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EDITORIAL

Dear readers,

Big hopes, big question marks: This is probably the most accurate summary of the current debate on the New Silk Road. The Chinese 'Belt and Road' initiative, which provides for infrastructure investments worth hundreds of billions of Swiss francs, is occupying the Swiss economy – at least since Switzerland and China signed a respective memorandum of understanding in April. At the recent KOF Wirtschaftsforum, business representatives, economists and political exponents came together for the first time to discuss the significance of the memorandum. Important insights regarding the New Silk Road can be gained from this debate and the information available so far, for instance: Swiss companies must coordinate their activities to be able to benefit. The first article summarises the other important insights. The second article focuses on the subject of self-study which is gaining importance in the course of progressive digitalisation. New technologies allow students to acquire subject matters autonomously and in any location. How promising is self-study in terms of graduation probability and final grades? A study conducted by KOF researchers suggests some answers. The remaining articles focus on the trend in Swiss companies' investment activities and explain why the KOF Business Situation Indicator has dropped for the seventh consecutive month.

I hope you enjoy your read,

Franziska Kohler

ECONOMY AND RESEARCH

Swiss Companies and the New Silk Road



Many companies hope that the Chinese infrastructure project will bring them new business opportunities, among them also Swiss companies. While the associated economic potential is enormous, so are the uncertainties and challenges. An overview in four points.

The Chinese Belt and Road Initiative (BRI), or New Silk Road, aims to strengthen economic links between China and Africa, Asia, Europe, Latin America and the Near East. According to official documents, the goal of the BRI is to promote a wide variety of different areas including political coordination, infrastructure, financial integration, industrial cooperation and human relations.

Devising a Swiss strategy and concrete responses to this dynamic and multidimensional initiative is a challenge. The opportunities the new Silk Road offers the Swiss economy were discussed at the recent KOF Wirtschaftsforum. For the first time, the discussion also touched on the memorandum of understanding (MoU) on cooperation in third

countries issued by the People's Republic of China and Switzerland and signed by Federal President Ueli Maurer in April. Four key insights can be derived from this debate and the current state of knowledge.

1) The geographical scope of the New Silk Road is unclear

The New Silk Road, a long-term Chinese initiative with global reach, has a flexible shape in terms of geography and content. As yet, the People's Republic of China has failed to publish an official Belt and Road map or list of countries involved. As a consequence, various BRI plans and estimates of current and planned investments are making the rounds. Official documents refer to six land

corridors and one maritime link. Recently, an arctic corridor has also been mentioned. The following graph G 1 illustrates possible routes for the planned links and those that have already been realised.

On the one hand, one can refer to the 125 states, which have signed some form of memorandum of understanding with China, as BRI countries. On the other hand, a geographical approach can be used, as chosen by the World Bank, which mentions 70 BRI corridor states (not including China) that are located along one of the six land routes or the Maritime Silk Road and are either already involved in BRI projects or plan to do so. The estimated current and planned investments in infrastructure projects amount to 550 billion Swiss francs (World Bank 2019).

2) The economic potential of the New Silk Road is enormous – as are the challenges

The infrastructure demand in emerging countries and regions is immense. According to the Asian Development Bank, Asia alone lacks 1,660 billion Swiss francs in infrastructure investment every year. The World Bank estimates that the full implementation of all planned BRI transport infrastructure projects would raise the global trade volume by 1.7 to 6.2%. Global income could rise between 0.7 and 2.9%. On top of this, the World Bank estimates that the projects have the potential to lift over 7.6 million people out of extreme poverty.

To tap this growth potential, according to the World Bank, BRI countries must implement complementary policy measures. Central aspects consist of enhanced legal security, higher transparency – for instance with regard to Chinese loans and project awards –, lower trade barriers and guaranteed non-discriminatory use of the infrastructure in transit countries. At the second Belt and Road Forum in

late April, China's President Xi Jinping announced that the BRI would be more 'green, clean and transparent' in the future.

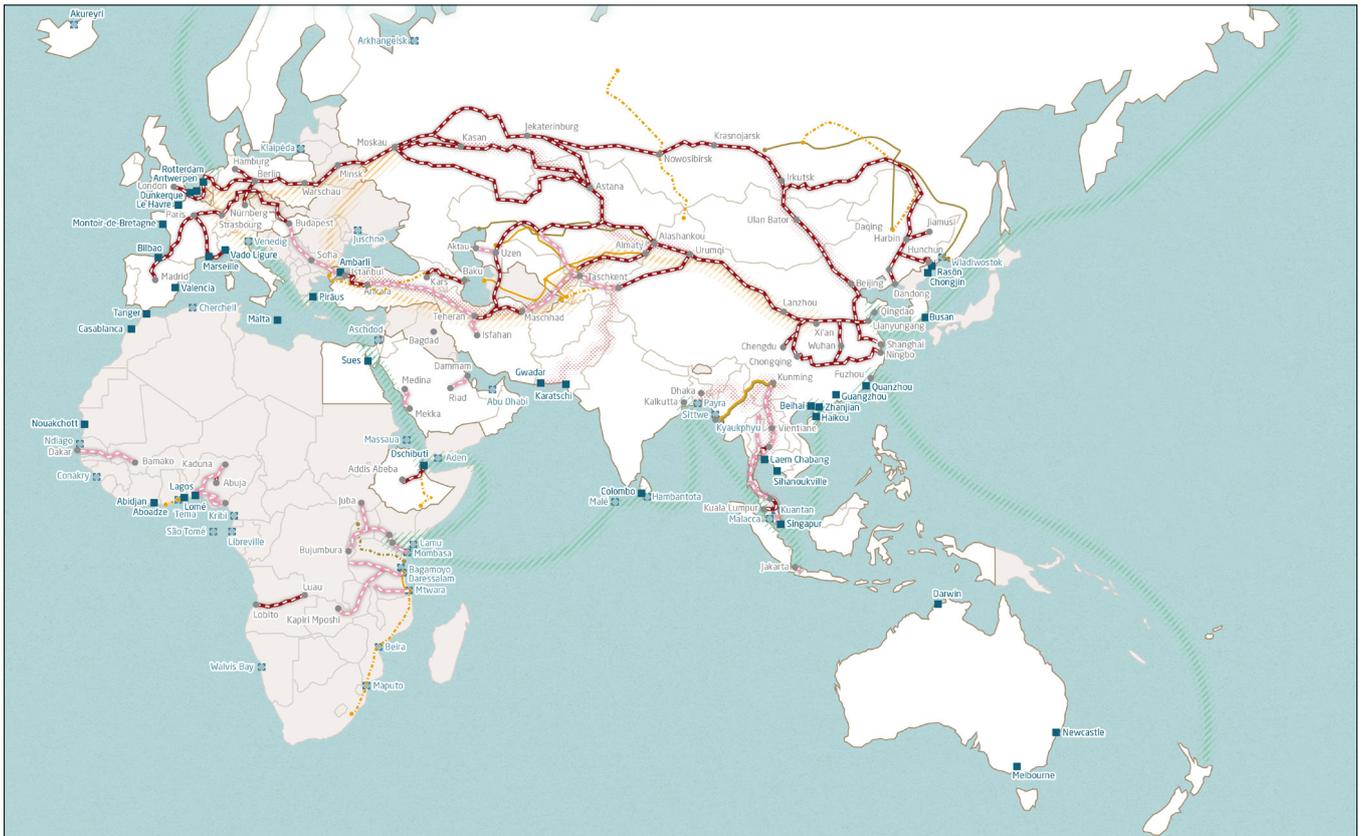
3) Individual sectors of the Swiss economy have the opportunity to get involved in BRI projects

BRI projects can offer Swiss companies opportunities in various forms. Firstly, through Swiss companies' direct or indirect participation in BRI infrastructure projects. However, due to the currently intransparent tender system, direct participation appears difficult. According to the Center for Strategic and International Studies (CSIS), until January 2018, close to 90% of the BRI contracts were being carried out by Chinese corporations. At the KOF Wirtschaftsforum, emphasis was placed on the central importance of a global information portal for project tenders with uniform technology and standards. Furthermore, participants requested the government to support these and other favourable framework conditions such as compliance with international environmental and social standards in BRI projects.

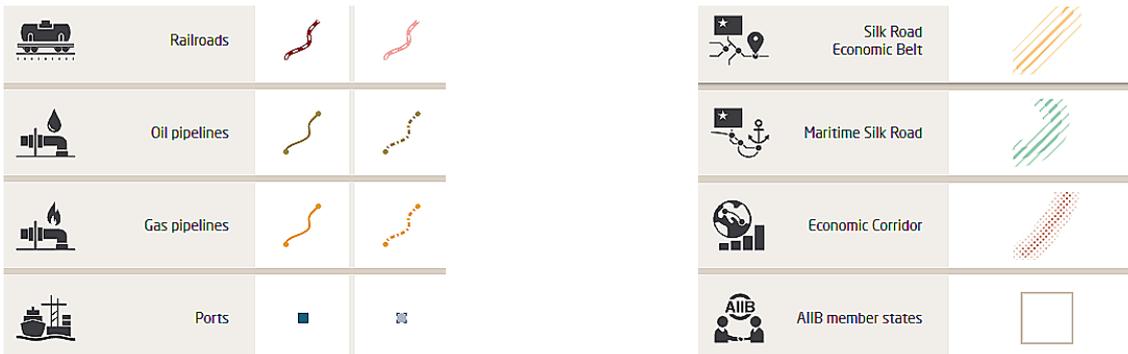
The option of Swiss companies' indirect participation in BRI projects appears more promising. Such opportunities are mainly open to companies which are already established suppliers of Chinese state-owned corporations. The creation of specific Swiss consortia should be investigated in order to increase opportunities for Swiss companies. This could help SMEs in particular to enter global value chains. Swiss financial institutions could fund such industrial consortia and the Swiss Export Risk Insurance (SERV) could insure any political risks.

The BRI probably offers the largest potential to Switzerland's financial industry. Swiss financial institutions could act as lenders and investors. At the Wirtschaftsforum,

G 1: The Belt and Road Initiative Creates a Global Infrastructure Network



Existing Planned



Source: Mercator Institute for China Studies (MERICS)

referring to long-term investors, the re-insurer Swiss Re emphasised that infrastructure projects require a liquid market. After all, Swiss insurance groups could also (re)insure specific infrastructure projects.

Secondly, Swiss companies are likely to profit in the medium to long-term from the positive growth impetus provided by the planned infrastructure projects. In this respect, China's initiative focuses on the massive infrastructure challenges in Asia and other emerging countries and regions. In certain corridor countries, the investments made by Japan and the Asian Development Bank are already more significant than the projects planned in the BRI context. In addition, several countries and confederations of states have announced bilateral infrastructure initiatives, among them the EU, South Korea and Russia.

Thirdly, enhanced infrastructure could change trade routes in the medium term, which would reduce trading costs and make global value chains more efficient.

4) A new need for coordination and cooperation has arisen on the Swiss side

In their jointly signed memorandum of understanding, China and Switzerland express their willingness to identify opportunities for cooperation on projects in third countries in the fields of trade, investment and financial services.

Furthermore, they plan to exchange project information. The MoU also sets out the principles for cooperation in third countries: The projects must respect international standards and should be market- and enterprise-based. On top of this, they should be designed such that they contribute to the achievement of the UN sustainability goals.

The MoU mentions three cooperation platforms for BRI projects, two of which are to be primarily organised by the private economy. The role of the government is still to be defined. At the Wirtschaftsforum, emphasis was repeatedly placed on the essential role played by the federal administration in all cooperation agreements with China. Hence, Switzerland must get organised and stay up-to-date with regard to other western countries' activities in the BRI context. After all, Switzerland is not the only country to have signed a memorandum of understanding with China.

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Vocational Baccalaureate II: More Self-Study Results in Higher Number of Dropouts but Same Grades

KOF researchers have investigated the impact of self-study on the probability of completing a vocational baccalaureate II course. They found that a higher degree of self-study results in a higher number of dropouts. By contrast, the final grades are no different.

Between 2000 and 2018, the number of students acquiring the vocational baccalaureate certificate more than doubled from 6,500 to approximately 14,000 (Federal Statistical Office, FSO, 2018). A distinction is made between vocational baccalaureates I and II. While the first is acquired in parallel to the EFZ (Federal Certificate of Competence), vocational baccalaureate II courses are taken after acquiring the EFZ. Vocational baccalaureate II certificates are gaining importance (BFS, 2019).

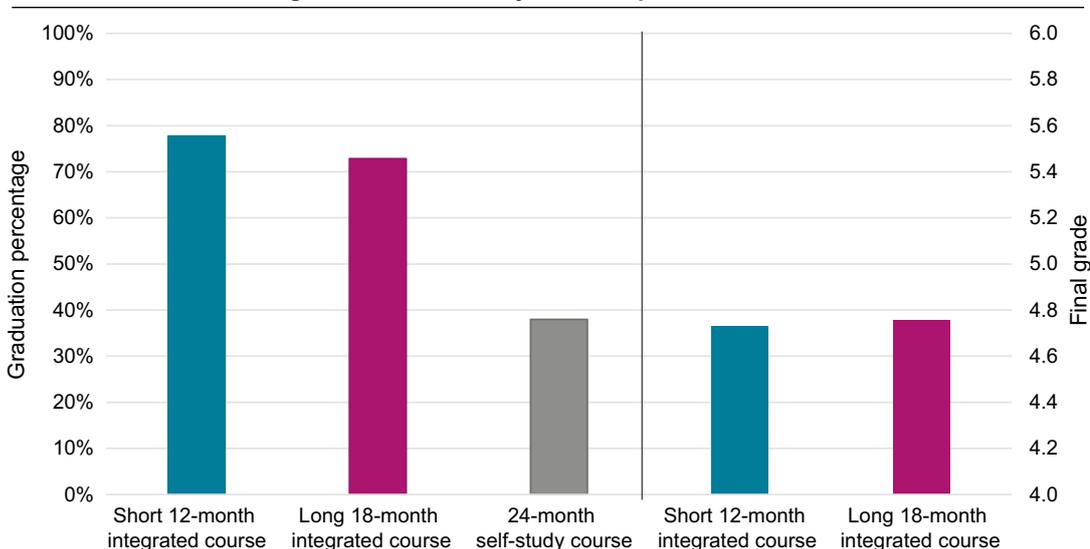
The institution which commissioned this study offers three options for acquiring the vocational baccalaureate II certificate. The first option is a two-year self-study course which requires students to study independently at home. The second option – the long 18-month integrated course – combines self-study with one day of class-based lessons a week. The degree of self-study in this course is around

70%. The third option – the short 12-month integrated course – is the shortest of the three. Students spend two days a week in classes and just under 50% in self-study.

Differences arise in the first semester

The courses thus vary substantially in terms of their degree of self-study. This begs the question whether a high percentage of self-study is conducive and prepares students for the successful acquisition of the vocational baccalaureate. The KOF researchers have investigated this question with the help of administrative data provided by the educational institution under review. The data relate to all students who started studying for vocational baccalaureate II certificates at this school between 2007 and 2018. However, the data relating to students on the self-study course only reach back to 2012.

G 2: Graduation Percentage and Final Grade by Course Option



Remark: N=607/880/237/472/641

Source: FSO, 2019

The left side of graph G 2 shows that 78% of the students on the short integrated course acquired the vocational baccalaureate. At 73%, the percentage of successful graduates of the long integrated course is slightly lower. According to statistical analysis, this difference arises in the first semester, with no further differences in graduation probability arising thereafter. In the case of the self-study course, the number of students acquiring the vocational baccalaureate is significantly lower. No more than 38% of the students successfully complete this course.

The right side of graph G 2 shows the correlation between the degree of self-study and the final grade. At 4.7 for the short integrated course and 4.8 for the long course, the average final grades are almost identical. Respective data for the self-study course were not available. The results do not change if differences in observed characteristics, such as gender, initial grades or distance between home and school, are considered.

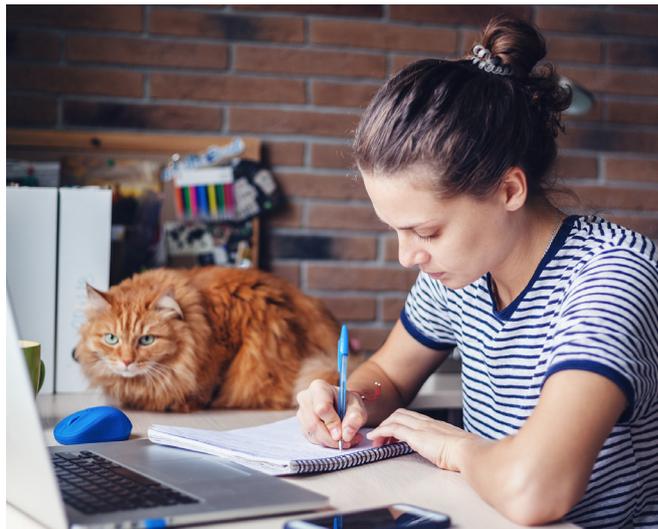
Comparison of the results of the integrated courses with the average results of courses with low degrees of self-study in the Canton of Zurich presents a similar picture (FSO, 2018). While the graduation probability for the integrated courses at the institution under review is lower than for the Zurich-based courses, the final grades are very similar. However, it must be noted that the differences in the students' characteristics cannot be considered.

High degree of self-study requires more discipline

The results suggest that a higher degree of self-study leads to more dropouts. However, since the final grades are not affected, the degree of self-study does not appear to have an impact on the course quality. This could be interpreted such that a high degree of self-study requires more discipline since students feel less integrated into a class structure. As a consequence, more students drop out.

Contact

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BFS, 2019. Berufsmaturitäten: Basistabellen. (Online)
www.bfs.admin.ch/bfs/en/home/statistics/education-science/ →

BFS, 2019. Berufsmaturitätszeugnisse nach Ausbildungsart, Geschlecht, Richtung, Schulkanton und Wohnkanton. (Online)
www.bfs.admin.ch/bfs/en/home/statistics/education-science/diploma/upper-secondary/general-education.assetdetail.8106366.html →

Investment Dynamics: Companies Lower Their Expectations for 2019

In 2019, Swiss companies intend to increase investment activities by around 1%. This is the result of the semi-annual KOF Investment Survey. Compared to the preceding years, this figure is rather low. The slowdown is predominantly due to construction investments.

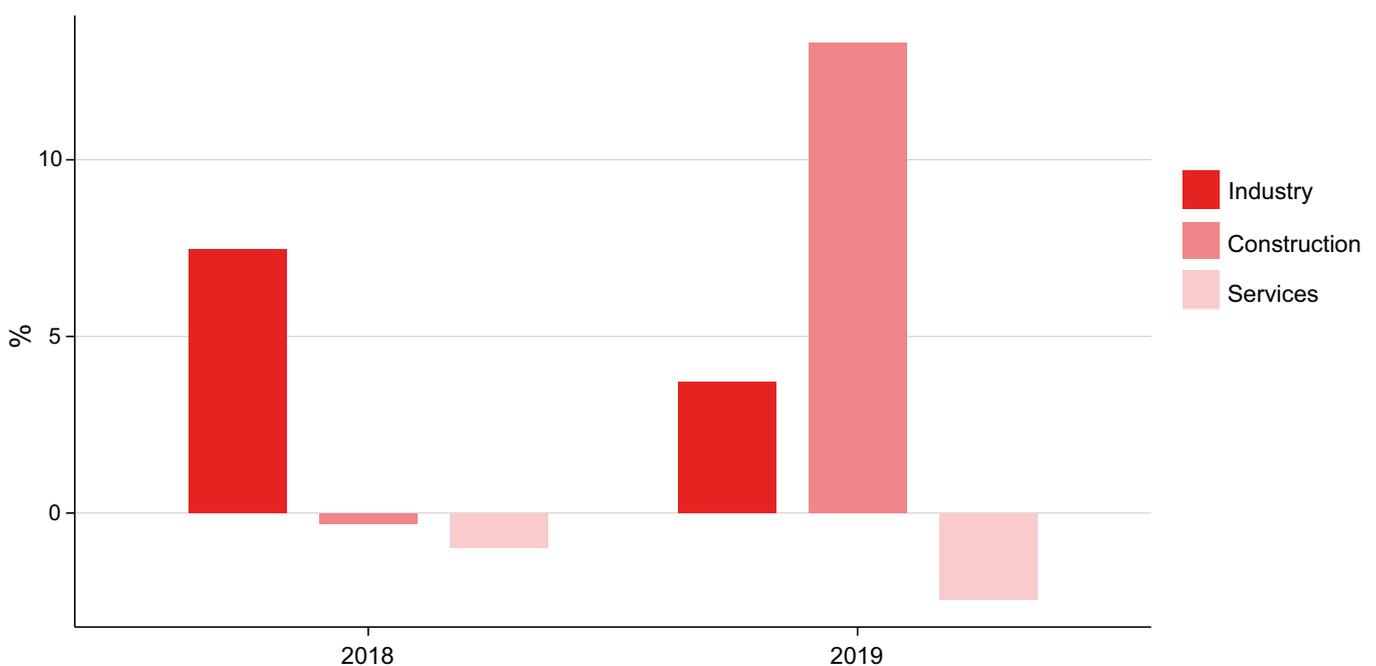
This year, Swiss companies intend to invest even less than previously (see G 3). This is the result of the KOF Investment Survey of spring 2019 which involved around 3,400 respondents. Although the surveyed companies intend to increase their investment activities by around 1%, this represents a weak trend compared to the preceding years.

relatively moderate. According to the latest figures, the companies have reduced their expected investment volume even further in the last six months: In the autumn survey 2018, the expected rise for the year 2019 was still 3%.

Plans for 2020 remain on the cautious side

Slower investment dynamics are mainly due to construction investments where a decline is expected in the industry and

G 3: In/Decrease in Investments, 2018 and 2019



According to the Investment Survey of spring 2019, the recent Swiss investment cycle is set to slow down further. In the last two surveys, the respondents already stated that their planned investment activities in 2019 would be

services sectors. Growth of investments in plant and machinery is also likely to be less dynamic than before. However, a robust rise is expected in research and development expenditure (see G 4).

G 4: Expected Investment Activities in 2019 and 2020*



*Responses to the question: Our investment activities in Switzerland are likely to increase/remain the same/decrease. The balance is the percentage of 'increase' responses minus the percentage of 'decrease' responses.

Broken down by sector, the following picture emerges: While companies in the service sector intend to reduce gross investments to some degree and manufacturing enterprises plan for a slight increase, Swiss construction companies are budgeting for considerable growth in investment sums. The construction companies intend to invest in new buildings for their production activities. However, with industrial and service companies investing less in office buildings and production halls, overall construction investments are experiencing some downward pressure.

Aside from investment amounts, the KOF Investment Survey also investigates investment structures. According to the figures, a substantial portion of the planned investment sums is earmarked for the expansion of current capacities.

As regards 2020, the surveyed companies' investment plans are once again on the cautious side. Specifically, investments in plant and machinery in the industrial and service sector are likely to be more moderate in 2020 than in the current year.



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You can find more information about the KOF Investment Survey on our website:
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KOF INDICATORS

KOF Business Situation Indicator: Further Decline in June

With the KOF Business Situation Indicator recording another slight decline in June, the business situation among Swiss companies has been slowing down slightly month-by-month since November of last year (see G 5). The economy is facing increasing headwinds.

At the sector level, the development in June was heterogeneous. In the manufacturing industry, the indicator's downward trend continued and the business situation is now distinctly less favourable than in June of last year (see T 1). A slight slowdown has also occurred in the construction industry, although the business situation remains positive. The business situation in the construction-related project engineering sector is even better than in the previous month. This suggests a sustained boom in the construction industry. The retail trade is also following a positive trend, with the Business Situation Indicator rising for the third consecutive month. The business situation among the financial and insurance service providers remains favourable. Wholesalers, hotel and catering companies and the other service providers were last surveyed in April. At the time, the Business Situation Indicator had dropped in all three sectors.

At the regional level, the picture is also heterogeneous. The business situation in North-West Switzerland is significantly less favourable than in the previous month (see G 6). While the Business Situation Indicator declined slightly in the Zurich region and hardly changed in Ticino, it went up slightly in Espace Mittelland, the Lake Geneva region and Central Switzerland. The business situation was specifically more favourable in Eastern Switzerland.

Explanation of graphs:

Graph G 5 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 5: KOF Business Situation Indicator

(Balance, seasonally adjusted)



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

| | Jun 18 | Jul 18 | Aug 18 | Sep 18 | Oct 18 | Nov 18 | Dec 18 | Jan 19 | Feb 19 | Mar 19 | Apr 19 | May 19 | Jun 19 |
|---------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Private sector (overall) | 27.2 | 29.1 | 28.8 | 28.5 | 27.9 | 29.0 | 28.2 | 25.9 | 25.6 | 24.4 | 23.4 | 22.7 | 22.1 |
| Manufacturing | 25.0 | 27.6 | 28.7 | 26.2 | 22.2 | 26.7 | 25.8 | 22.8 | 21.0 | 19.5 | 14.7 | 13.2 | 10.1 |
| Construction | 28.3 | 28.8 | 27.3 | 27.5 | 29.5 | 28.6 | 28.8 | 27.6 | 29.8 | 30.0 | 34.8 | 35.3 | 34.4 |
| Project engineering | 46.1 | 45.2 | 46.5 | 45.8 | 46.3 | 45.2 | 46.1 | 47.0 | 49.8 | 52.5 | 51.8 | 51.2 | 54.0 |
| Retail trade | 6.5 | 9.9 | 7.8 | 9.0 | 6.8 | 8.0 | 6.3 | 6.4 | 5.7 | 4.5 | 7.1 | 7.4 | 9.8 |
| Wholesale trade | - | 32.7 | - | - | 33.3 | - | - | 27.6 | - | - | 25.5 | - | - |
| Financial services | 39.6 | 41.6 | 38.9 | 40.2 | 40.7 | 41.0 | 37.2 | 35.3 | 35.3 | 29.4 | 33.9 | 31.0 | 31.0 |
| Hotel and catering | - | 8.5 | - | - | 9.3 | - | - | 6.5 | - | - | 4.8 | - | - |
| Other services | - | 27.4 | - | - | 28.0 | - | - | 26.6 | - | - | 24.4 | - | - |

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 6 presents the business situation in the main regions pursuant to the Federal Statistical Office. 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.

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.

G 6: KOF Business Situation in the Private Sector

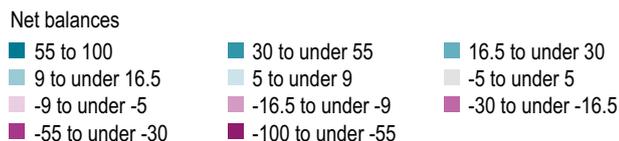


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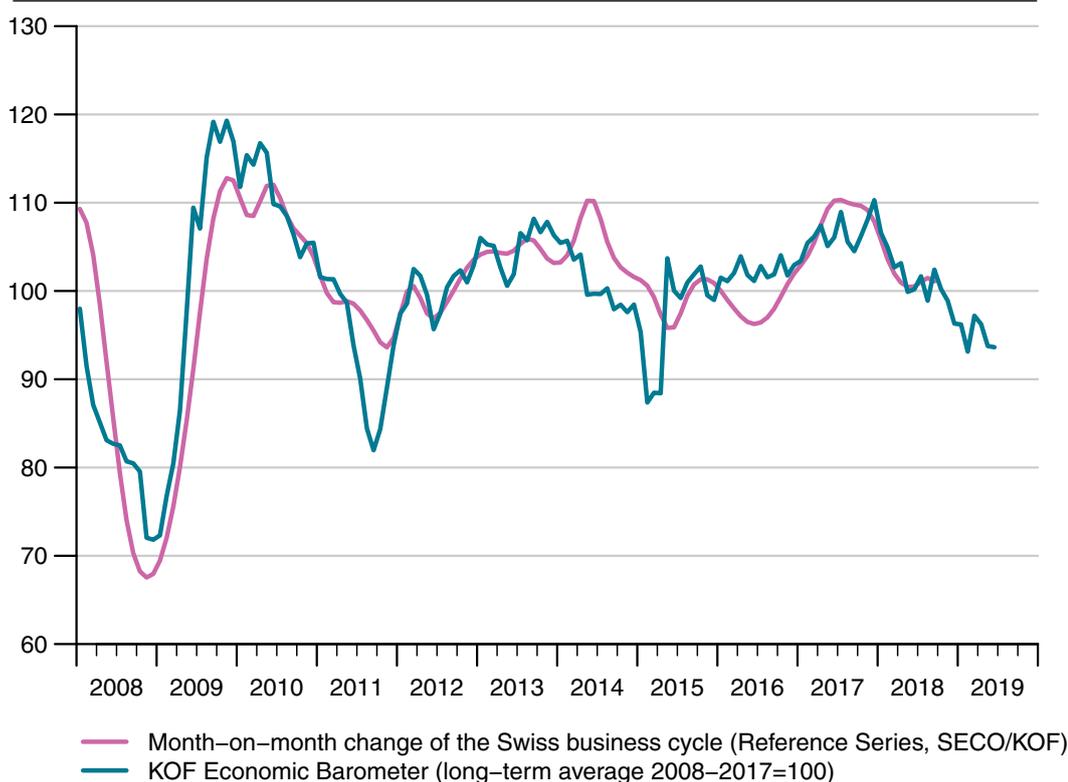
The angle of the arrows reflects the change in the business situation compared to the previous month Source: KOF



KOF Economic Barometer: Stagnation at a Low Level

The KOF Economic Barometer remains virtually unchanged in June compared to the previous month (see G 7). It now stands at 93.6 points, 0.2 points lower than in May (revised from 94.4 to 93.8 points). The downward tendency that has been present since the beginning of the year is now flattening out. The economic outlook for Switzerland remains dampened in the middle of 2019.

G 7: KOF Economic Barometer and Reference Series



The almost unchanged level of the KOF economic barometer in June is primarily due to balancing tendencies in foreign demand, the goods producing sector (manufacturing and construction) and private consumption. While indicators show a positive tendency with regard to foreign demand, the joint indicators of the goods producing sector and private consumption point in the opposite direction with almost equal magnitude. In addition, there is a slight slowdown in the banking and insurance sector.

In the goods producing sector, indicators on the situation of intermediate products and on order backlogs are primarily responsible for the negative development of this sector. The assessment of the competitive position, employment situation and export prospects remains unchanged.

A mixed, but mostly slightly clouded picture can be observed within the manufacturing industry. Indicators in the metal sector, as well as in the machine and vehicle production, point in a positive direction, while indicators in the chemical industry, the electrical industry and the food and beverages production indicate a negative development.

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You can find more information about the KOF Economic Barometer on our website:
www.kof.ethz.ch/en/forecasts-and-indicators →

AGENDA

KOF Events

KOF Prognosetagung Herbst 2019

Welche Rolle spielt die Ungleichheit im Schweizer Arbeitsmarkt?

Mittwoch, 2. Oktober 2019, 16.45 –18.30 Uhr
UBS-Konferenzgebäude Grünenhof,
Nüscherstrasse 9, 8001 Zürich

Referate:

Prof. Dr. Jan-Egbert Sturm (KOF, ETH Zürich)
Prof. Dr. Ben Jann (Universität Bern)
Prof. Dr. Monika Bütler (Universität St. Gallen)
Josef Maushart (CEO & VRP FRAISA Gruppe)
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