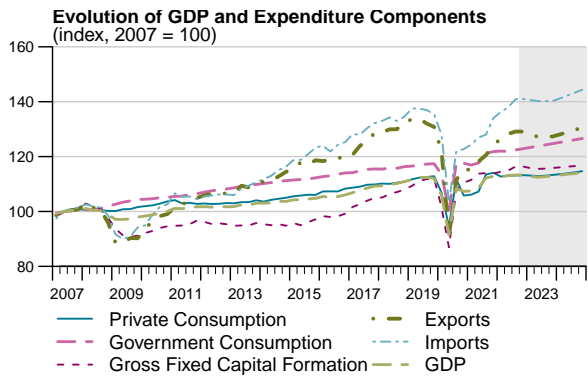
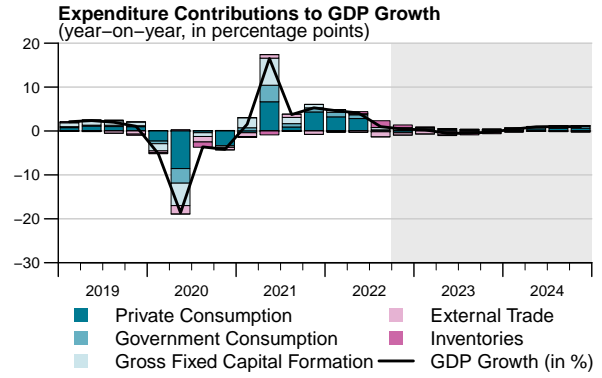
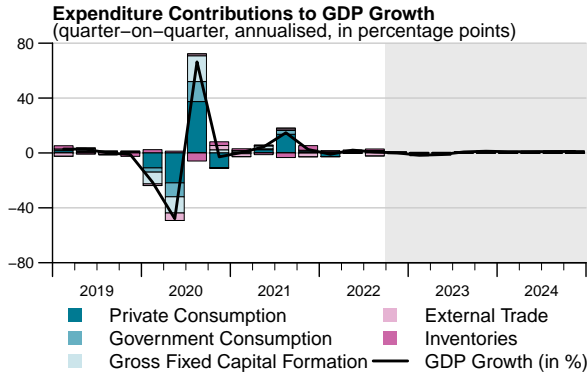


Key Economic Variables

	2009-19	2020	2021	2022	2023	2024
Gross Domestic Product	2.0	-4.1	2.6	1.8	-0.7	1.4
Domestic Demand (1)	2.1	-2.9	1.3	2.8	-0.4	1.4
Private Consumption Expenditures	1.4	-5.9	0.4	4.7	-0.6	1.4
Government Consumption Expenditures	1.9	4.0	3.8	1.6	-0.2	1.3
Gross Domestic Capital Formation	2.8	-3.0	1.0	0.3	-0.4	1.9
Inventories (1)	-0.1	-0.2	0.6	0.4	-0.1	0.0
External Trade Balance (1)	0.0	-1.0	0.7	-1.3	-0.1	0.0
Exports	4.8	-10.1	9.5	3.0	0.8	2.9
Imports	4.9	-9.1	8.9	6.5	1.1	3.2
Consumer Price Inflation	1.4	0.4	3.2	8.8	7.9	2.5
3-Month LIBOR	0.2	-0.4	-0.6	0.0	2.7	2.8
10-Year Government Bond Yield	1.3	-0.5	-0.3	1.2	2.5	3.4

(1) Growth Contributions

5.2 France

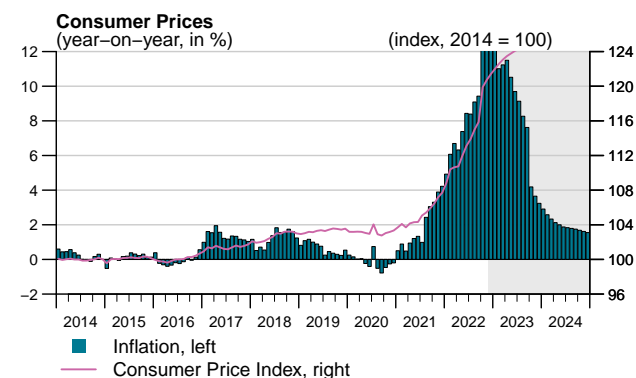
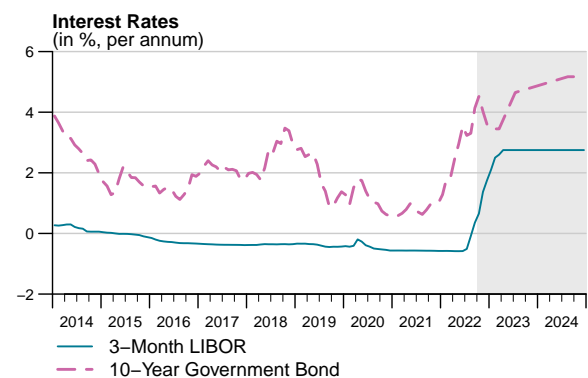
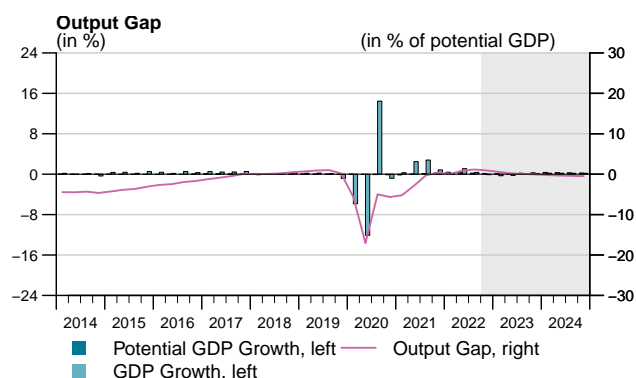
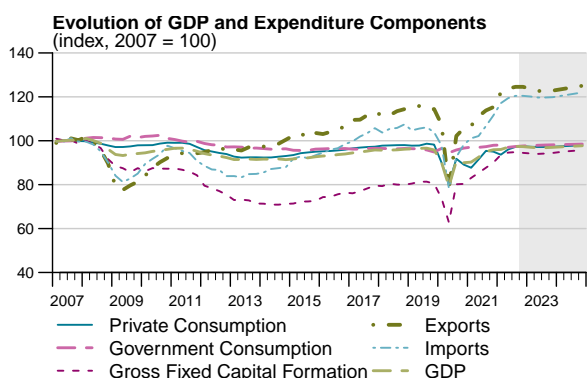
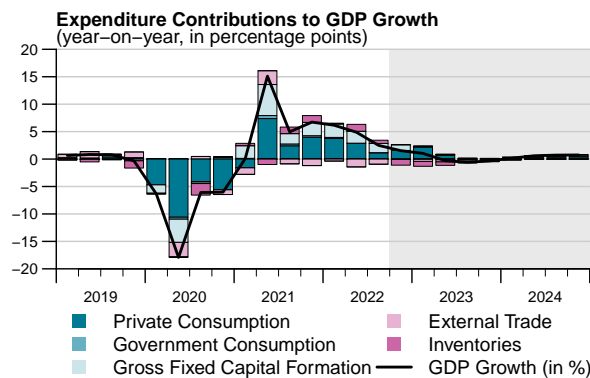
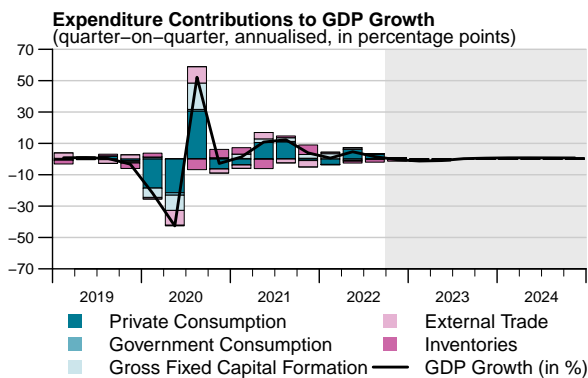


Key Economic Variables

	2009-19	2020	2021	2022	2023	2024
Gross Domestic Product	1.4	-7.9	6.8	2.5	-0.3	0.8
Domestic Demand (1)	1.5	-6.6	7.1	2.4	0.4	1.0
Private Consumption Expenditures	1.1	-6.8	5.3	2.5	0.1	0.9
Government Consumption Expenditures	1.2	-4.1	6.3	2.4	1.4	1.5
Gross Domestic Capital Formation	1.9	-8.4	11.4	2.0	0.1	0.6
Inventories (1)	0.1	-0.3	-0.3	0.6	-0.1	0.0
External Trade Balance (1)	-0.1	-1.0	0.0	-0.5	-0.5	-0.2
Exports	4.0	-17.0	8.6	7.4	-0.6	1.5
Imports	4.1	-13.0	7.8	8.3	0.9	1.7
Consumer Price Inflation	1.3	0.5	2.1	5.9	5.3	1.5
3-Month LIBOR	0.2	-0.4	-0.6	0.0	2.7	2.8
10-Year Government Bond Yield	1.8	-0.2	0.0	1.7	2.9	3.7

(1) Growth Contributions

5.3 Italy

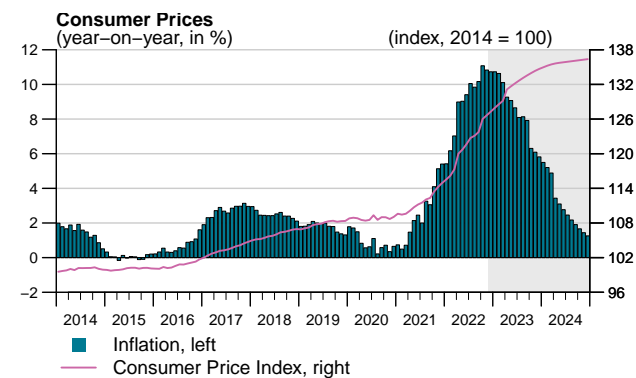
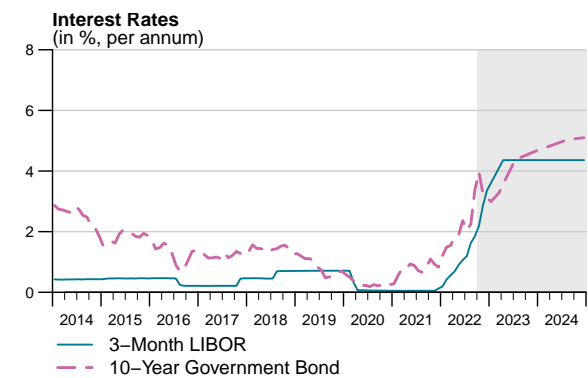
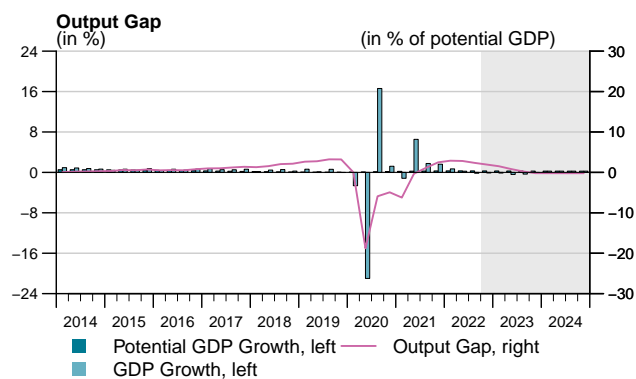
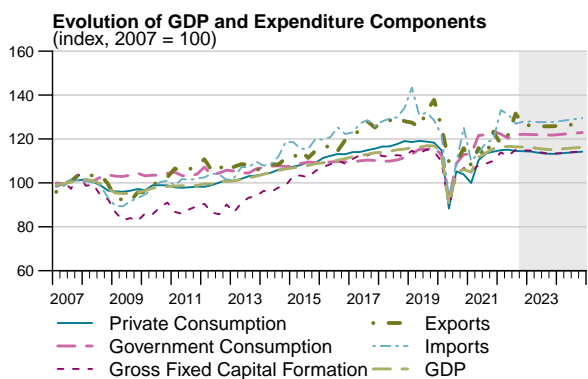
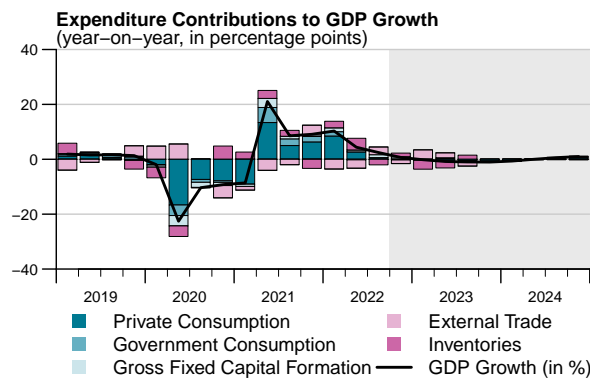
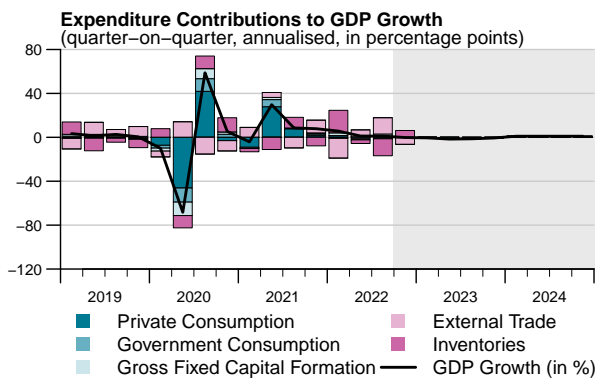


Key Economic Variables

	2009-19	2020	2021	2022	2023	2024
Gross Domestic Product	0.3	-9.1	6.7	3.8	0.0	0.6
Domestic Demand (1)	0.0	-7.8	6.4	4.2	0.7	0.6
Private Consumption Expenditures	0.1	-10.4	5.1	4.0	1.1	0.5
Government Consumption Expenditures	-0.5	0.0	1.5	0.2	0.5	0.4
Gross Domestic Capital Formation	-0.8	-8.2	16.5	9.0	-0.2	1.2
Inventories (1)	0.0	-0.6	0.5	0.2	-0.4	0.0
External Trade Balance (1)	0.2	-0.8	-0.2	-0.7	-0.3	0.0
Exports	3.7	-14.2	13.5	10.7	-0.6	1.0
Imports	2.4	-12.7	14.8	13.3	0.4	1.1
Consumer Price Inflation	1.3	-0.1	1.9	8.8	8.4	2.0
3-Month LIBOR	0.2	-0.4	-0.6	0.0	2.7	2.8
10-Year Government Bond Yield	3.3	1.1	0.8	3.1	4.2	5.1

(1) Growth Contributions

5.4 United Kingdom

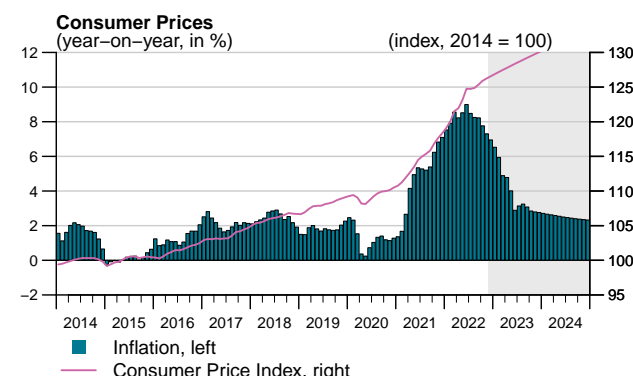
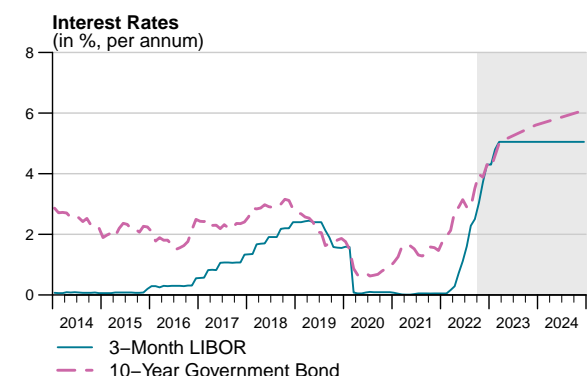
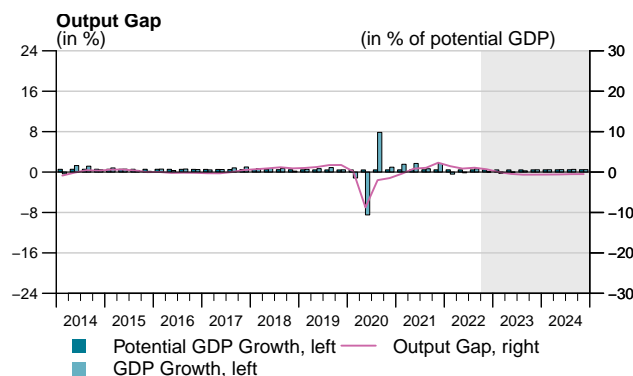
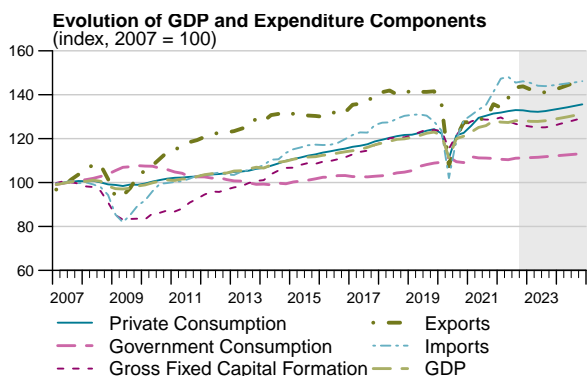
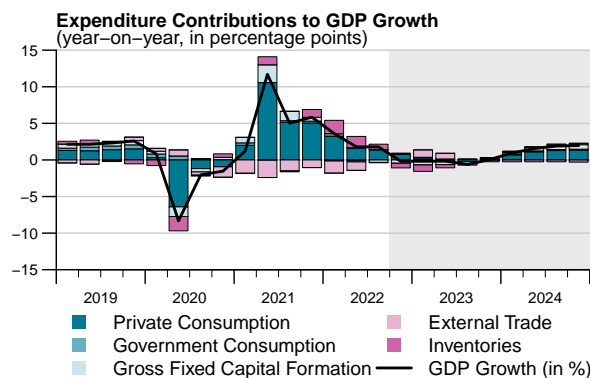
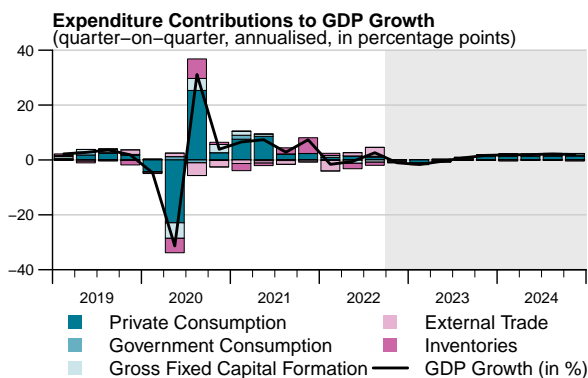


Key Economic Variables

	2009-19	2020	2021	2022	2023	2024
Gross Domestic Product	2.0	-11.0	7.5	4.4	-0.7	0.2
Domestic Demand (1)	2.1	-11.8	7.4	4.2	-0.6	0.2
Private Consumption Expenditures	2.1	-13.2	6.2	4.8	-1.0	0.2
Government Consumption Expenditures	1.1	-7.3	12.6	1.3	0.2	0.5
Gross Domestic Capital Formation	3.1	-10.5	5.6	5.5	-0.1	0.1
Inventories (1)	0.1	-0.8	1.1	1.5	-1.0	0.1
External Trade Balance (1)	-0.2	1.5	-1.0	-1.3	0.9	-0.1
Exports	3.5	-12.1	-0.3	8.5	1.2	0.5
Imports	3.9	-16.0	2.8	12.5	-1.6	0.8
Consumer Price Inflation	2.2	0.9	2.6	9.1	8.4	3.0
3-Month LIBOR	0.5	0.2	0.1	1.4	4.2	4.4
10-Year Government Bond Yield	2.2	0.3	0.8	2.4	4.0	4.9

(1) Growth Contributions

5.5 United States

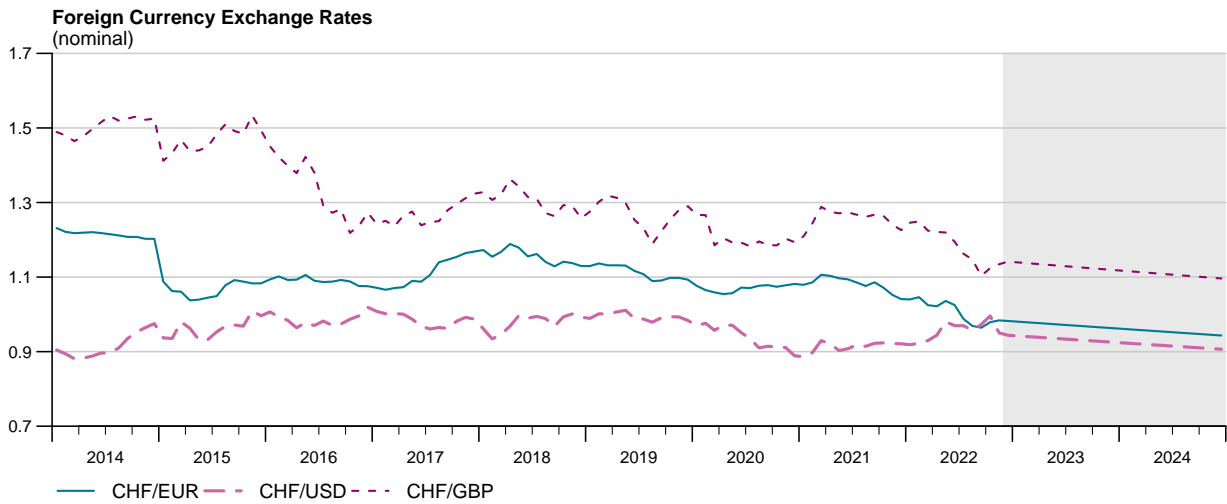


Key Economic Variables

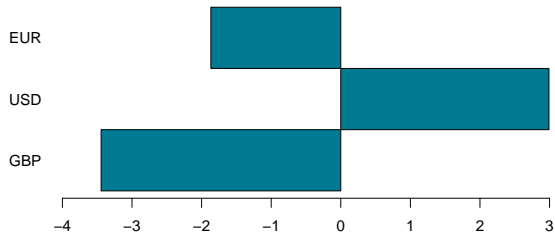
	2009-19	2020	2021	2022	2023	2024
Gross Domestic Product	2.3	-2.8	5.9	1.8	0.3	1.7
Domestic Demand (1)	2.3	-2.0	7.1	1.6	0.2	1.8
Private Consumption Expenditures	2.2	-3.0	8.3	2.5	0.0	1.6
Government Consumption Expenditures	0.1	2.2	1.3	-0.4	0.8	1.0
Gross Domestic Capital Formation	3.9	-1.2	5.7	-0.7	-1.7	2.1
Inventories (1)	0.1	-0.6	0.5	0.9	-0.4	-0.3
External Trade Balance (1)	-0.1	-0.2	-1.7	-0.7	0.5	0.2
Exports	3.9	-13.2	6.1	7.4	1.2	2.3
Imports	4.3	-9.0	14.1	8.6	-1.6	0.7
Consumer Price Inflation	1.8	1.2	4.7	8.1	3.9	2.5
3-Month LIBOR	0.6	0.3	0.0	1.7	5.0	5.0
10-Year Government Bond Yield	2.5	0.9	1.4	3.0	5.2	5.9

(1) Growth Contributions

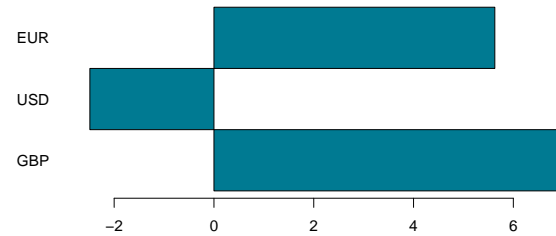
6 Exchange Rates



CHF: Exchange Rate Movements in the Last 3 Months

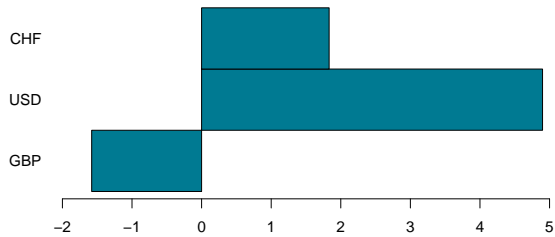


CHF: Exchange Rate Movements in the Last 12 Months

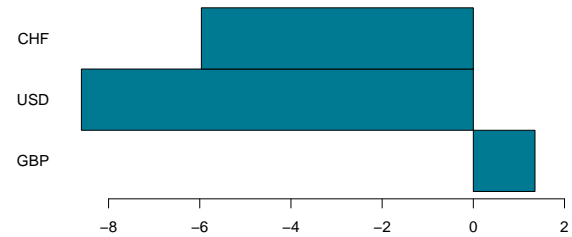


Percentage change in the value of the Swiss franc against major currencies. A positive value implies an appreciation of the Swiss franc, a negative value a depreciation.

EUR: Exchange Rate Movements in the Last 3 Months

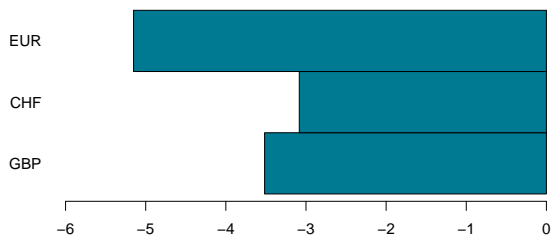


EUR: Exchange Rate Movements in the Last 12 Months

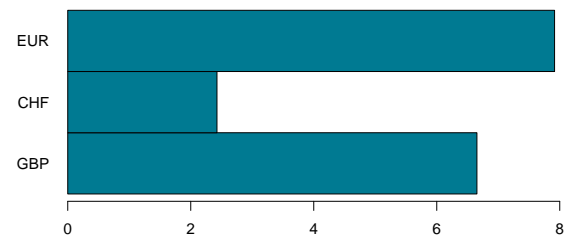


Percentage change in the value of the Euro against major currencies. A positive value implies an appreciation of the Euro, a negative value a depreciation.

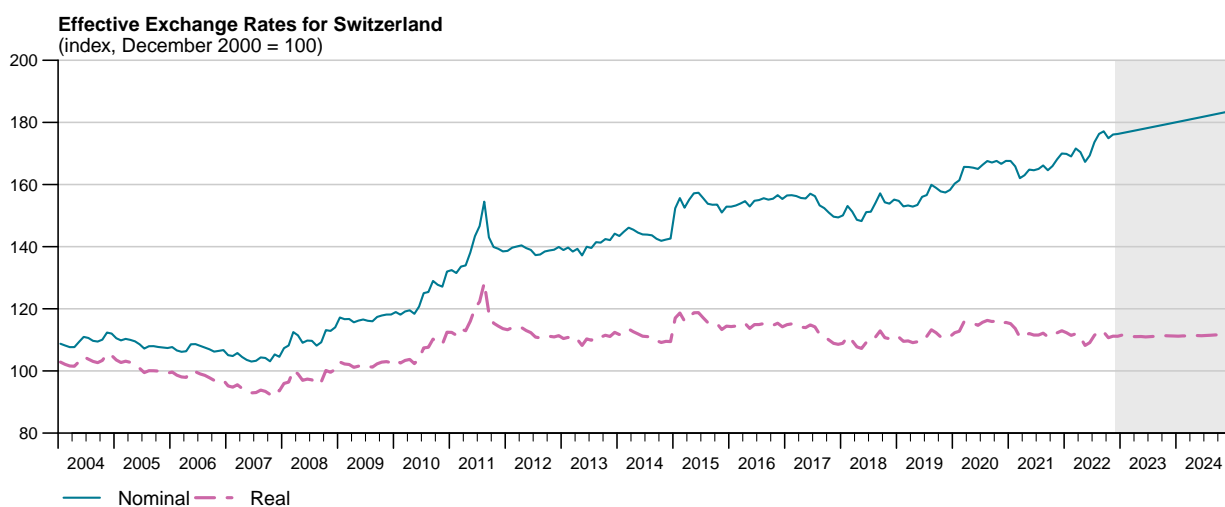
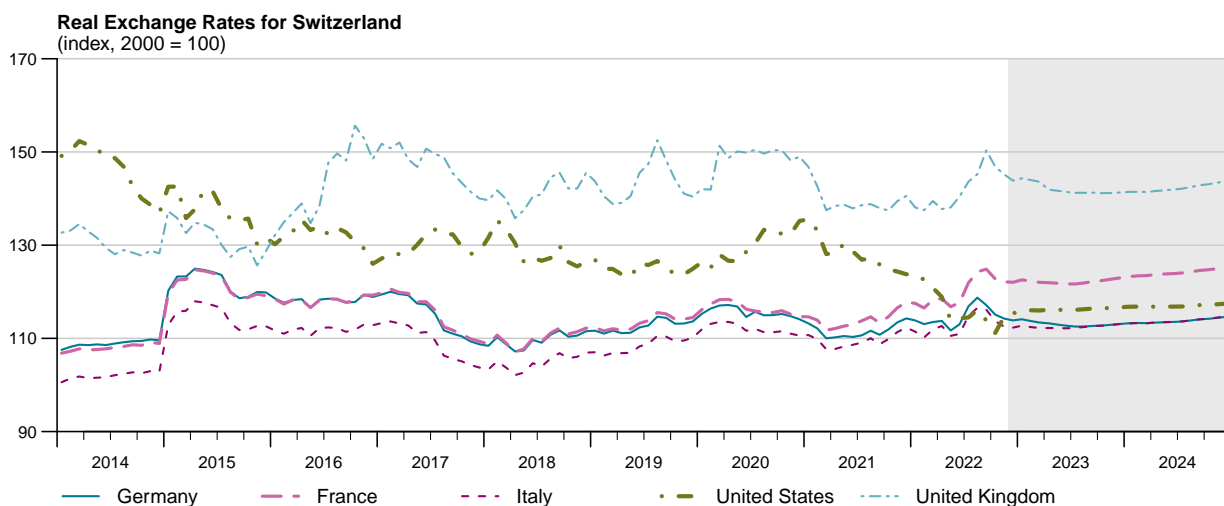
USD: Exchange Rate Movements in the Last 3 Months



USD: Exchange Rate Movements in the Last 12 Months



Percentage change in the value of the US-Dollar against major currencies. A positive value implies an appreciation of the US-Dollar, a negative value a depreciation.



Nominal Exchange Rates

	2004-14	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
CHF/EUR	1.42	1.07	1.09	1.11	1.15	1.11	1.07	1.08	1.00	0.97	0.95
CHF/USD	1.07	0.96	0.99	0.98	0.98	0.99	0.94	0.91	0.95	0.93	0.91
CHF/GBP	1.86	1.47	1.34	1.27	1.31	1.27	1.20	1.26	1.18	1.13	1.11
USD/EUR	1.33	1.11	1.11	1.13	1.18	1.12	1.14	1.18	1.05	1.04	1.04
GBP/EUR	0.78	0.73	0.82	0.88	0.88	0.88	0.89	0.86	0.85	0.86	0.86
CNY/USD	7.06	6.28	6.64	6.76	6.61	6.91	6.90	6.45	6.75	7.16	7.16

Nominal Exchange Rate Movements (in %)

	2004-14	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
CHF/EUR	-0.4	-12.1	2.2	1.9	3.9	-3.6	-3.8	1.0	-7.1	-3.3	-2
CHF/USD	-0.5	5.1	2.4	-0.1	-0.7	1.6	-5.5	-2.7	4.4	-2.2	-2
CHF/GBP	-0.6	-2.4	-9.1	-5.0	2.9	-2.8	-5.1	4.4	-6.1	-4.4	-2
USD/EUR	0.1	-16.5	-0.3	2.1	4.6	-5.2	1.9	3.7	-11.0	-1.1	0
GBP/EUR	0.3	-9.9	12.8	7.0	1.0	-0.8	1.4	-3.3	-1.0	1.0	0
CNY/USD	-0.5	2.0	5.7	1.7	-2.1	4.4	-0.1	-6.6	4.6	6.2	0

7 Remarks

The data sources for the KOF International Forecasts are various national statistical offices, Eurostat, the OECD, the IMF and various national central banks including the European Central Bank. Regional and world GDP aggregation is done using nominal GDP estimates from the IMF World Economic Outlook. Annual historical GDP and SNA country figures are temporarily aggregated from the respective quarterly figures and may, by consequence, deviate marginally from the official historical annual figures. Data on national and international interest and exchange rates are provided by the Swiss National Bank. Swiss survey indicators originate from the KOF Business Tendency Surveys.¹

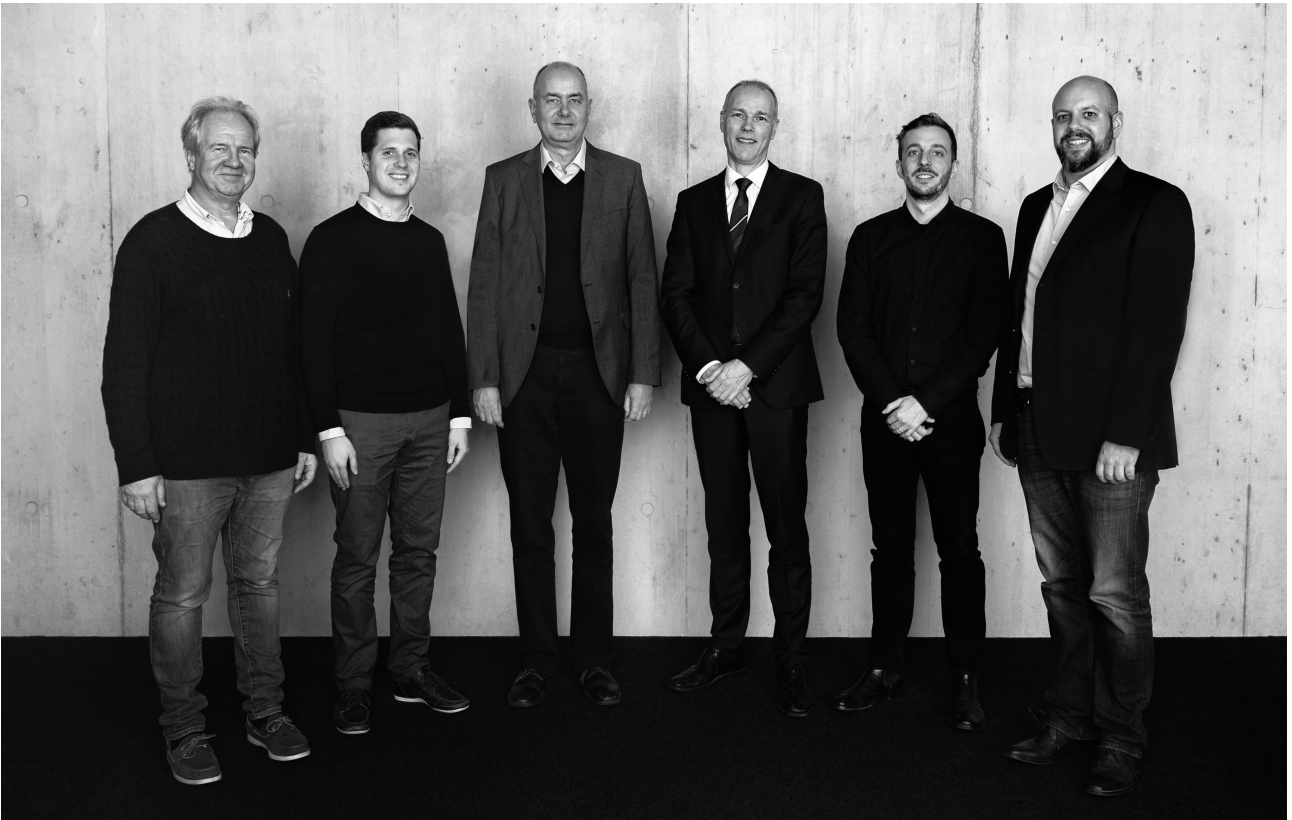
Forecasts are computed using seasonally and calendar adjusted quarterly series on real variables and monthly series on monetary variables. If no adjusted series are provided by the national source, seasonal adjustment is performed using X13-ARIMA-SEATS originally developed by the United States Census Bureau. All forecasted GDP series and components come in real terms unless indicated otherwise.

Economic projections for major economies are calculated using a variety of short- and medium-term forecasting models and are subject to careful consistency checks. Minor economies are forecasted using an automated forecast procedure which employs standard time series forecasting methods and includes consistency checks with projections from other institutions.

The Europe aggregate consists of all countries in the European Union as well as Iceland, Norway and Switzerland. North America consists of the United States and Canada. Latin America includes Argentina, Brazil, Chile, Colombia, Ecuador, Mexico and Peru. The Africa and Middle East aggregate consists of Israel, Nigeria, South Africa, Saudi Arabia and Turkey. Central Asia consists of Russia and Ukraine, South Asia of India. East Asia is composed of China, Japan, Hong Kong, South Korea, Taiwan, Indonesia, Myanmar, the Philippines, Singapore, Thailand and Vietnam. Australia and Oceania is constructed from Australia and New Zealand.

¹<https://www.kof.ethz.ch/en/surveys/business-tendency-surveys.html>

The KOF International Forecasts Team



From left to right: Yngve Abrahamsen, Florian Eckert, Klaus Abberger, Jan-Egbert Sturm, Stefan Neuwirth (missing on the photo: Maurizio Daniele, Philipp Kronenberg, Heiner Mikosch, Alexander Rathke, Tim Reinicke, Sina Streicher).

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