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KOF Swiss Economic Institute

EDITORIAL

The economic outlook for the Swiss economy in 2019 is somewhat less optimistic than it has been in previous years. Nevertheless, the Swiss economy is in good overall shape despite increased risks such as the international trade conflict or the danger of a disorderly Brexit. The first article provides an overview of the most recent KOF economic forecasts for the global and the Swiss economy until 2020. The second article deals with the topic of the international trade conflict between the USA and China. It highlights the question of who bears the costs of this conflict. In our third contribution, we remain in the USA. Word has long since spread around the world that Swiss vocational education and training is a recipe for success. And so the US federal state of Colorado has introduced a vocational education and training pilot project based on the Swiss model. This contribution sets out what is needed to ensure that it does not just remain a pilot project.

We hope you enjoy this substantial read,

Anne Stücker and Solenn Le Goff

ECONOMY AND RESEARCH

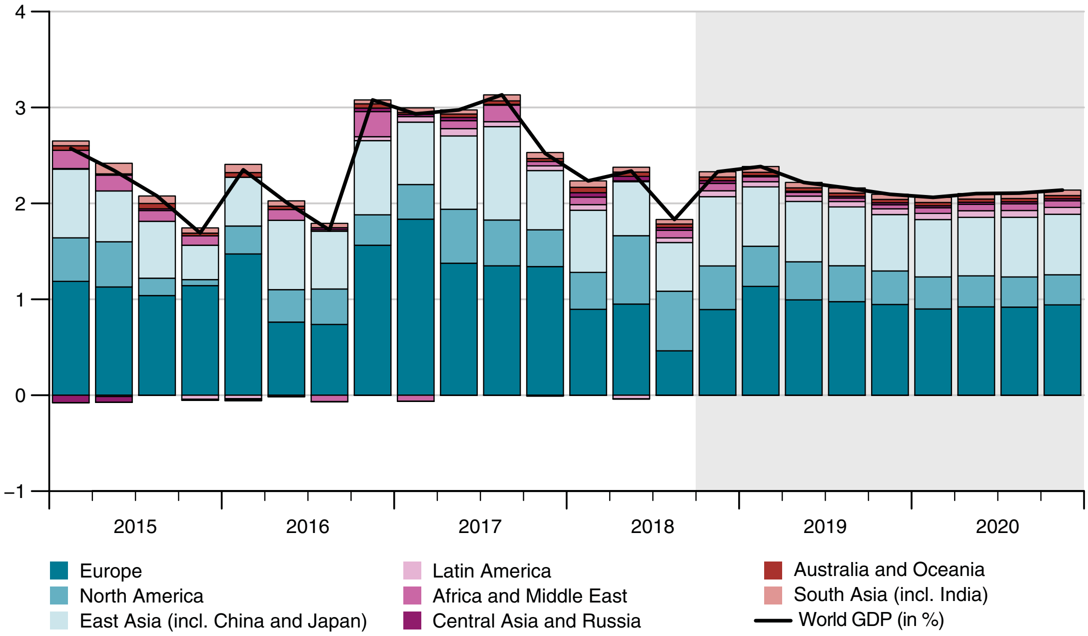
Swiss Economy Running out of Steam

Whilst the Swiss economy remains robust overall, its growth rate will slow this year to 1.6 per cent. Gross domestic product (GDP) is then forecast to rise by 2.1 per cent in 2020. Private consumption will provide a significant boost to the economy over the forecast period. Unemployment will remain low thanks to solid economic growth.

World economic growth in 2018 flatlined compared with the previous year. This tendency will also continue into the current year. In the United States it is expected that the previously strong economic growth will fall back to normal levels in 2019, with private consumption remaining high owing to the positive labour market situation and real wage increases. Economic growth in China is set to decline, as in the eurozone. Since there is no slack left in increasing parts of the economy as a whole in the euro area, major economic progress is no longer possible in some countries. In addition, political developments – such as the international trade war, the recently resolved dispute concerning Italy's budget and the related financial market risks – have increasingly been constraining companies' propensity to invest. The economic situation in many emerging markets will be subdued during this and subsequent quarters by liquidity outflows and currency devaluations. Although the risk of a rapid global downswing has grown recently, KOF is expecting a soft landing for the world economy over the forecast period (see G 1). This means that foreign trade will provide a weaker stimulus to the Swiss economy over the coming year. This is especially the case for trade in goods; trade in services, on the other hand, is expected to perform strongly.

The domestic economy, including private consumption in particular, will provide a more significant boost to the Swiss economy during the forecast period. The incipient positive development in private consumption was partially offset during the third quarter of 2018 by various non-recurring effects. The hot and dry summer along with the supply difficulties experienced by certain foreign car producers

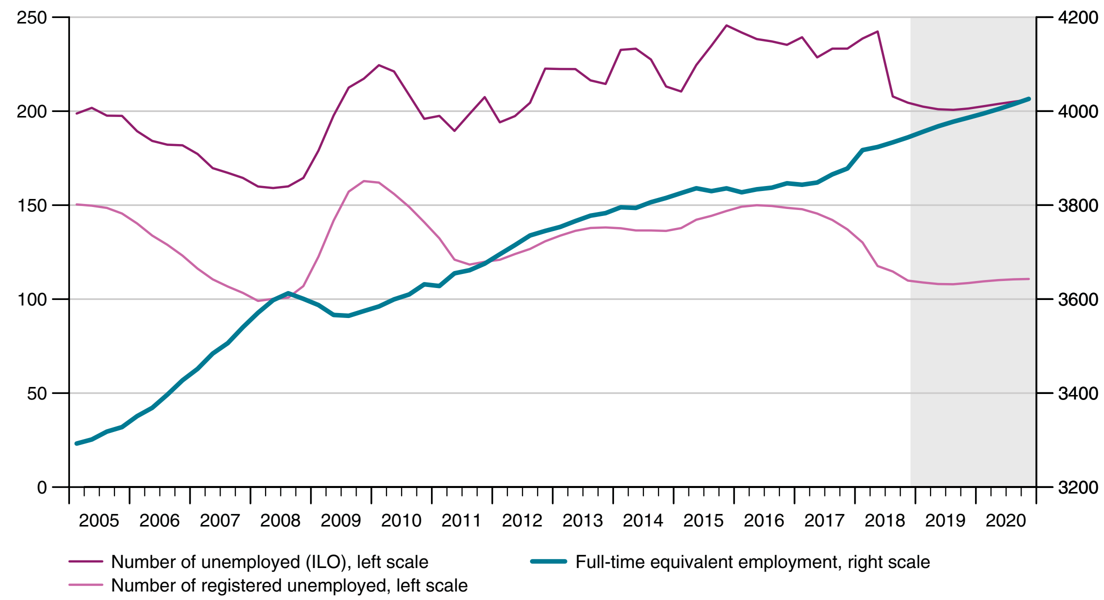
G 1: Regional Contributions to World GDP Growth
(change from previous quarter, in percentage points, weighted by Swiss export shares)



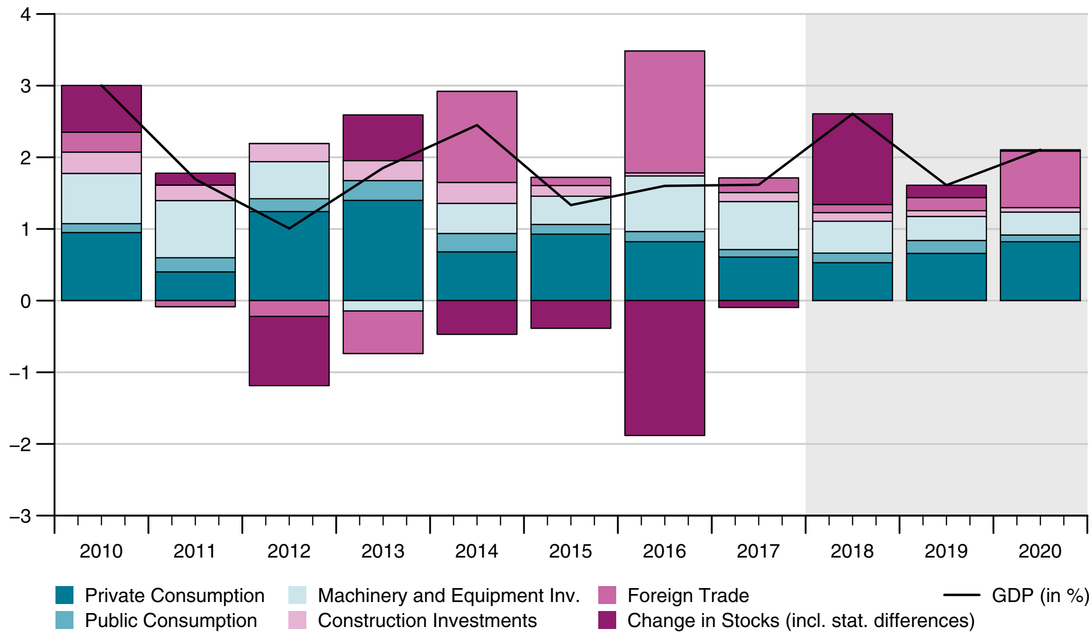
resulted in a near-stagnation of consumer spending. Private consumption is thus expected to grow by around 1.2 per cent this year and could increase by roughly 1.6 per cent in 2020. This trend is being supported by the performance of the labour market along with rising disposable household incomes, thereby paving the way for an expansion in consumer spending.

Good prospects for the labour market
The labour market performed well last year. Although the general growth in employment slowed somewhat during the third quarter compared with the previous year, employment prospects continue to be buoyant and numerous labour market indicators remain at a high level. Full-time equivalent employment is projected to grow by 1.1 per cent in 2019 on the back of a 1.8 per cent increase in 2018. The

G 2: Employment and Unemployment with Forecast
(in 1,000 persons, seasonally adjusted)



G 3: Growth Contributions GDP: Expenditure Side
(in percentage points of GDP)



unemployment rate as calculated by the State Secretariat for Economic Affairs (SECO) will this year remain more or less where it was at the end of 2018, averaging 2.4 per cent. According to the International Labour Organization (ILO), the employment rate will follow a similar trajectory at slightly above 4 per cent both this year and next (see G 2).

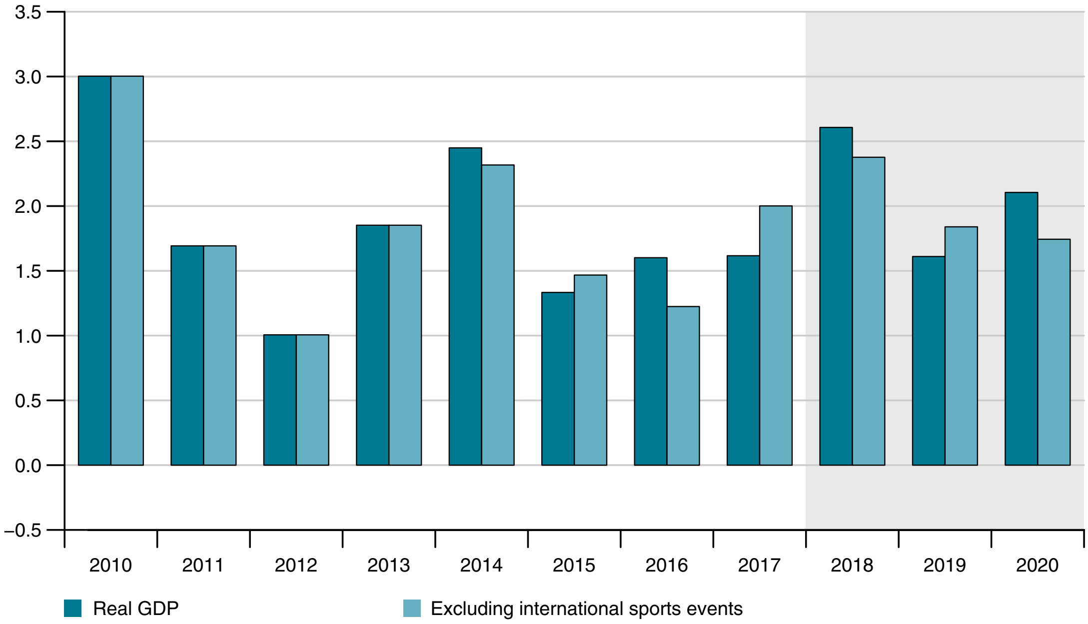
After three good years, employed persons in Switzerland will now have to forgo some of their previous gains. Although nominal wages rose at comparatively low rates over the years 2014 to 2016, the purchasing power of salaries grew owing to falling consumer prices. This led to strong annual increases in real salary levels. Since 2017 this trend has reversed. Real wages stagnated in 2017 and, owing to slightly higher inflation, are set to fall in 2018. This year, wage increases according to the Swiss Salary Index are expected to post a 1 per cent rise. Average salaries calculated based on the share of wages within the national accounts – which, in contrast to the Swiss Salary Index, also take account of bonuses and wage variations resulting from changes in sectoral structures – are forecast to rise at a similarly robust rate. Given that this year's inflation forecast is 0.6 per cent, this will slightly increase the spending power of wages.

Inflation remained low at just under 1 per cent in the second half of 2018. Core inflation only accounted for around half of the overall figure. Compared with autumn, the forecasts for 2018 and 2019 have worsened slightly. This mainly reflects the significant fall in oil prices along with the slightly lower inflation expected in service sector prices. The outlook for 2020 remains unchanged compared with the autumn forecast at 1 per cent. The overall inflation risk is low, although the core rate is projected to increase.

Weaker growth in investment in fixed assets

The prevailing uncertainty within international trade is having a negative impact on decisions concerning the location of production facilities, and thus also on investment decisions. Switzerland is also being affected by this. Excluding non-recurring effects (purchases of aircraft and trains, which increased), the investment cycle for plant and machinery that started in 2015 will come to an end, reaching its low point in the winter of 2019/20 (see G 3). This will thus bring to an end an unusually flat and protracted investment cycle, which differed considerably from the more typical shorter and steeper cycles observed since the 1980s. The only positive development expected is in the area of transport infrastructure. However, investment will be lower than in the past, especially investment in residential construction. This is due above all to the fact that the

G 4: Effect of Major International Sports Events
(year-on-year change, in %)



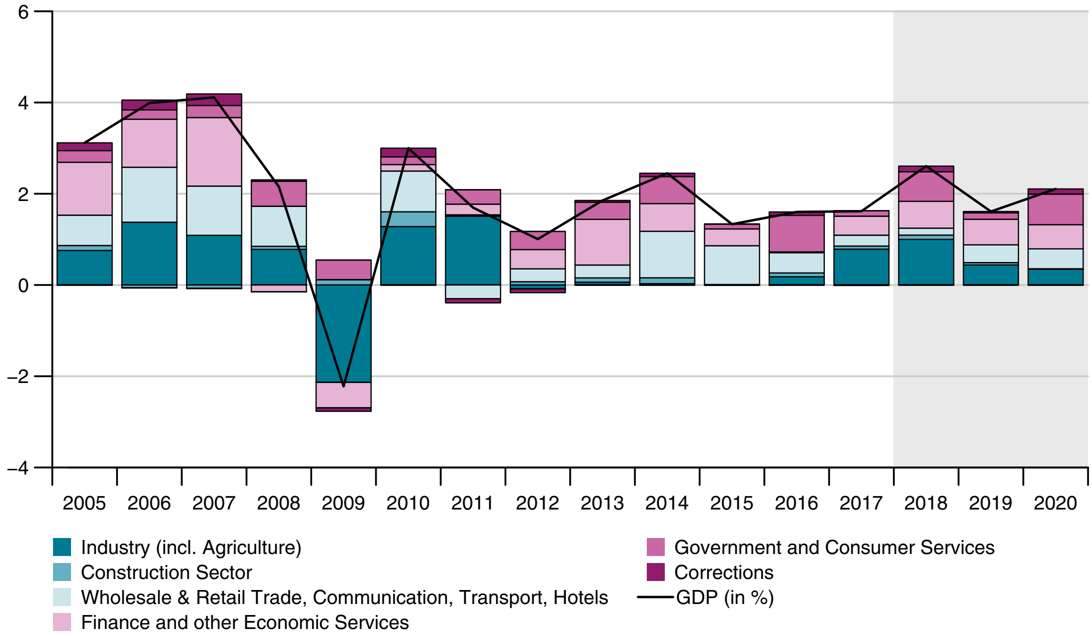
number of completions has for some time been significantly lower than the increase in the number of households, resulting in additional vacancy rates.

Major sporting events distort economic developments

The forecast for growth in Swiss gross domestic product (GDP) is 2.6 per cent for 2018, 1.6 per cent for 2019 and 2.1 per cent for 2020 – following moderate GDP growth of 1.6 per cent in 2017. The Swiss economy has passed the high point in its growth cycle which, according to provisional Swiss GDP data, came in the first quarter of 2018. The pattern of Swiss GDP growth over time is only of limited assistance in determining the Swiss economic cycle, as it is distorted by major international sporting events which have little to do with the performance of the domestic economy. In addition, it is known that the international trade in commodities has for a long time made a significant yet irregular contribution to Swiss value added. Using the available information, which supplements the official 'headline' GDP data, an estimate of 'core GDP' that factors out these aspects can be calculated (see G 4). Forecasted annual growth in adjusted GDP is 2.5 per cent for 2018, 1.7 per cent for 2019 and 1.8 per cent for 2020.

The surprisingly negative GDP growth in the third quarter of 2018 is mainly attributable to one-off effects. The diesel emissions scandal had an impact on gross value added for automobile industry suppliers. In addition, car sales in Switzerland were heavily affected. Furthermore, the retail trade suffered from the extreme weather conditions during the summer. The unusually long and hot summer caused a fall in demand for autumn clothing. The extraordinary weather conditions also had an adverse impact on electricity generation, as the unusually low levels of rainfall led to a reduction in electricity generated by fluvial and storage power stations. The unexpected fall in sales in the pharmaceutical industry during the third quarter of 2018 also reduced value added. We are proceeding on the assumption that sales in the pharmaceutical industry will recover during the fourth quarter of 2018, thereby offsetting the low level during the third quarter. In view of the more subdued international economic outlook, however, the growth rate for gross value added by the manufacturing sector in 2019 and 2020 has been revised slightly downwards (see G 5). 2019 and 2020 will see a somewhat weaker – albeit solid – expansion in Swiss economic activity.

G 5: Growth Contributions GDP: Production Side
(in percentage points of GDP)



The 'unconventional' stance of Swiss central bank policy, with a target interbank rate of –0.75 per cent, is set to continue for a further year, although we expect to see the first changes before the end of our forecast period. We continue to forecast a gradual tightening of policy by the US central bank over the next two years, albeit at a slower rate, also as a result of the recent increase in international risks. As expected, the European Central Bank (ECB) is taking its time with its first interest-rate hike. The key driver behind this stance is the persistently low rate of core inflation as well as the risks and uncertainties associated, amongst other things, with Brexit and financial market upheavals. Nevertheless, we are still proceeding on the assumption that the ECB will replicate the interest-rate rises in the United States next spring, although the likelihood of such an outcome has declined. The Swiss National Bank (SNB) reaffirmed its negative interest rate at its September meeting. At the present time, interest rates would appear to be a suitable instrument for protecting Swiss exporters against any excessive appreciation of the Swiss franc, since central bank checking accounts provide no evidence of foreign-currency interventions by the SNB. As the Governing Board is not expected to risk any significant appreciation in future and inflation will remain low in the immediate term, interest-rate policy will continue to be focused primarily on the ECB.

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The US-China Trade War: Who Bears the Brunt?

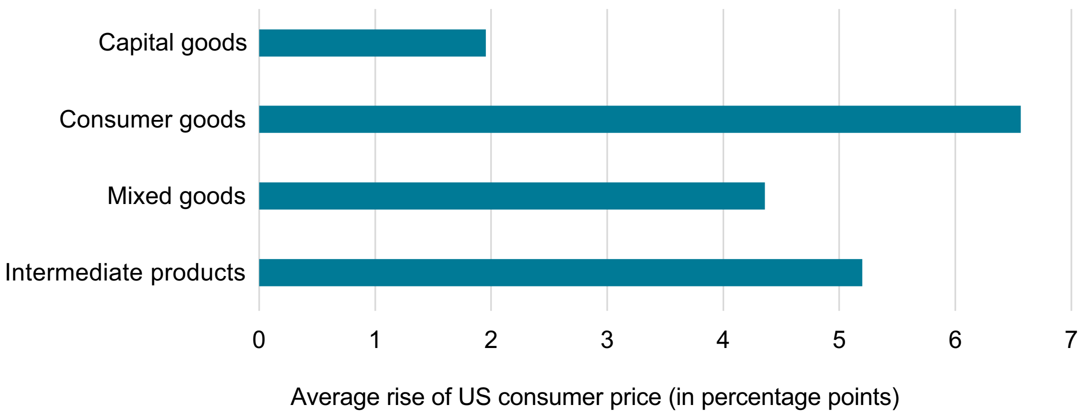
Since 24 September 2018, the United States has imposed tariffs on Chinese products worth approximately USD 250 billion, thereby affecting 50 per cent of all US imports from China. While it is often assumed that these tariffs cause direct harm to the US economy, arguments frequently disregard the fact that the US government can impose strategic tariffs which allow it to pursue an optimised customs strategy. This can result both in higher customs revenues and in the generation of welfare gains which are financed by Chinese exporters.

With a considerable proportion of US imports affected by high import duties, it is important to understand the economic consequences and effects. Arguments frequently focus exclusively on the volume of US imports and rarely address the question of who ultimately bears the brunt of the new tariffs. Felbermayr and Zoller-Rydzek (2018a, b) have analysed the impact of the new US tariffs in the context of a simple partial model.

US import duties push up the prices of affected Chinese products in the United States, thereby reducing profit margins for Chinese companies. The spread of this effect depends on relative price elasticity. If consumers' response to rising prices is weaker than that of producers, the tariffs primarily push up consumer prices. In the opposite case, it is primarily producer prices that decline, for instance because companies forgo their profit margins. This relative effect depends, among other factors, on the availability of substitute goods. The economic literature refers to the spread of the additional tariff burden as 'tariff incidence'. Tariff incidence is reflected in the relative adjustment of consumer prices and producer prices.

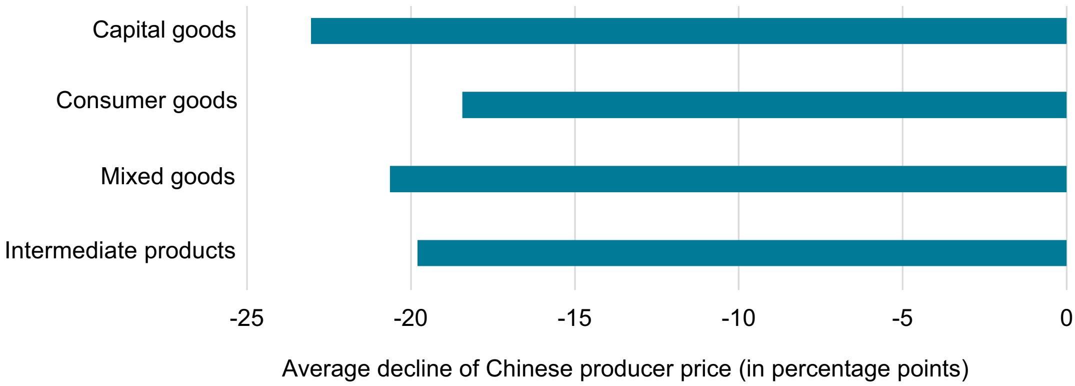
Graph 6 shows the expected average rise in the price of Chinese products (four-digit HS92) in four main categories. The biggest impact is on consumer goods, whose prices rise by over 6.5 percentage points in the United States. On average, US import prices go up by 4.5 percentage points.

G 6: Average Rise in Prices for US Consumers/Companies
(Following a rise in import duties of 25 percentage points; 4-digit HS92 products)



Source: Authors' calculations © ifo Institut

G 7: Average Decline in Prices for Chinese Companies
(Following a rise in import duties of 25 percentage points; 4-digit HS92 products)



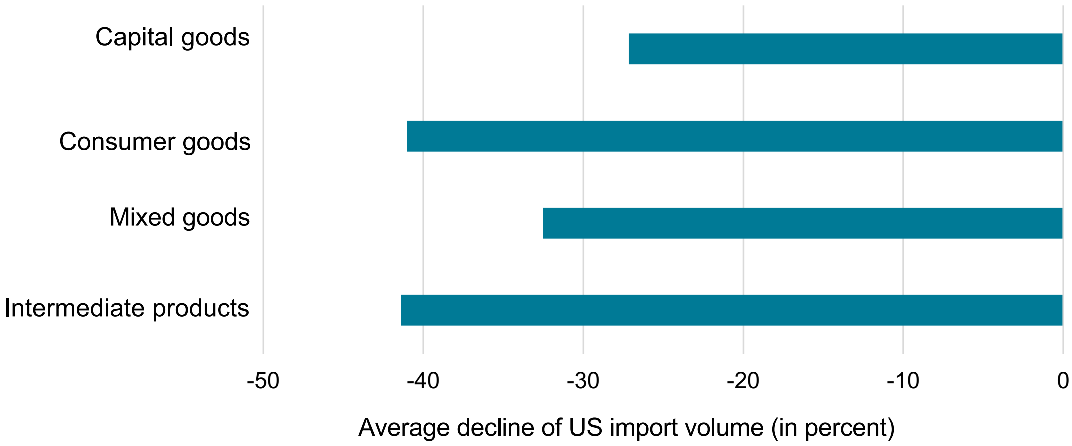
Source: Authors' calculations © ifo Institut

Graph 7 shows the price changes experienced by Chinese exporters. A large proportion of the burden imposed by import duties is borne by Chinese companies, whose prices fall by over 20 percentage points on average. Such a dramatic decline may motivate some Chinese companies to withdraw from the US market.

However, it is not only prices that adjust – import volumes also change. Both factors result in lower import volumes from China. Graph 8 shows the average decline in US import volumes as a result of higher import duties. Overall, Chinese imports fall by an average of 37 per cent. Assuming that exchange rates do not adjust, China imposes no punitive tariffs in retaliation and there are no demand effects in third countries, the decline in import volumes would reduce the US trade deficit with China by USD 63 billion to USD 312 billion.

The welfare loss aggregated across all goods in China and the United States amounts to USD 1.6 billion, of which a mere 33 per cent, or USD 522 million, relates to US consumers and companies. However, it should be remembered that a large proportion of the tariffs is not borne by US consumers or companies. Rather, the tariff incidence is mainly borne by Chinese producers. The additional customs revenues of USD 22.5 billion could now be used to compensate for welfare losses among US consumers and companies. With USD 18.9 billion paid by Chinese companies, the resultant net welfare gain for the US economy amounts to USD 18.4 billion.

G 8: Average Percentage Decline in of US Import Volume
(Following a rise in import duties of 25 percentage points; 4-digit HS92 product)



Source: Authors' calculations

If the trade dispute escalates, China is likely to impose strategic tariffs in retaliation, resulting in welfare losses in the United States. On top of this, any expansion of the US customs register might lead to a full reversal of the welfare gains in America, as this would then affect products with a less favourable tariff incidence from a US perspective.

The analysis should not be seen as a vindication of Trumpian trade policies. On the contrary: it merely illustrates that opportunistic customs policies following Adam Smith's beggar-thy-neighbour approach can be successful.

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Literature

Felbermayr, Gabriel and Benedikt Zoller-Rydzek (2018a): Wer bezahlt Trumps Handelskrieg mit China?, ifo Schnelldienst 71 (22), 30–35.

Felbermayr, Gabriel and Benedikt Zoller-Rydzek (2018b): Who is Paying for the Trade War with China?, EconPol Policy Brief 11.

System of Opportunity: Permeable Education and Training in Colorado

Youth apprenticeship is a major topic globally. In the United States, Colorado's current pilot youth apprenticeships – implemented by CareerWise Colorado in partnership with companies, schools, state leaders and philanthropic partners – are the most compelling. The two pilot cohorts already under way are anecdotally very successful, with students and companies reaping rewards from participation. A report by Katherine Caves and Ursula Renold, both from KOF, in collaboration with Uschi Backes-Gellner from the University of Zurich, explores future options for transitioning the pilot programme into a fully integrated programme that is part of a permeable education and training system.

An integrated programme

At the moment, Colorado's pilot apprenticeships have a separate curriculum from the high-school education component. However, this approach is one of the first that allows students to pursue both school and workplace learning simultaneously. This is a decisive step towards a programme that unifies education and training.

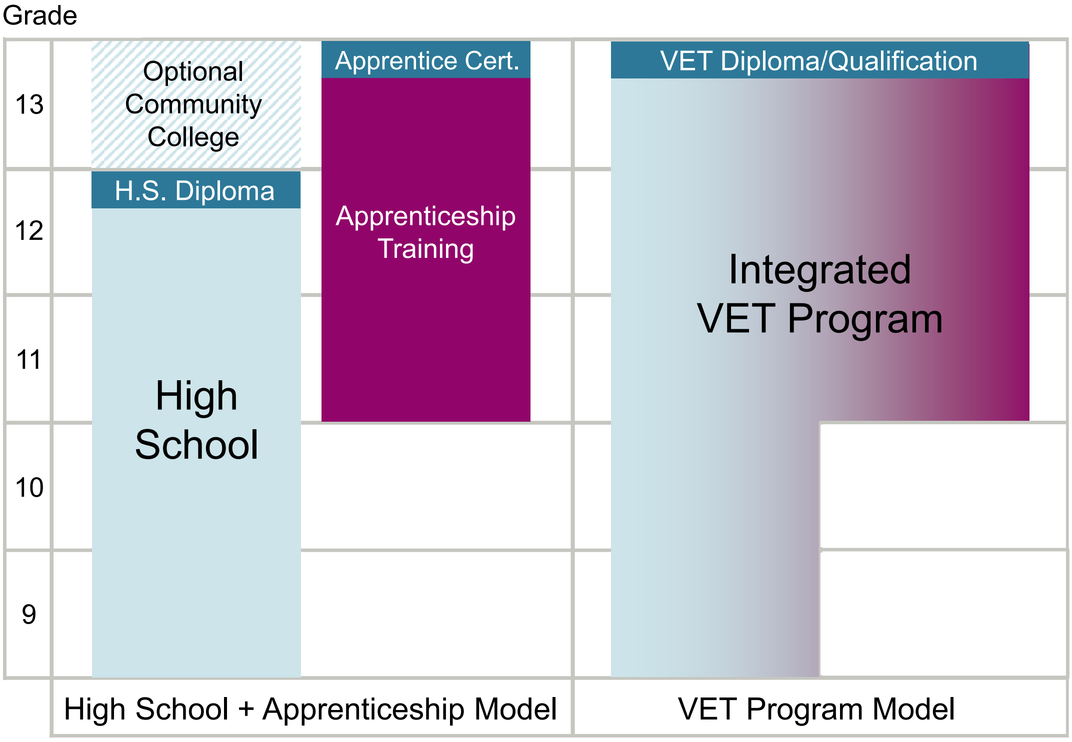
An integrated vocational education and training (VET) programme includes both general education and occupation-specific training under one curriculum and leads to a single qualification that recognises both education and training. The curriculum covers all competencies learned at work and in school, including general education requirements and the needs of the training occupation. Graph 9 shows the difference between apprenticeship alongside education and an integrated VET programme with the same timeline.

The two models are not equivalent. Separating the education and training parts into separate qualifications and programmes – even aligned programmes – devalues both. Unifying both education and training under a single curriculum makes teaching and training more efficient and effective, and allows the final qualification to more accurately reflect participants' knowledge and skills. Furthermore, it facilitates students' transition into work, continued professional education and training, or further education.

A permeable education system

Colorado's future VET programme should be embedded in a permeable education system comprising programmes of many levels and types. In addition to the individual programmes, the system includes transition mechanisms, intermediary and facilitation capacities as well as guidance and support services for students. It should be governed by a legislative framework that describes roles, responsibilities and resources. This system is the ecosystem that makes each programme valuable individually and enables individuals to follow productive and satisfying lifelong learning pathways.

G 9: High School with Apprenticeship Compared to Integrated VET



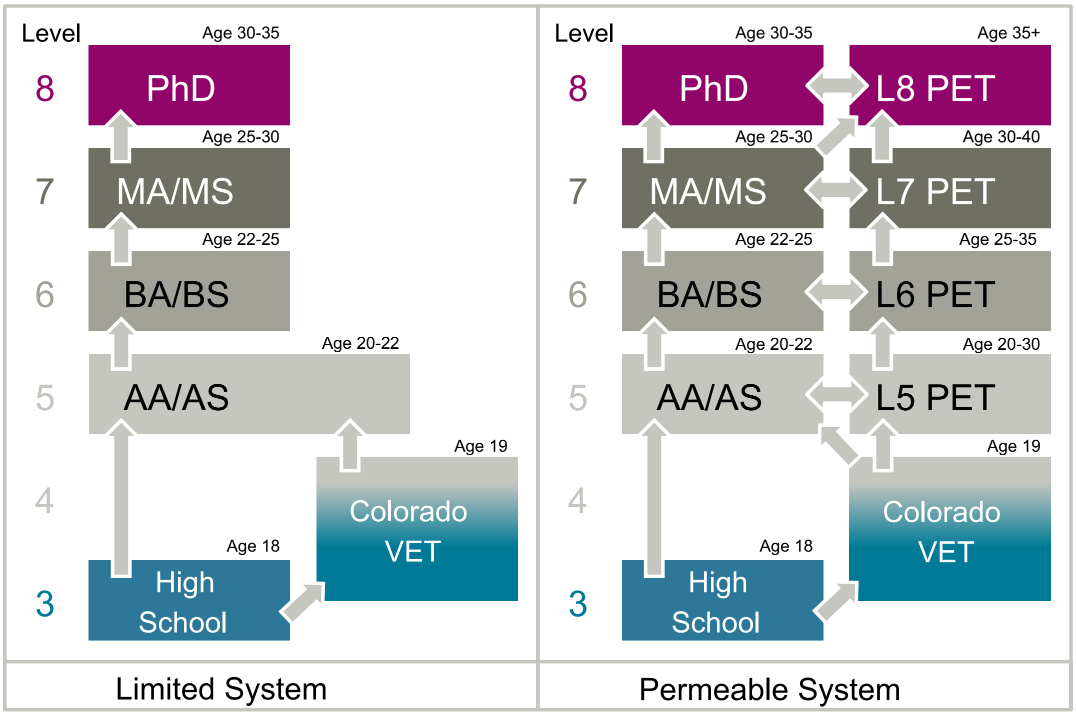
Graph 10 shows Colorado's current formal education system and a model future system. The most common way of describing education levels is to use the International Standard Classification of Education[1] (ISCED), with levels zero to nine. These are on the left of each image. The academic side already covers all levels and, for a fully permeable system, Colorado needs VET as well as numerous professional education and training (PET) programmes at levels five to eight. Without these, improvements in VET are just another path into university.

In the limited system there are no formal, non-academic qualifications. In contrast, the revised system is permeable. Permeability is two-dimensional, covering both access and opportunity.

Access means individuals can enter programmes based on clear entry conditions and from various starting points. For example, American students can enter four-year universities directly from high school, as transfer students from community colleges or later in life after working for some time. All students are eligible to earn undifferentiated bachelor's degrees regardless of their starting points.

[1] http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf

G 10: Colorado's Current Education System Compared to a Model System



Opportunity means that there are multiple formal programmes throughout the education system, covering diverse levels and types of skills and knowledge – for example, both VET and academic high school at the upper-secondary level.

Access is already a priority in Colorado, so bringing it up to the necessary level is more of a tweak than a radical change. As a starting point, tertiary education programmes need to account for related VET in their entry criteria. Opportunity is less developed in Colorado for a number of reasons. The most critical reasons are that the current youth apprenticeship pilot does not have any stand-alone formal certification, and there are extremely limited PET options — none of which is part of a formal education system with clear levels.

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KOF INDICATORS

KOF Business Situation: Indicator Declines at the End of the Year

Following a slightly bigger rise in the preceding month, the KOF Business Situation Indicator for the Swiss Private Economy fell slightly in December (see G 11). However, despite the setback at the end of the year, companies' business situation is considerably better than at the beginning of 2018. Having improved to some degree during the first half of the year, the business situation changed very little thereafter. Hence, with just minor fluctuations, the Business Situation Indicator has remained clearly in positive territory since summer 2018. Despite the dark clouds hanging over the global economy, Swiss companies are currently reporting a stable situation.

In December, two trends dominated the various sectors. Following the improvement of the previous month, business activity slowed down in manufacturing, the retail trade, and financial and insurance services (see T 1) .By contrast, the trend in the construction-related building and project-engineering sectors had a stabilising effect. Wholesalers, the hotel and catering business and the other service providers were last surveyed in October. At the time, all three sectors reported a slight improvement in their business situation.

From a regional perspective, December's slowdown is particularly noticeable in Central Switzerland (see G 12). The Situation Indicator also fell dropped in the Zurich region and in Espace Mittelland, while changing very little in Eastern Switzerland, North-Wwestern Switzerland and the Lake Geneva region. In Ticino, the situation improved slightly.

Explanation of graphs:
Graph G 11 presents the KOF business situation across all sectors covered by the survey. The business situation in sectors which are surveyed on a quarterly basis is kept constant during the intervening months.

G 11: KOF Business Situation Indicator
(Balance, seasonally adjusted)

T 1: KOF Business Situation for Switzerland (seasonally adjusted balances)

	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18
Private sector (overall)	23.7	25.9	26.4	26.5	26.3	28.2	27.1	29.0	28.7	28.4	28.1	29.4	28.4
Manufacturing	19.7	20.6	21.9	22.5	21.0	26.9	24.4	27.1	28.5	26.1	22.5	27.3	26.9
Construction	28.4	30.3	30.4	28.0	30.3	29.6	28.7	29.2	27.5	27.5	29.4	28.5	28.6
Project engineering	49.6	45.9	48.8	50.4	48.4	47.0	47.0	45.4	46.5	45.5	45.8	44.4	45.0
Retail trade	4.7	1.7	7.4	5.7	0.4	7.9	7.3	10.1	7.9	9.4	6.4	8.2	3.6
Wholesale trade	-	27.7	-	-	26.9	-	-	33.0	-	-	34.3	-	-
Financial services	40.1	41.5	39.9	41.3	41.7	42.8	39.8	41.2	38.7	40.1	40.7	41.1	36.8
Hotel and catering	-	3.2	-	-	6.4	-	-	7.8	-	-	9.2	-	-
Other services	-	26.3	-	-	27.3	-	-	27.2	-	-	28.3	-	-

Answers to the question: We assess our business situation as good/satisfactory/bad. The balance is the percentage of 'good' answers minus the percentage of 'bad' answers.

Graph G 12 presents the business situation in the main regions pursuant to the Federal Statistical Office (FSO). The regions are coloured according to business situation. The arrows in the regions indicate the change in the business situation compared to the previous month. An upward-pointing arrow, for instance, indicates that the situation has improved over the previous month.

G 12: KOF Business Situation in the Private Sector

The angle of the arrows reflects the change in the business situation compared to the previous month

Source: KOF

Net balances

- 55 to 100
- 30 to under 55
- 16.5 to under 30
- 9 to under 16.5
- 5 to under 9
- -5 to under 5
- -9 to under -5
- -16.5 to under -9
- -30 to under -16.5
- -55 to under -30
- -100 to under -55

The KOF business situation is based on over 4,500 reports by Swiss companies. Every month, businesses are surveyed in the following sectors: industry, retail trade, construction and project engineering as well as financial and insurance services. Businesses in the hotel and catering sector, wholesalers and the other service providers are surveyed in the first month of every quarter. Among other questions, the businesses are asked to assess their current business situation. They may rate their situation as 'good', 'satisfactory' or 'bad'. The balance of the current business situation is the percentage difference between the 'good' and 'bad' responses.

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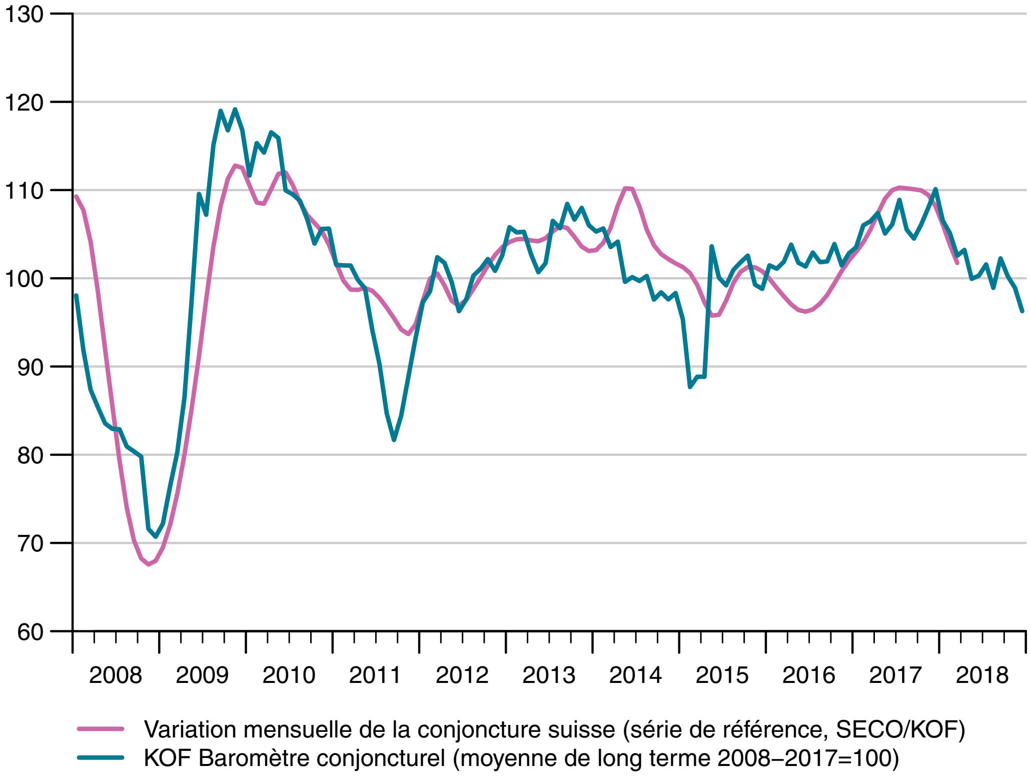
You can find more information about the KOF Business Tendency Surveys on our website: www.kof.ethz.ch →

KOF Economic Barometer: Downward Tendency Proceeds

The KOF Economic Barometer closes 2018 with 96.3 points (see G 13). More clearly than last month, the indicator lies below its long-term average. The high growth levels of the Swiss economy observed at the beginning of the year, can therefore no longer be maintained. As a result, the economic outlook for early 2019 is more clouded.

G 13: KOF Economic Barometer and Reference Series



In December, the KOF Economic Barometer fell by 2.6 points to 96.3 points compared with November (revised to 98.9 points from 99.1 points). The main drivers of this development stem from indicators belonging to the producing sector (manufacturing and construction). In addition, a weakly negative signal is sent by the financial sector and private consumption. Favorable export prospects, on the other hand, cushion this downward tendency.

The gloomier mood of the producing sector is driven by various factors. Negative prospects for incoming orders and the purchase of intermediate goods are a major factor here. The indicators for actual production development and the number of employees also reinforce this impulse.

Within manufacturing, both the electrical and the metal industries are mainly responsible for its negative development. Further, deteriorating assessments of the paper, printing and wood industries arise. However, the outlook for the chemical industry remains positive, as in the previous month.

KOF Economic Barometer and reference time series: annual update

The annual 2018 revision took place in September. These updates always comprise the following steps: a redefinition of the pool of indicators that enter the selection procedure, an update of the reference time series and a renewed execution of the automated variable selection procedure.

The updated pool of indicators now consists of more than 500 economic time series. The updated reference series is the smoothed continuous growth rate of Swiss GDP distributed across the three months of a quarter, based on the official quarterly real GDP statistics, adjusted for the effects of major international sporting events, as released by the Swiss State Secretariat for Economic Affairs (SECO) in early September 2018. SECO, in turn takes the release of the previous year's annual GDP data published by the SFSO into account. The 2017 vintage of the KOF Barometer (published until August 2018) comprised 273 indicator variables.

The current 2018 vintage, which is now replacing the 2017 vintage, consists of 345 indicator variables, selected from a pool of more than 500 candidate variables. Compared to the previous vintage, 104 indicators are new and 32 dropped out of the set of selected indicators. The Barometer is the rescaled weighted average of the selected indicators, where the weights correspond to the loadings of the first principal component.

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For detailed information on the KOF Economic Barometer, visit our website:
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