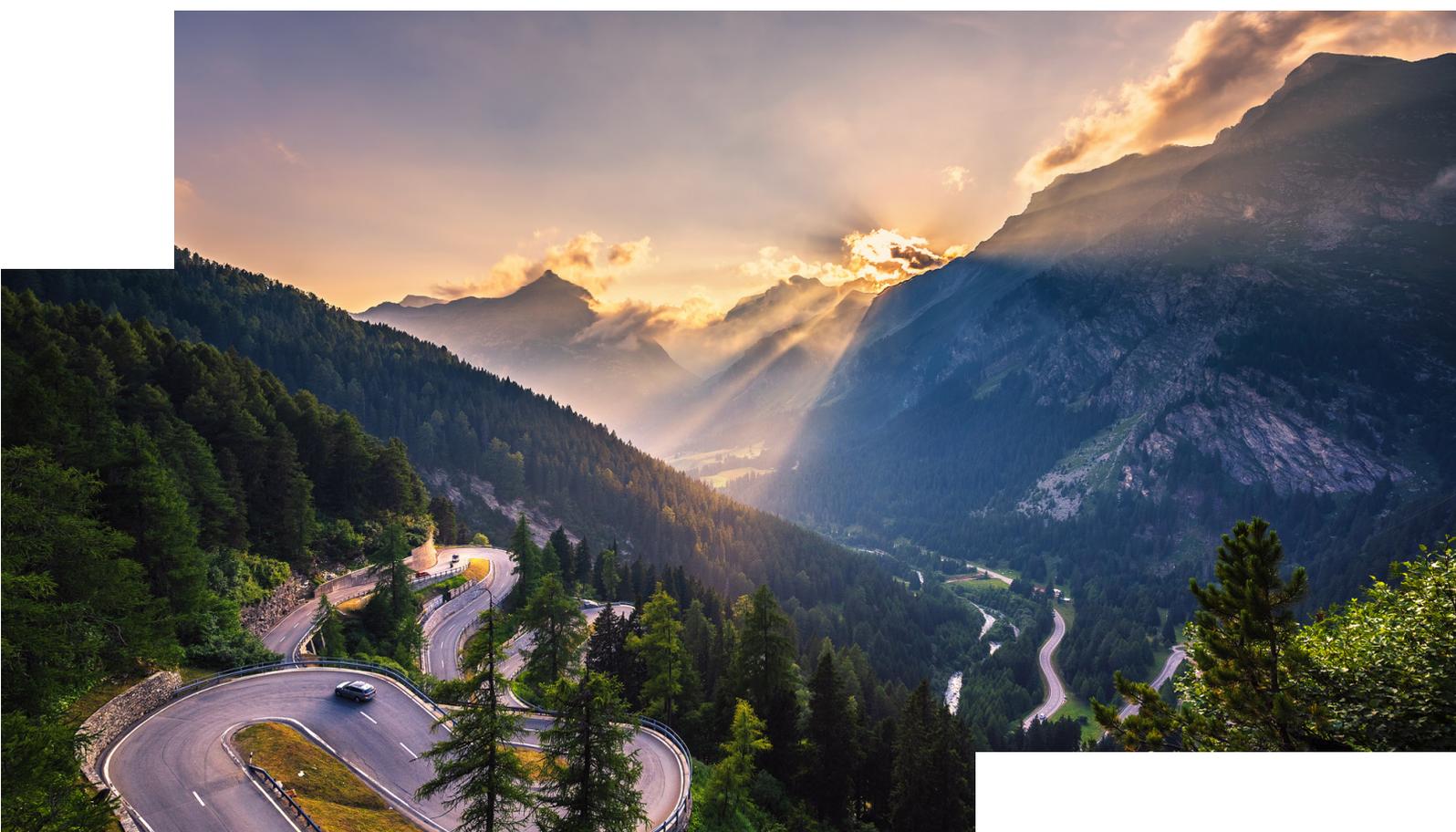


Swiss labor market between uncertainty and skilled labor shortage

Monitor Switzerland | Q4 2021



Swiss Economy
**Recovery only
slowed down**

Page 6

Focus
**Vacant positions
at record high**

Page 12

Monetary policy
**Inflation still
on the rise**

Page 18



Dear readers

As 2021 draws to a close, we can look back on another year defined by the coronavirus pandemic, and should brace ourselves for the likelihood of this virus affecting our lives for some time yet. Without doubt, several difficult winter months lie ahead of us. You can find out how well the Swiss private sector has coped with the problematic situation so far in our article on the Swiss economy (cf. Page 6). At the end of the third quarter of 2021, Swiss gross domestic product (GDP) was already 1.4% above its pre-crisis level. But although this shows that Switzerland is in better economic shape than most other countries, the outlook here too is clouded by rising COVID-19 case numbers and intensified measures to contain the pandemic, as well as global supply chain problems. For example, in a survey carried out by us together with procure.ch – the Trade Association for Purchasing and Supply Management – two-thirds of respondent manufacturers stated that they were anticipating production outages over the next few months as a result of insufficient supplies of input goods. Furthermore, the persistence of the pandemic is likely to require the imposition of repeated restrictions in a number of service sectors, most notably catering and tourism, until the spring of 2022 at the earliest.

Overall, and despite all these imponderables, we are still expecting a continued recovery next year. We set out the reasons for our – guarded – optimism from page 6. One decisive driver of economic development is the labor market situation. As in many countries, the labor market in Switzerland suffered quite a shock during the global recession of 2020, but has since bounced back rapidly. Unemployment has been declining for months now, and the number of vacant positions keeps on rising. Indeed, some employers are becoming desperate in their search for qualified personnel at the moment. You can read about the various factors that are making the recruitment process more difficult, and how this is impacting employment in the individual sectors of the economy, in our Focus Article starting on page 12.

We wish you enjoyable reading, a restorative festive season, and a healthy New Year.



André Helfenstein
CEO Credit Suisse (Switzerland) Ltd



Claude Maurer
Chief Economist Switzerland

Contents Page

Swiss Economy	6
Recovery only slowed down	
The COVID-19 pandemic will continue to preoccupy Switzerland for quite a while. However, the current wave should weigh on the economic recovery only temporarily. We expect the Swiss economy to grow by 2.5% next year, following on from 4.0% in 2021.	
Economy Monitor	8
Sectors Monitor	9
Focus Labor market	12
Vacant positions at record high	
The recovery of the Swiss labor market is proceeding apace: Unemployment is falling, and the number of vacant positions is rising. Accordingly, an increasing number of employers are having trouble recruiting qualified personnel. However, there are significant differences between individual sectors. For 2022 overall, we are expecting employment growth of 1.2% and nominal wage growth of 0.8%.	
Monetary policy	18
Inflation still on the rise	
Despite a modest acceleration, inflation in Switzerland has remained lower than in most other economies, not least due to a relatively low weight of the energy component in the consumer price index. There is therefore no pressure for tighter monetary policy.	
Monetary policy Monitor	19
Real Estate Monitor	20
Credit Suisse Leading Indicators	21
Forecasts and Indicators	23



Recovery only slowed down

The COVID-19 pandemic will continue to preoccupy Switzerland for quite a while. However, the current wave should weigh on the economic recovery only temporarily. We expect the Swiss economy to grow by 2.5% next year, following on from 4.0% in 2021.

Economic output back above pre-crisis level

A look in the economic rear mirror is gratifying: In the third quarter of 2021, Swiss gross domestic product (GDP) was already back significantly above its pre-crisis level. In other words, Switzerland is in relatively better economic shape than most other countries (cf. Fig. 1). GDP is likely to have increased by 4.0% on average this year, following a slump of 2.4% in 2020. However, the outlook for next year is clouded by rising COVID-19 case numbers and the associated measures to contain them, as well as global supply problems.

Economy and society better placed to cope with the virus

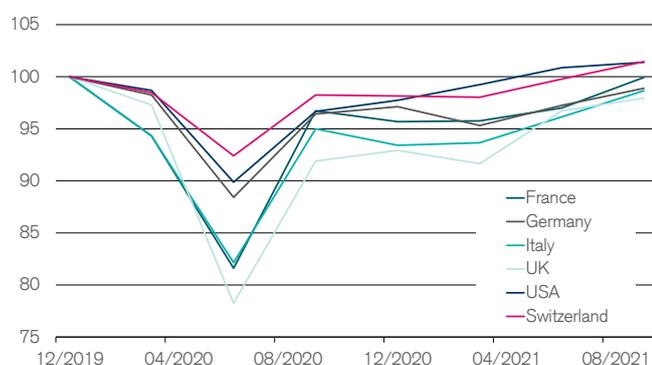
The evolution of the pandemic is almost impossible to predict, particularly as the Omicron variant has added a further unknown factor to the mix. However, there is a clear pattern of infections having occurred in waves so far, which in turn implies that containment measures and changes in behavior – as well as progress on the vaccine front – have consistently had an effect. Moreover, our econometric analyses show that the economic repercussions of the pandemic have receded markedly as the various waves of infections have progressed. Figure 2 illustrates the parallel decline in the development of services sector sales and the mobility of the Swiss population against a backdrop of key virus developments in each wave. This is likely to be attributable to the fact that more rigorous measures have been implemented in a less damaging way on the one hand, while on the other hand service providers and households have found ways of dealing with the virus and not having to adapt their behavior so strongly in response to it.

Current wave hitting a few sectors hard

As a consequence, it is only logical to assume that the economic damage of the current wave will remain within tolerable limits. We expect this wave to hold back the recovery only in the short term. That said, certain sectors are likely to suffer more than this average overview would imply. For example, numerous hospitality businesses, clubs, and leisure operators face considerable uncertainty over the winter months. The biggest blow is likely to be dealt to the recovery of intercontinental tourism, where normalization prior to the end of 2022 now no longer looks realistic.

Fig 1: Swiss economy above pre-crisis level

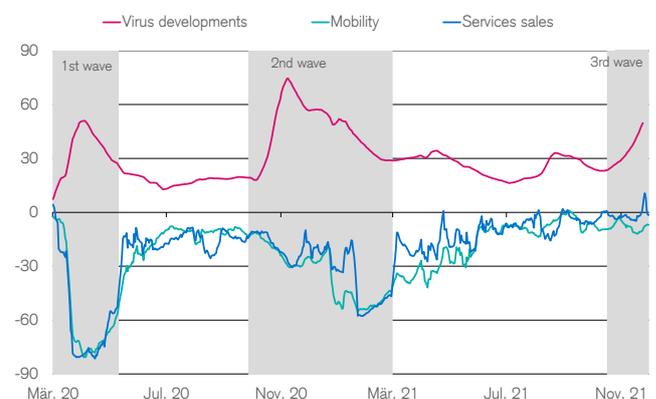
Real GDP, seasonally adjusted, Q4 2019 = 100



Source: Datastream, Credit Suisse. Last data point: Q3 2021

Fig 2: Virus loses ability to impact mobility and sales

Index based on case numbers, deaths, positivity rates, stringency, deviation of mobility from pre-pandemic level (03.01. – 06.02.2020), deviation of sales from 2019 level; moving seven-day averages



Source: Monitoring Consumption Switzerland, Google Mobility Report, Datastream, Credit Suisse. Last data point: December 6, 2021

Purchasing problems to trigger production outages at two-thirds of manufacturers

The recovery of manufacturing is currently being held back by supply shortages. Two-thirds of the purchasing managers surveyed by us in collaboration with the Trade Association for Procurement and Supply Management – procure.ch – are anticipating production outages over the next six months due to procurement difficulties. Around one in five of these companies has already had to revert to short-time working for this reason. A look at the inventory levels reported by the Economic Research Institute (KOF) of ETH Zurich gives an indication of which industries are having the greatest problems with supply shortages (Fig. 3). In sectors such as paper and furniture, but also electronics, watches, and pharma, insufficient levels of primary products are going hand in hand with insufficient inventories of finished products, which is a sign that unsatisfactory supplies of primary products are weighing on production and sales. By contrast, insufficient levels of primary products in sectors such as the metal-working industry and mechanical engineering are not having a wide-spread negative impact on sales inventory levels.

Supply situation to first ease slightly in 2022

In view of the fact that demand for goods is set to decline only slowly due to the ongoing backdrop of the pandemic, and that production and transport capacities will be expanded or fully recommissioned only sluggishly around the world, we are not anticipating any clear improvement in the situation before the middle of next year. In the electronics area – and specifically the area of semiconductors (chips) – the situation is likely to remain fraught through into 2023.

Electronic goods predominantly imported

Price rises as a result of supply difficulties are one reason why we are expecting higher inflation in 2022 than on average over the last few years (cf. “Inflation” on page 8). For two reasons, however, the drag that this will have on GDP growth is likely to be limited: First, the average household spends less than 7% of its money on goods that contain semiconductors, and these goods are for the most part imported. Any price-related purchasing restraint would therefore affect domestic manufacturers rather indirectly. Second, the labor market situation in both manufacturing and the economy as a whole is continuing to recover, irrespective of the current problems (cf. Focus article from page 12 onward). This improvement in the labor market should also have a positive impact on consumer sentiment in 2022.

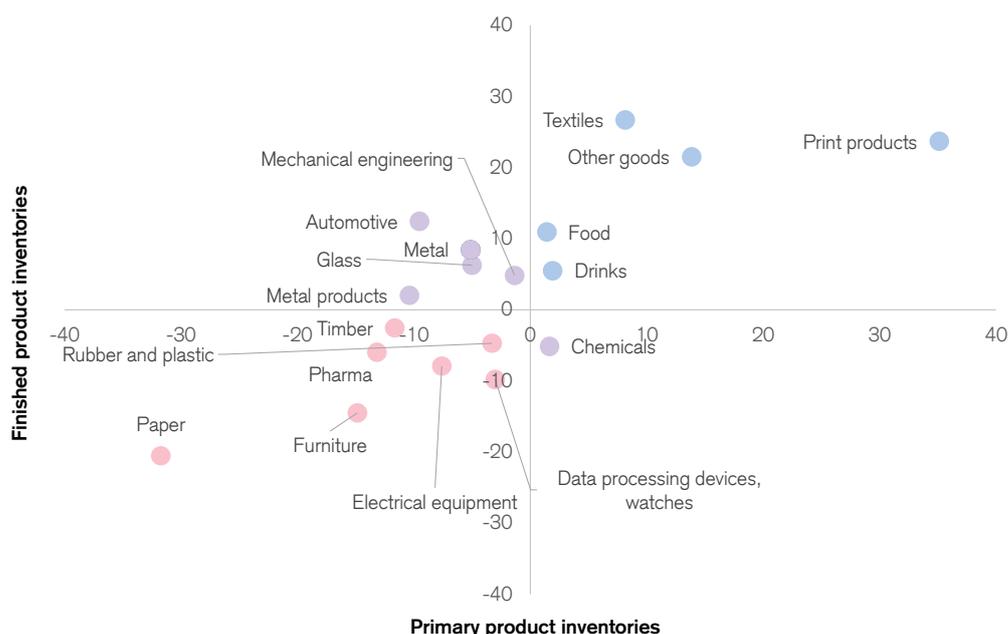
GDP growth of 2.5% in 2022

Although persistent supply chain problems and the difficult epidemiological situation are weighing on economic growth at the moment, we continue to believe that the economic recovery will overall persist in 2022. Specifically, we are forecasting GDP growth of 2.5% next year, with the temporary weakness evident in the winter months likely to be offset by stronger development over the rest of the year.

claude.maurer@credit-suisse.com

Fig 3: Not all sectors equally affected by supply chain disruptions

Negative values indicate that the majority of companies in the sector have insufficient inventory levels.



Source: Economic Research Institute (KOF) of ETH Zurich, Credit Suisse

Inflation

Three factors are likely to result in inflation being higher in 2022 than in 2021. First, food prices have fallen this year, and we are expecting this situation to normalize in 2022. Second, we expect seasonal price development to normalize to some extent, particularly for package holidays, which were heavily affected by the pandemic and exhibited sharp price declines as a result. Third, shortages in global industrial production are likely to put upward pressure on the prices of certain import goods. Taking everything into consideration, we are therefore revising our inflation forecast for 2022 upward from 0.5% to 1.0%.

maxime.botteron@credit-suisse.com

Labor market

Declining unemployment figures and rising numbers of vacant positions have recently made the recruitment process more difficult generally from the employer perspective (see Focus on p. 12). Meanwhile, employee fears over job security are receding, as is clear from responses in the quarterly survey of consumer sentiment. Following the nadir recorded at the turn of 2020/2021, the sub-index of perceived job security is now back close to its long-term average. At the same time, the index on expected unemployment was lower in October 2021 than at any point since 2011.

emilie.gachet@credit-suisse.com

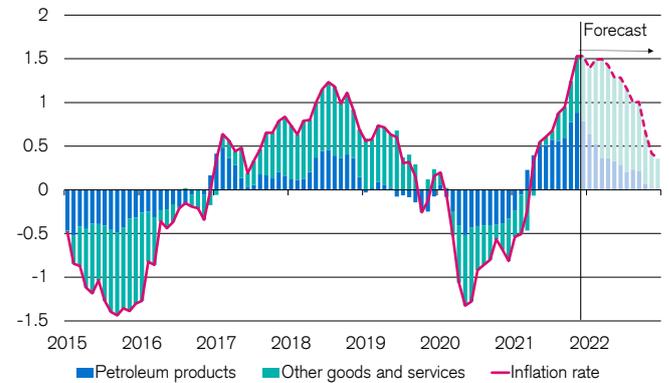
Immigration

With the exception of residence permits for workers from Croatia, there is currently still spare capacity in Switzerland's immigration quotas. In particular, Swiss companies have so far made little use of the quota for workers from the United Kingdom, which was designed as a way of cushioning the effects of Brexit. For 2022, the Federal Council has resolved to leave the existing ceilings unchanged at 2021 levels and introduce unrestricted freedom of movement for Croatia. Given the expectation of greater employment momentum, this should make it easier for Swiss companies to recruit the right personnel.

sara.carnazzi@credit-suisse.com

Inflation to peak in second quarter of 2022

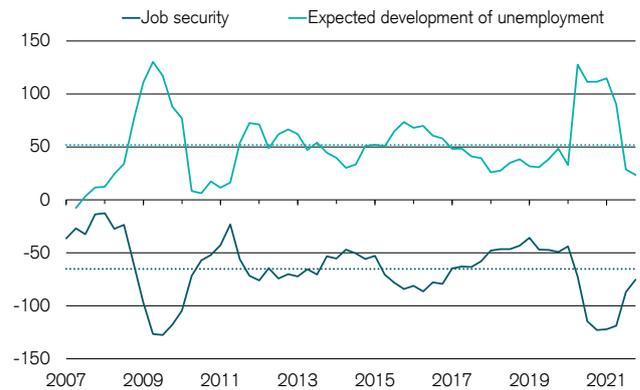
Year-on-year comparison, in %



Source: Refinitiv Datastream, Credit Suisse. Last data point: November 2021. The forecast contribution of crude oil products assumes constant oil prices.

Fears over job security recede

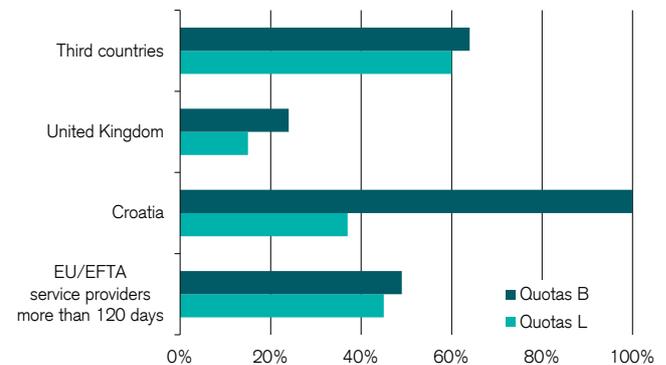
Index of consumer sentiment, questions on labor market development, seasonally- and calendar-adjusted; dotted lines: averages 2007 – 2021



Source: State Secretariat for Migration, Credit Suisse. Last data point: Oct. 2021

Spare capacity in immigration quotas

Degree of utilization of quota-limited short-stay residence permits (L) and normal residence permits (B) in %, as per end October 2021



Source: State Secretariat for Migration

Pharmaceutical industry

The exports of the Swiss pharmaceutical industry rose to a new high of just under CHF 26 billion in the third quarter of 2021. Almost a third of all growth in Swiss goods exports compared to the previous year was attributable to the positive development of pharma exports, with the sector's contribution to the total growth of almost 18% rising to around 5.5 percentage points. Its contribution to growth has therefore increased strongly since the start of the year. We are expecting international demand for pharma products to remain robust over the next few months, not least thanks to the need for vaccines.

tiziana.hunziker.2@credit-suisse.com

Engineering, electrical and metal industry (MEM)

MEM exports in the third quarter of 2021 were above their pre-crisis level. At the same time, primary product inventories fell sharply in September. The balance between companies that consider their primary product inventories to be too high and those who consider them to be too low slumped to a nadir of more than -12% in September. This development is attributable to bottlenecks in international supply chains. Demand for MEM exports can be expected to remain high. However, there is a risk of slight productivity declines against the backdrop of supply problems.

tiziana.hunziker.2@credit-suisse.com

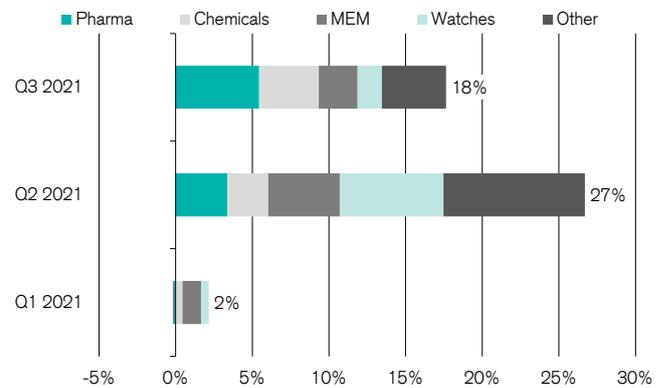
Watch industry

Swiss watch exports recorded year-on-year growth of 4.3% in the third quarter of 2021. This was attributable to strong demand from the key export destinations of China, the US, and the UK. In many European countries, however, demand continues to languish below pre-crisis levels. This is not least because of the reduced number of Asian tourists, who used to acquire watches on their travels but now do this in their own country instead. Nothing is likely to change in this respect over the next few months. China's share of total watch exports can therefore be expected to remain above its pre-crisis level in the future too.

tiziana.hunziker.2@credit-suisse.com

Significant growth driver

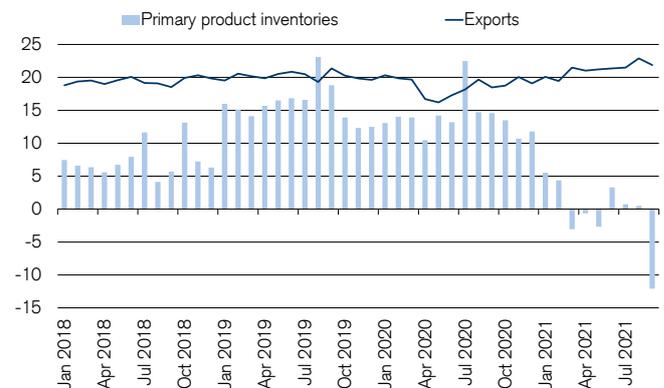
Growth in goods exports compared to prior-year quarter, by sector and total, seasonally adjusted



Source: Swiss Federal Customs Administration, Credit Suisse

Primary product inventories decline in September

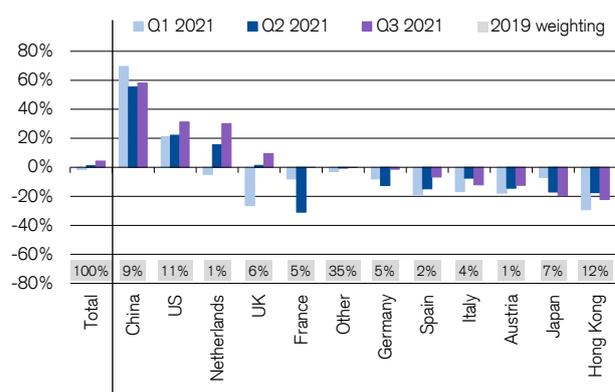
Year-on-year change of MEM exports in %, seasonally adjusted, and balance between companies who see their primary product inventories as too high compared to those who see them as too low



Source: Swiss Federal Customs Administration, Economic Research unit of the ETH Zurich (KOF), Credit Suisse

Export growth thanks to China, US, and UK

Change in watch exports compared to prior-year quarter, by country, seasonally adjusted, and weighting of countries in 2019



Source: Swiss Federal Customs Administration, Credit Suisse

Retail trade

The remarkable “rollercoaster ride” of retail sales does not appear to be over yet. In the third quarter of 2021, both the food/near-food and non-food areas recorded negative growth rates. To a large extent this can be explained by the record sales notched up during the COVID-19 pandemic, which are difficult to repeat under more normal circumstances. With this in mind, negative year-on-year sales figures can be expected over the next three months too. However, viewed on an absolute basis we believe that retail sales will remain above pre-crisis levels.

tiziana.hunziker.2@credit-suisse.com

Tourism

The recovery in the number of overnight stays in tourist municipalities flattened off somewhat in the third quarter of 2021. Although the recovery remained dynamic in the urban centers and suburban municipalities, this category is still much further below its pre-crisis level than tourist regions. However, the winter sports season at the start of 2022 is likely to see tourist municipalities closing in on their pre-crisis levels, particularly as both domestic tourists and European guests can be expected to support the recovery of overnight stays in Switzerland’s winter sports regions.

tiziana.hunziker.2@credit-suisse.com

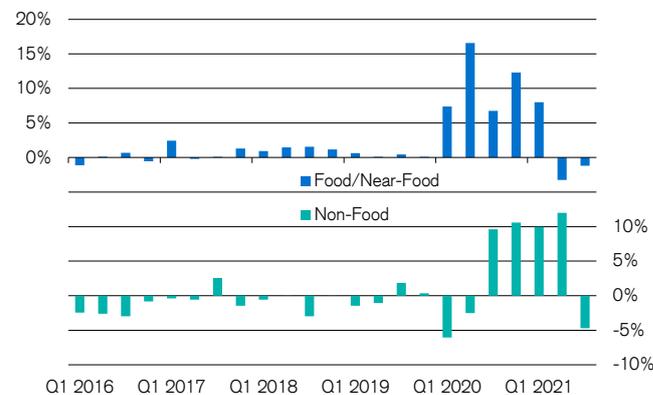
Information technology (IT)

Sentiment in the IT sector has picked up and is now even higher than in the pre-crisis year of 2019. The balance between companies who view their business situation as positive and those that view it as negative stood at almost 56% at the start of the fourth quarter of 2021. This is the highest level recorded since 2017. Corporate investment collapsed during the pandemic. Although the recovery is well underway, there is still further upside potential, and the IT sector should continue to benefit.

tiziana.hunziker.2@credit-suisse.com

Retail sales fall below prior-year levels

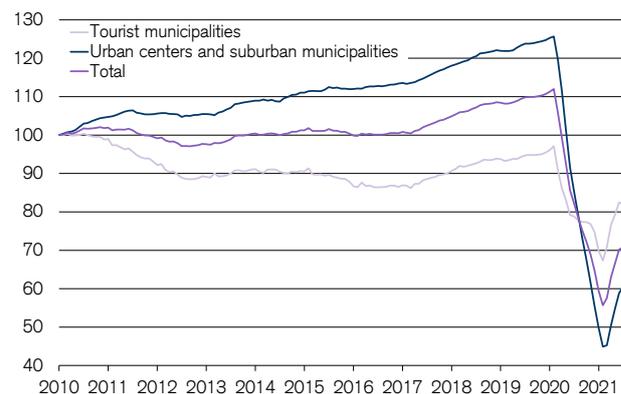
Development of seasonally-adjusted nominal retail sales compared to prior-year quarter



Source: GfK, Credit Suisse

Tourist numbers remain well below pre-crisis levels

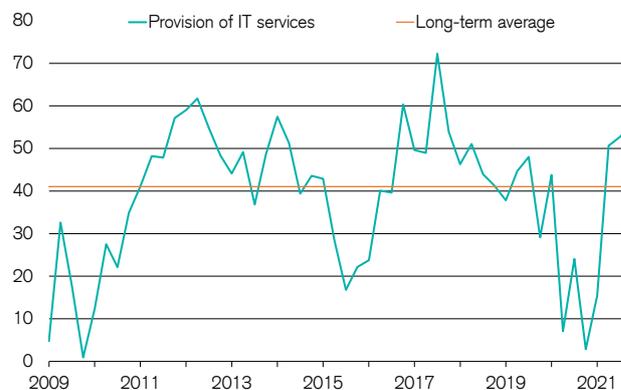
Overnight stays, indexed (Jan. 2010 = 100), 12-month averages



Source: Swiss Federal Statistical Office, Credit Suisse

Significant improvement in sentiment in IT sector

Balance between companies who view their business situation as positive and those that view it as negative, in %, 5-year average



Source: Economic Research unit of the ETH Zurich (KOF), Credit Suisse



Vacant positions at record high

The recovery of the Swiss labor market is proceeding apace: Unemployment is falling, and the number of vacant positions is rising. Accordingly, an increasing number of employers are having trouble recruiting qualified personnel. However, there are significant differences between individual sectors. For 2022 overall, we are expecting employment growth of 1.2% and nominal wage growth of 0.8%.

Coronavirus-related decline in employment reversed

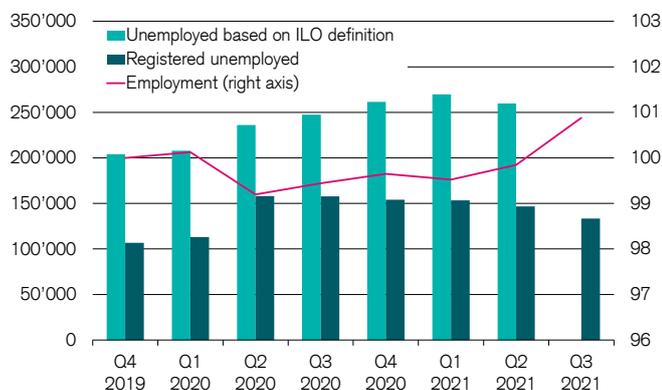
The coronavirus crisis subjected the Swiss labor market to a severe shock. In the wake of the first lockdown, overall employment in the second quarter of 2020 recorded a seasonally adjusted quarter-on-quarter decline of 0.9% (cf. Fig. 1) – the sharpest quarterly decline for almost 30 years. Compared to the historic slump in gross domestic product (GDP), however, the labor market can be said to have escaped relatively lightly, which is not least attributable to the massive use of short-time working. Moreover, the magnitude of the decline was mirrored by the briskness of the recovery in the second half of 2020. Following a temporary reverse at the start of 2021 during the second lockdown, employment has been on the rise ever since the spring. By the end of September 2021, it was about 0.9% above the pre-crisis level.

Declining unemployment on the one hand...

The unemployment figures also reflect the positive dynamics of the Swiss labor market (cf. Fig. 1). At the end of the November, the number of unemployed persons registered with regional employment agencies (RAV) was some 24% lower than in February 2021 on a seasonally adjusted basis (approx. -37,000 persons). In the unemployment statistics based on ILO definition, which also encompass people who may be actively looking for a job but are not registered with an RAV, a positive trend reversal also became apparent from the spring onward. An interesting feature here is the diverging development of the two indicators in the second half of 2020 and at the start of 2021, when the number of unemployed based on ILO definition rose further, even though the number of registered unemployed was already falling. One possible explanation of this phenomenon is that discouraged job-seekers gave up actively looking for a job in view of the general uncertainty and the fact that many companies had put their recruitment drives on hold during the first lockdown. These cases appear in the statistics as inactive rather than unemployed persons. Only after resuming the job-hunting process, they then gradually reappeared in the statistics for the unemployed based on ILO definition over the following quarters. The strong but temporary decline in the employment rate in the second quarter of 2020 confirms this picture.

Fig. 1: Employment over pre-crisis level in September 2021

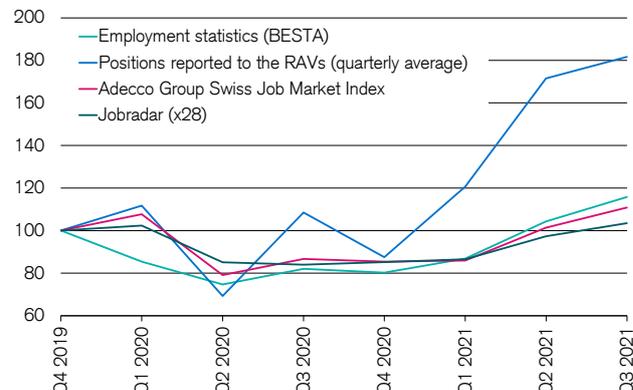
Total employed: As per quarter-end, index for Q4 2019 = 100; unemployed based on ILO definition and unemployed: average quarterly figures; seasonally adj. values



Source: Swiss Federal Statistical Office, State Secretariat for Economic Affairs, Credit Suisse
 Last data point: Q3 2021 (employment, registered unemployed), Q2 2021 (unemployed based on ILO definition)

Fig. 2: More vacant positions than prior to onset of COVID-19 crisis

Vacant positions as per various indicators, indices for Q4 2019 = 100



Source: Swiss Federal Statistical Office, State Secretary for Economic Affairs, Adecco Group Switzerland/University of Zurich, x28 AG, Credit Suisse
 Last data point: Q3 2021

... and increase in number of vacant positions on the other hand

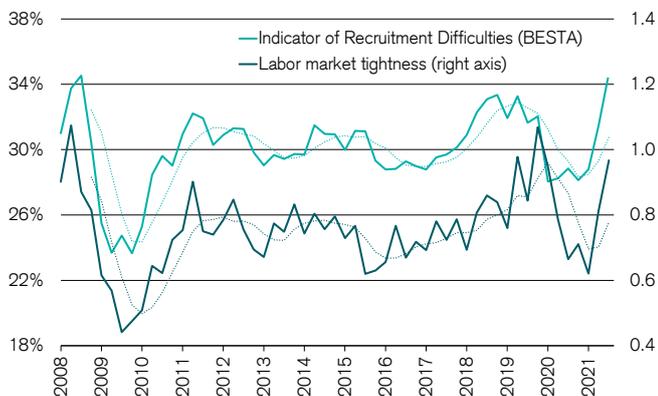
The labor market recovery is also evident in the development of the number of vacant positions in Switzerland (cf. Fig. 2). While the various available indicators may differ in respect of survey timing and survey method (questionnaire, internet search for job advertisements, or list of vacant positions as per the RAVs), which may in turn result in certain discrepancies in the number and time windows of vacant positions, a positive basic trend is easy to discern. The unusually strong upward and downward movements in the number of vacant positions recorded with the RAVs are largely attributable to changes in the job registration requirement: These were temporarily lifted between March 26 and June 8, 2020. In addition, as a result of the sharp rise in unemployment in 2020, the list of professions for which reporting was required was expanded with effect from January 2021. As such, the RAV figures are not a reliable indicator of the actual development of the Swiss job market. The other indicators suggest that – following a sharp slump in the first half of 2020 and an initially gradual recovery – an increasingly large number of vacant positions have been advertised by companies from the second quarter of 2021 onward. The figures published in the third quarter of 2021 were even higher than those published at the end of 2019/beginning of 2020, which were the previous record levels. According to the “Jobradar” of the company x28, more than 212,700 jobs were advertised last August in Switzerland on the websites of companies and recruitment agencies, compared to some 210,300 in February 2020.

Consequence: rising labor market tightness from employers’ perspective

Accordingly, the number of job vacancies in the Swiss labor market was only slightly below the number of unemployed persons in the third quarter of 2021. At the time of going to press, there was no official data on unemployed persons based on ILO definition available for the third quarter of 2021. However, we estimate this to be in the region of 220,000 persons (not seasonally adjusted). The relationship between vacant positions and number of unemployed is referred to as the labor market tightness. If this figure is higher than 1, demand for labor – expressed simply – is greater than supply, whereas the opposite is true for a figure of less than 1. This metric therefore gives an indication of the difficulty employers are having in filling vacant positions, and to a certain extent can be interpreted as an indicator of a shortage in skilled labor. At the end of 2019, prior to the onset of the coronavirus crisis, the labor market tightness had reached its highest level since 2008, but then declined sharply in Switzerland in 2020 for the first time since the financial crisis (cf. Fig. 3). The reason for this was the sharp increase in unemployment at the same time as the number of vacant positions slumped in the wake of the first lockdown. However, this indicator has bounced back powerfully since the spring of 2021. In the third quarter of 2021, there were around 0.97 job advertisements for every unemployed person in Switzerland – compared to just 0.6 at the start of the year. The fact that companies are now having greater difficulty in filling vacant positions with suitable personnel is also confirmed by the Indicator of Recruitment Difficulties, which is based on a survey of 65,000 businesses in the secondary and tertiary sectors carried out by the Swiss Federal Statistical Office (cf. Fig. 3). In the third quarter of 2021, the proportion of surveyed companies who stated that they were unable to find qualified personnel, or able to do so only with difficulty, stood at almost 35% – compared to 28% in 2020 and 33% in mid-2019.

Fig. 3: Recruitment difficulties increase once again

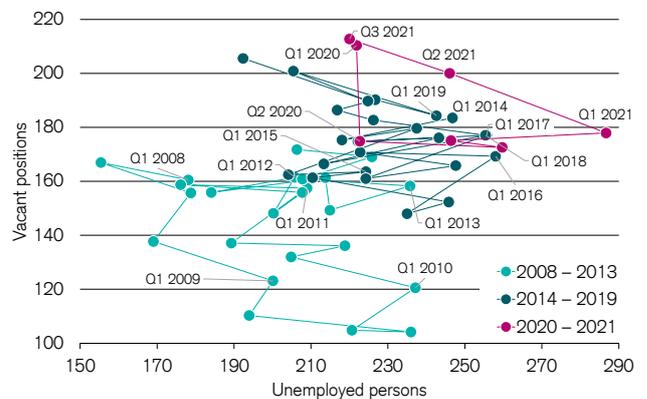
Labor market tightness: relationship between open vacancies (estimates based on Jobradar [x28] and the Adecco Group Swiss Job Market Index) and unemployed persons (based on ILO definition); Indicator of Recruitment Difficulties: proportion of companies surveyed (weighted by employment) unable to recruit qualified personnel or able to do so only with difficulty; dotted lines: 4-quarter averages



Source: Swiss Federal Statistical Office, Adecco Group Switzerland/University of Zurich, x28 AG, Credit Suisse
Last data point: Q3 2021 (unemployed based on ILO definition: Credit Suisse estimate)

Fig. 4: Beveridge curve shifted in the coronavirus crisis

Beveridge curve: unemployed persons (based on ILO definition) and vacant positions (estimates based on Jobradar [x28] and the Adecco Group Swiss Job Market Index) in thousands, quarterly figures, not seasonally adjusted, 2008 – 2021



Source: Swiss Federal Statistical Office, Adecco Group Switzerland/University of Zurich, x28 AG, Credit Suisse
Last data point: Q3 2021 (unemployed based on ILO definition: Credit Suisse estimate)

The concept of the Beveridge curve

Figure 4 uses the same data on vacant positions and unemployed persons as the indicator of labor market tightness, but illustrates this in a different way, namely in the form of the so-called Beveridge curve. It is usually downward sloping: As a general rule, unemployment is low and the number of vacancies is high at times of economic strength, whereas the opposite tends to apply in recessions. However, the angle of the Beveridge curve also allows for conclusions to be drawn about the magnitude of structural unemployment. If the curve is close to its axis origin, this points to an efficient interaction between the unemployed and vacant positions. By contrast, high unemployment coinciding with high vacancies is an indicator of potential problems in the reallocation processes. This is the case, for example, if the profiles of job-seekers do not match – or do not properly match – the requirements of the advertised positions. The term used in economics to describe this situation is mismatch. Mismatches can relate to industries, qualifications, or regions. However, changes in short-term frictional unemployment can also lead to a shift in the Beveridge curve. The latter arises because job-hunting and the recruitment process also take some time even where applicant and job profiles are in alignment.

Increasing mismatch evident in the Swiss labor market

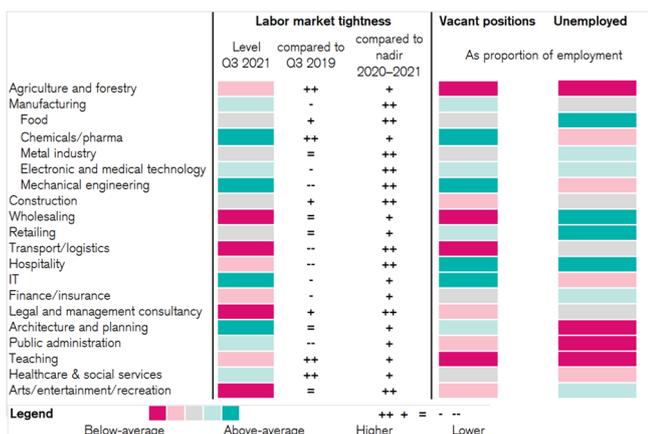
The development of the Beveridge curve indicates that structural unemployment in the Swiss labor market has risen since the financial crisis of 2008/2009. Between the points of the line describing the years 2008 to 2013 and those describing the years 2014 to 2019 there is clear evidence of a shift of the curve to the right, a phenomenon that was then accentuated in 2020/2021 during the coronavirus crisis. During the first lockdown in the spring of 2020, numerous recruitment processes became more complex or were even put on hold, including in the sectors of the economy that were less affected by the COVID-19 containment measures. This is likely to have triggered a rise in frictional unemployment. However, the main reason for the increasing mismatch between non-gainfully employed persons and vacant positions is likely to have been the sharply diverging developments of the individual sectors during the pandemic. Because the sectors where the number of vacancies has increased most strongly over the last few quarters are not necessarily those, in which a particularly large number of people are looking for a job.

But the situation is not the same in all sectors

A differentiated analysis of the current labor market tightness and potential mismatch problems at sector level reveals significant differences (cf. Fig. 5). For these calculations, we have resorted on the one hand to the figures of the unemployed as registered with the RAVs, as these are supplied promptly and broken down by industry sector, in contrast to the statistics for the unemployed based on ILO definition. The details on the number of vacant positions by sector, on the other hand, are taken from the “Jobradar” of the company x28, whereby in the survey by sector only the websites of companies (without recruitment agencies) are taken into consideration. The labor market tightness figures ascertained at sector level are therefore not directly comparable with the figures presented above at an overall Swiss level.

Fig. 5: Sector differences with regard to labor market situation

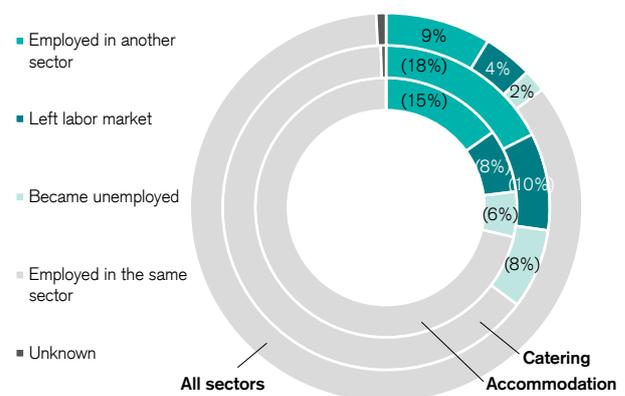
Vacant positions (Jobradar x28) and registered unemployed (quarterly average) by selected sectors, Q3 2021, in relation to one another (labor market tightness) and to employment by sector. The color scales indicate how high the figure works out compared to the average across all sectors, the plus/minus signs indicate whether the level in Q3 2021 was higher or lower than in Q3 2019 or than during the coronavirus-related low point (depending on the sector).



Source: State Secretary for Economic Affairs, x28 AG, Credit Suisse.

Fig. 6: Many hotel & catering employees switched sector in 2020

Employed persons surveyed in Q4 2019, by status in Q4 2020, in % (n = 8443 persons who were surveyed in both quarters); Figures in brackets indicate that results should be treated with caution due to the low random sample size.



Source: Swiss Federal Statistical Office (SFSO), Credit Suisse

Labor market tightest in IT sector

According to our calculations, in the third quarter of 2021, labor market tightness was at its highest in the information technology (IT) sector, followed by architects' practices, the chemical-pharmaceutical industry, and mechanical engineering (cf. Fig. 5). In all these sectors, an above-average proportion of open vacancies (when measured against sector employment) contrasts with a relatively low unemployment rate. However, these sectors differ with respect to development since the start of the coronavirus crisis: While labor market tightness in the IT sector and in mechanical engineering was still lower in Q3 2021 than two years previously, the levels recorded at the end of 2019 had already been exceeded two years on in the chemicals/pharma industry. When viewed in absolute terms, healthcare & social services was the sector with the most vacancies in the third quarter of 2021 (more than 15,800 according to Jobradar x28, of which 11,700 related to the care profession). Relative to the size of the sector, the number of vacant positions in healthcare & social services is not above-average, however. Nevertheless, as the unemployment rate in the sector is relatively low, the resulting labor market tightness is still above-average in a sectoral comparison. Labor market tightness was lowest in the third quarter of 2021 in the transport & logistics sector and in wholesaling, where relatively few positions were advertised.

High mismatch in hospitality ...

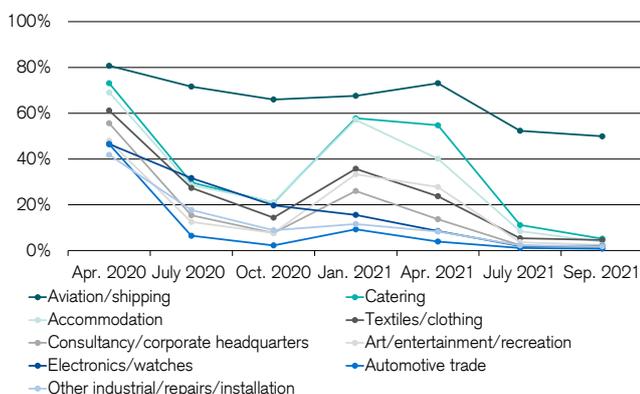
According to Jobradar x28, with just under 10,100 job advertisements the hospitality sector recorded the third-highest number of vacancies in the third quarter of 2021, behind healthcare and retailing. This is double the figure recorded in the first lockdown in the second quarter of 2020. As a consequence, hospitality exhibited the highest vacancy rate after the IT sector. However, the former also had a very high unemployment rate, which indicates a significant mismatch between job-seekers on the one hand and vacant positions on the other. In addition to possible discrepancies between the job and qualification profiles on offer compared to those being sought, a certain amount of professional reorientation is likely to play a key role here. Specifically, the RAV statistics assign the unemployed to the last sector in which they were active before losing their job, but this does not necessarily mean they are looking for a new job in that sector.

... and plenty of "reorientation"

An analysis of data taken from the Swiss labor force survey, for example, shows that switches between sectors and people leaving the labor market in 2020 (e.g. to pursue training or further education) were particularly common among workers from hospitality compared to other sectors (cf. Fig. 6). Indeed, 18% of surveyed workers from the hospitality sector commenced activity in a different sector between the end of 2019 and the end of 2020, while a further 10% left the labor market altogether. On average, the equivalent figures across all sectors were "only" 9% and 4% of workers respectively. The labor market tightness figure ascertained for hospitality is therefore likely to be underestimating the actual recruitment difficulties in this industry. In addition, short-time working is still relatively widespread in the hospitality sector (cf. Fig. 7). In September 2021, around 5% were employed at least partially on a short-time working basis in the catering sector. Only in the aviation industry was this figure higher (and significantly so). The longer the instrument of short-time working is used, the more the question arises of whether short-time working is not simply delaying unemployment – and thereby contributing to the mismatch between job-seekers and vacant positions.

Fig. 7: Short-time working still relatively widespread in hospitality

Proportion of all employed workers in short-time working (approximation values); sectors shown are those with a value of more than 40% in April 2020



Source: State Secretariat for Economic Affairs, Swiss Federal Statistical Office, Credit Suisse
Last data point: September 2021

Fig. 8: Employment growth expected in all sectors in 2022

Employment in full-time equivalents (annual average), year-on-year change in %

Sector	2020	2021*	2022*
Manufacturing	-1.0%	-0.9%	0.6%
Construction	0.2%	-0.5%	0.6%
Trading	0.3%	-0.4%	0.4%
Transport/logistics	-0.1%	-0.7%	0.7%
Hospitality	-9.0%	-4.0%	4.1%
IT / communication	3.1%	1.4%	1.0%
Financial and insurance services	0.8%	2.0%	0.8%
Company services	-0.4%	2.0%	1.8%
Health / public services	2.5%	1.5%	1.6%
Employment total	0.1%	0.4%	1.2%

Source: Swiss Federal Statistical Office
*Estimates for 2021 and forecasts for 2022: Credit Suisse

Nominal wages likely to grow more strongly in 2022 than in 2021

In view of the increase in labor market tightness, companies in Switzerland are generally facing greater recruitment difficulties at the moment compared to a few quarters ago. This in turn increases the pressure on them to offer better working conditions and/or higher wages in such a competitive environment for qualified personnel. As the above analysis has shown, however, not all sectors are affected by this problem to the same extent. All in all, we are expecting nominal wage growth of 0.8% for 2022, which is more or less in line with the average of the ten years prior to the coronavirus crisis. When factoring in the current inflation forecast (+1.0%, cf. p. 8), however, real wages can be expected to decrease modestly next year. They have probably already declined this year: According to our forecast (which has been revised slightly upward), nominal wage growth amounted to 0.4% in total in 2021. However, at the same time inflation worked out at 0.6%. We are expecting the strongest wage increases in 2022 in sectors where a relatively high labor market tightness is currently apparent, such as the IT sector and the chemical-pharmaceutical sector. Due to increasing recruitment difficulties, there will be a certain amount of upward pressure on wages even in hospitality, which received a battering during the coronavirus crisis. In a sectoral comparison, however, nominal wage growth in hospitality is likely to prove fairly low in 2022.

Forecast for 2022: Employment to rise by 1.2% as an annual average

Regarding employment, we are anticipating average annual growth of 1.2% in 2022 (full-time equivalent positions), compared to a likely increase this year of 0.4%. Following strongly diverging developments in the current year, we are expecting all key sectors to make a positive contribution to employment growth in 2022 (cf. Fig. 8). However, in manufacturing, transport & logistics, and particularly in hospitality, the expected growth in employment in 2022 is unlikely to be enough for employment to return to pre-crisis levels. For the seasonally adjusted unemployment rate, we are anticipating a further fall next year, although this decline should be less dynamic than in the second half of 2021. According to our forecasts, unemployment should come in at 2.4% at the end of 2022, only slightly above the level recorded at the start of 2020 (2.3%).

emilie.gachet@credit-suisse.com



Inflation still on the rise

Despite a modest acceleration, inflation in Switzerland has remained lower than in most other economies, not least due to a relatively low weight of the energy component in the consumer price index. There is therefore no pressure for tighter monetary policy.

Energy accounts for only 5.3% of Swiss CPI

Despite elevated inflation rates in major advanced economies, inflation in Switzerland has only accelerated moderately (Figure 1). This difference is mainly due to structural factors. Firstly, the sharp rise in energy prices has not had the same impact on Swiss inflation as elsewhere in the world, given the low weight of this category in the consumer price index (CPI). While energy accounts for 5.3% of the Swiss CPI, it makes 10.8% of the German one, for example (Figure 2). Moreover, the gas and electricity markets are not liberalized for consumers in Switzerland, so that the surge in market prices for these energy sources has been only very partially passed on to consumers. Secondly, food prices in Switzerland have dropped this year. Poor weather over the spring and the summer have reduced domestic agricultural production, which was compensated for by imports from cheaper regions. Thirdly, health care prices continue to decline, while they have generally trended upward in other advanced economies.

Rising prices due to supply chain issues are visible in a few categories

However, Swiss consumer prices have not been immune to global supply chain issues either. Cars, car spare parts, furniture and electronics are among the categories for which prices have risen. We expect prices in these categories to continue to climb in the first half of 2022, i.e. for longer than previously anticipated, as supply chain issues persist. At the same time, the sharp acceleration in producer price inflation, i.e. prices of goods at the factory level in Switzerland, is not indicative of future price hikes for consumer, in our view. Indeed, our analysis suggests that the current rate of consumer price inflation corresponds to what we would expect given the current rate of producer price inflation (p. 19).

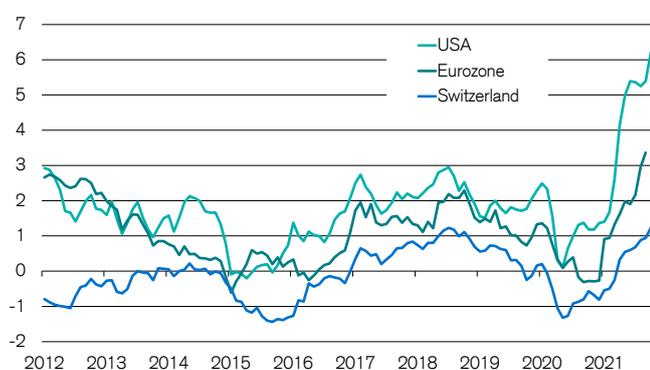
No pressure for a policy rate liftoff, but fewer foreign currency purchases likely

While we revise our inflation forecast upward for 2022 from 0.5% to 1% (p. 8), we still believe that inflation will not be a constraint for monetary policy. We therefore expect the Swiss National Bank (SNB) to maintain its policy rate unchanged at -0.75% in 2022. At the same time, in a context of higher inflation and strong external demand for Swiss goods, the SNB can tolerate a stronger Swiss franc. It therefore means that bouts of Swiss franc appreciation will not be met with very large foreign currency interventions, in our view.

maxime.botteron@credit-suisse.com

Figure 1: Inflation in Switzerland much lower than elsewhere

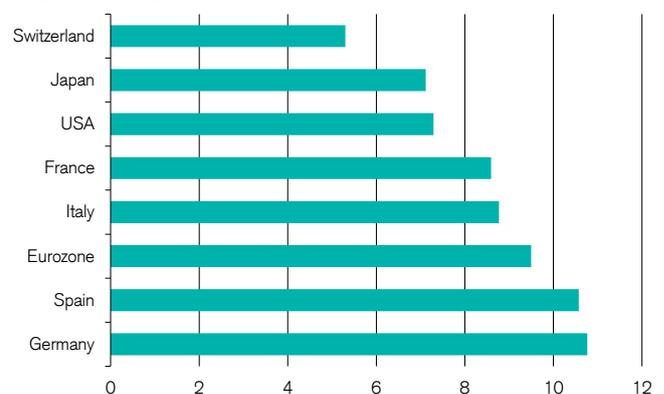
Consumer price inflation rate, in % YoY



Source: Refinitiv Datastream, Credit Suisse. Last data point: 10/2021

Figure 2: Energy component has a smaller weight in Switzerland

Weight of the energy component in the CPI, in %



Source: Swiss Federal Statistical Office, Statistics Bureau of Japan, US Bureau of Labor Statistics, Eurostat, Credit Suisse. Last data point: 2021

Monetary policy I Monitor

Producer prices

Prices of domestic supply in Switzerland (i.e. prices for goods for the domestic market at the factory level) have also increased strongly. However, we do not believe that the rise in prices so far will translate into higher consumer prices. First, producer prices are much more volatile than consumer prices and an increase of 1% in producer prices typically raises consumer prices by 0.2%. Second, most of the increase is due to oil prices. Assuming constant oil prices until the end of 2022, producer price inflation should start to decline as soon as January 2022. That said, supply chain issues might slow down this decline, at least in the first half of 2022.

maxime.botteron@credit-suisse.com

COVID-19 loans

Since the last edition of the “Monitor Switzerland” (based on data from 8 September 2021), companies have paid back an additional CHF 1247 m of COVID-19 loans. With a total of CHF 4.4 bn, corporates have paid back 26% of COVID-19 loans. Defaults have also increased since our last update, from CHF 239 m to CHF 324 m. Despite the continuous rise in default, we have not observed any significant acceleration over the course of the year with less than CHF 100 m of defaulted loans per quarter.

maxime.botteron@credit-suisse.com

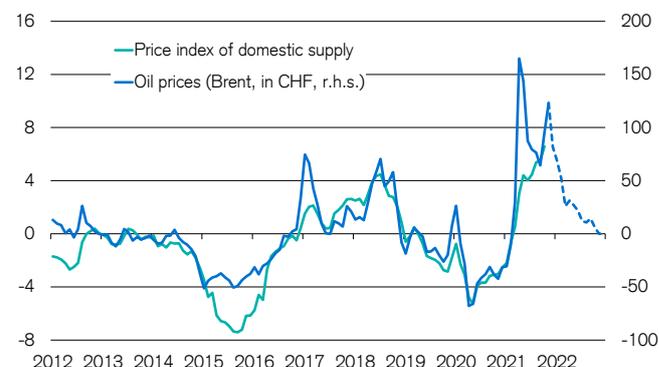
SNB profit

For the first three quarters of 2021, the SNB reported a profit of CHF 41.4 bn or slightly less than 6% of annual gross domestic product (GDP). This profit has brought SNB’s total equity to just below CHF 220 bn. After taking into account the annual allocation of CHF 8.7 bn to the “provisions for currency reserves” (10% of the current level of these provisions), the distribution reserves and the remainder of the profit add to around CHF 124 bn and are available for profit distribution to the cantons and the Confederation. The maximal distribution of CHF 6 bn seems therefore guaranteed.

maxime.botteron@credit-suisse.com

Higher oil prices have pushed producer prices higher

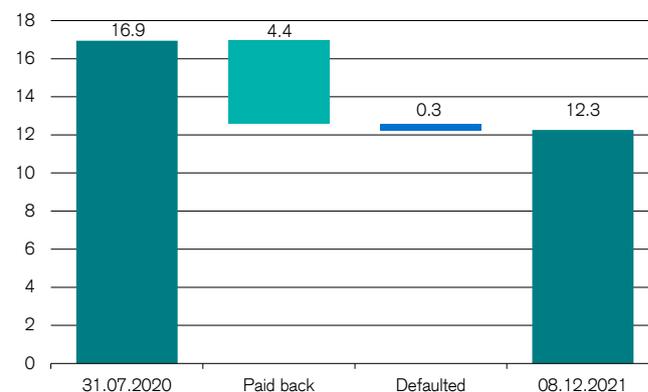
In % YoY. For oil prices, we assume constant prices from November 2021.



Source: Federal Statistical Office, Refinitiv Datastream, Credit Suisse. Last data point: 10/2021

Companies continue to pay COVID-19 loans back

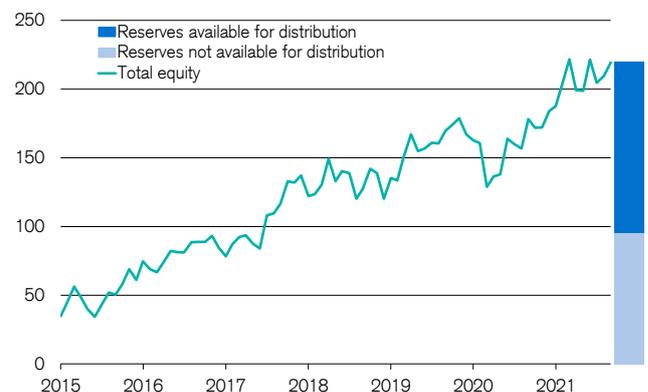
COVID-19 credits, in CHF bn



Source: SECO, Credit Suisse. Last data point: 08.12.2021

Substantial buffer for future profit distribution

SNB equity capital, in CHF bn



Source: Refinitiv Datastream, SNB, Credit Suisse. Last data point: 09/2021

Owner-occupied housing

Price momentum increased further in the third quarter of 2021: Over the last year, the prices of single-family homes have risen by 7.5%, and those of condominiums by 7.3%. These price increases were driven by the huge rise in interest in owner-occupied housing as a result of the COVID-19 pandemic, as well as the persistence of very low mortgage interest rates. At the same time, supply remains scarce due to declining newbuild activity. That price growth is not even higher is likely to be primarily due to Switzerland's rigorous regulatory financing requirements. These will limit upside price potential in the future too.

thomas.rieder@credit-suisse.com

Vacant housing

As a result of (excessively) high construction activity in the rental apartment sphere, the apartment vacancy rate rose continuously for many years. However, as of June 1, 2021 it has now recorded a decline (from 1.72% to 1.54%) for the first time in twelve years. This has affected both owner-occupied housing (vacancy rate: 0.48%) and rental apartments (2.49%), which have recently seen a decline in construction activity. This weakening was expected, as the volume of building permit issuance for new apartments passed its peak some three years ago. Moreover, while the pandemic has triggered a structural change in demand (in favor of larger apartments outside of the urban centers), demand has not fallen overall.

fabian.waltert@credit-suisse.com

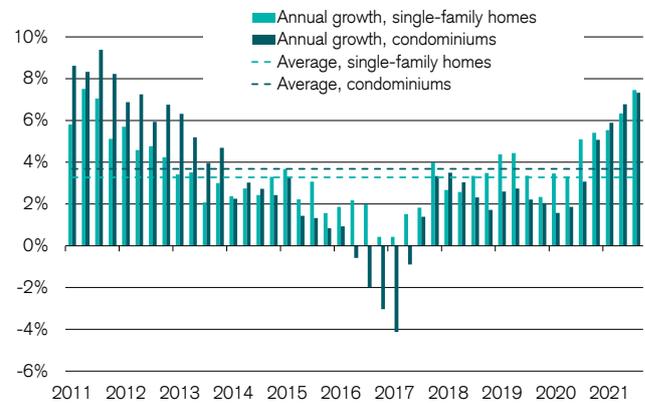
Rental apartments

Since the interim low point recorded in the second quarter of 2020 as a result of the COVID-19 lockdown, there has been a significant increase in the number of rental apartments on the market. Over the last four quarters, the supply rate has worked out at a high average of 6.1%. This increase is largely attributable to the large and medium-sized centers. Many households are likely to have been prompted by the pandemic to re-evaluate their living situation. The positive overall development of demand is evident from the average time-on-market of apartments, which has fallen over the last few quarters. As a consequence, the downward pressure on rents can be expected to weaken.

fabian.waltert@credit-suisse.com

Residential property records strong price increases

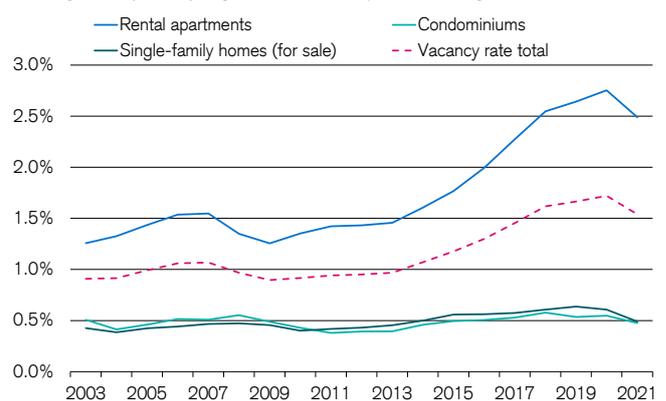
Price development in mid-range segment; dotted lines: average 2000–2020



Source: Wüest Partner. Last data point: Q3 2021

Fewer vacancies in all segments

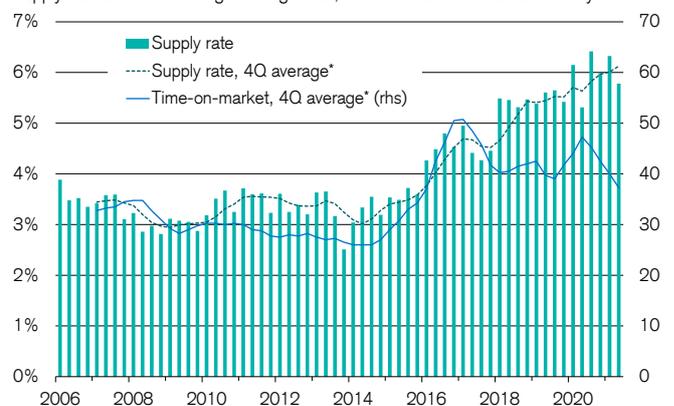
Housing vacancy rate by segment, as % of respective housing stock



Source: Federal Statistical Office, Credit Suisse. Last data point: 01.06.2021

Pandemic prompts re-evaluation of housing situation

Supply rate as % of existing housing stock, time-on-market in number of days



* Moving average over four quarters

Source: Meta-Sys AG, Credit Suisse. Last data point: Q2 2021

Credit Suisse Leading Indicators

Purchasing Managers' Index (PMI)

Purchasing managers stand at the beginning of the production process. The PMI uses this forward-looking feature to forecast the level of economic activity. The index is based on a monthly survey conducted by procure.ch, the industry body for purchasing and supply management. Purchasing managers respond to eight questions on output, backlog of orders, purchasing volumes, purchase price, delivery times, stocks of purchases, stocks of finished goods, and employment. They indicate whether activity levels are higher, the same, or lower than in the preceding month. The percentage share of responses stating "higher" and "no change" are used to calculate the sub-indices, though only half of the "no change" share of responses is included. The PMI lies between 0 and 100, with a figure of more than 50 indicating an expansion of activity compared with the previous month.

Credit Suisse Export Barometer

The Credit Suisse Export Barometer takes as its basis the dependence of Swiss exports on foreign export markets. In constructing the export barometer, we have drawn together important leading industry indicators in Switzerland's 28 most important export markets. The values of these leading indicators are weighted on the basis of the share of exports that goes to each country. The export barometer consolidates this information to produce a single indicator. Since the values in question are standardized, the export barometer is calibrated in standard deviations. The zero line corresponds to the growth threshold. The long-term average growth of Swiss exports of approximately 5% is at 1.

CS CFA Society Switzerland Index

Financial analysts have their finger on the pulse of the economy. Since 2017, we have been conducting a monthly survey of financial analysts jointly with CFA Society Switzerland under the heading Financial Market Test Switzerland¹. Analysts are questioned not only about their assessment of the current and future economic situation as well as the rate of inflation but also about financial market issues such as equity market performance and interest rate forecasts. The CS CFA Society Switzerland Index represents the balance of expectations regarding the development of Swiss economic activity over the coming six months.

¹ Published as the Credit Suisse ZEW Index from 2006 until 2016

Industrial Activity

PMI index > 50 = growth



Source: procure.ch, Credit Suisse

Exports

In standard deviation, values > 0 = growth



Source: PMIPremium, Credit Suisse

Economic Activity

Balance of expectations, values > 0 = growth



Source: CFA Society Switzerland, Credit Suisse

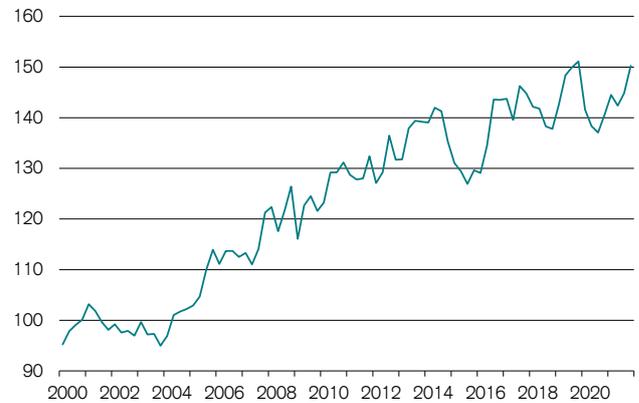
Credit Suisse Leading Indicators

Swiss Construction Index

The Swiss Construction Index is published once a quarter jointly by Credit Suisse and the Swiss Contractors' Association (SCA). It serves as a leading indicator for the state of Switzerland's construction sector by forecasting the volume of work in the core construction business in the coming quarter. The indicator is calculated by Credit Suisse and is based mainly on a quarterly survey conducted by the SCA among its members. Additional data is provided by the Swiss Federal Statistical Office and Baublatt. The Construction Index was launched in the first quarter of 1996.

Construction Industry Climate

1st quarter 1996 = 100



Source: Swiss Contractor's Association, Credit Suisse

PMI Services

Procure.ch, the professional association for purchasing and supply management and Credit Suisse launched a PMI for the services sector in 2014. The Services PMI is structured in exactly the same way as its industry counterpart. Values over 50.0 points mean expansion. It is based on a survey of purchasing managers from Swiss service providers. There are six subcomponents: type of business, new orders, order book, purchasing prices, sales prices and number of employees.

Activity in the services sector

PMI Services index > 50 = growth



Source: procure.ch, Credit Suisse

Forecasts and Indicators

Forecasts for the Swiss Economy

	2021	2021	2021	2021P	2022P	2022P	2022P	2022P	2021P	2022P
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4		
GDP (YoY, in %)	0.3	8.6	4.1	3.3	3.7	2.7	1.6	2.0	4.0	2.5
Consumer spending	-3.3	8.2	2.1	6.0	9.0	4.2	-0.7	-2.0	3.1	2.5
Government expenditure	4.7	7.9	6.2	2.0	0.0	-2.0	-4.0	0.0	5.1	-1.5
Gross capital investment	-0.1	10.4	1.1	-1.4	0.7	0.7	1.9	3.2	2.3	1.7
Construction investment	-0.5	5.7	0.5	-0.8	0.2	0.2	0.2	0.2	1.2	0.2
Investment in plant and equipment	0.2	13.2	1.4	-1.7	1.0	1.0	2.9	5.0	3.0	2.5
Exports (goods and services)	-0.1	21.5	14.8	3.0	5.0	5.0	5.0	5.0	9.2	5.0
Imports (goods and services)	-5.7	15.1	7.6	15.0	4.0	4.0	4.0	4.0	7.7	4.0
Inflation (in %)	-0.4	0.5	0.8	1.4	1.5	1.2	1.0	0.4	0.6	1.0
Unemployment (in %)	3.3	3.2	2.9	2.6	2.6	2.5	2.4	2.4	3.0	2.5
Employment growth FTEs (YoY, in %)	-0.7	0.3	1.1	1.0	1.4	1.5	0.7	1.1	0.4	1.2
Net immigration									55,000	55,000
Nominal wage growth (YoY, in %)									0.4	0.8

Source: Federal Statistics Office, State Secretariat for Economic Affairs SECO, Credit Suisse

Forecasts for the World Economy

Forecasts	Forecasts				Structure		Significance for Switzerland	
	GDP YoY, in %		Inflation YoY, in %		Population In million	GDP In USD billion	Share of exports In %	Share of imports In %
	2021	2022	2021	2022	2020	2020	2020	2020
World	5.8	4.2	3.5	3.8	7,674	83,845	100	100
US	5.5	3.8	4.7	4.5	330	20,807	17.5	6.3
Euro zone	5.3	4.2	2.4	2.8	343	12,712	48.3	66.3
Germany	2.7	3.7	3.2	2.9	83	3,781	17.9	27.1
France	6.5	4.6	2.2	2.7	65	2,551	5.2	7.0
Italy	6.5	4.5	2.1	2.7	60	1,848	5.8	9.2
UK	7.0	5.0	2.5	4.2	67	2,638	3.5	2.8
Japan	2.0	2.0	-0.2	0.5	126	4,911	3.1	2.0
China	8.1	6.1	0.9	2.2	1,404	14,861	6.5	8.8

Source: Datastream, International Monetary Fund, Credit Suisse

Interest Rates and Monetary Policy Data

	Current	3-month	12-month		10/2021	9/2021	10/2020
SNB target range (in %)	-0.75	-0.75	-0.75	M0 money supply (CHF bn)	729.8	723.9	719.3
10-year government bond yields (in %)	-0.30	-0.2	0.1	M1 money supply (% YoY)	5.4	6.2	7.2
				M2 money supply (% YoY)	2.5	3.3	4.4
				M3 money supply (% YoY)	2.5	3.3	5.5
				Foreign currency reserves (CHF bn)	951.2	965.5	882.1

Source: Datastream, Bloomberg, Credit Suisse



Publisher, Credit Suisse AG, Investment Solutions & Products

Nannette Hechler-Fayd'herbe
Head of Global Economics & Research
+41 44 333 17 06
nannette.hechler-fayd'herbe@credit-suisse.com



Authors

Maxime Botteron
Sara Carnazzi Weber
Emilie Gachet
Tiziana Hunziker
Meret Mügeli
Claude Maurer
Thomas Rieder
Fabian Waltert



Contribution

Maciej Zolotenki



Editorial deadline

8 December 2021



Copyright

The publication may be quoted providing the source is indicated.
Copyright © 2021 Credit Suisse Group AG and/or affiliated companies.
All rights reserved.

Important Information

This report represents the views of the Investment Strategy Department of CS and has not been prepared in accordance with the legal requirements designed to promote the independence of investment research. It is not a product of the Credit Suisse Research Department even if it references published research recommendations. CS has policies in place to manage conflicts of interest including policies relating to dealing ahead of the dissemination of investment research. These policies do not apply to the views of Investment Strategists contained in this report. Please find further important information at the end of this material. Singapore: For accredited investors only. Hong Kong: For professional investors only. Australia: For wholesale clients only.

Risk Warning

Every investment involves risk, especially with regard to fluctuations in value and return. If an investment is denominated in a currency other than your base currency, changes in the rate of exchange may have an adverse effect on value, price or income.

This document may include information on investments that involve special risks. You should seek the advice of your independent financial advisor prior to taking any investment decisions based on this document or for any necessary explanation of its contents. Further information is also available in the information brochure "Risks Involved in Trading Financial Instruments" available from the Swiss Bankers Association.

Past performance is not an indicator of future performance. Performance can be affected by commissions, fees or other charges as well as exchange rate fluctuations..

Financial market risks

Historical returns and financial market scenarios are no reliable indicators of future performance. The price and value of investments mentioned and any income that might accrue could fall or rise or fluctuate. You should consult with such advisor(s) as you consider necessary to assist you in making these determinations.

Investments may have no public market or only a restricted secondary market. Where a secondary market exists, it is not possible to predict the price at which investments will trade in the market or whether such market will be liquid or illiquid.

Emerging markets

Where this document relates to emerging markets, you should be aware that there are uncertainties and risks associated with investments and transactions in various types of investments of, or related or linked to, issuers and obligors incorporated, based or principally engaged in business in emerging markets countries. Investments related to emerging markets countries may be considered speculative, and their prices will be much more volatile than those in the more developed countries of the world. Investments in emerging markets investments should be made only by sophisticated investors or experienced professionals who have independent knowledge of the relevant markets, are able to consider and weigh the various risks presented by such investments, and have the financial resources necessary to bear the substantial risk of loss of investment in such investments. It is your responsibility to manage the risks which arise as a result of investing in emerging markets investments and the allocation of assets in your portfolio. You should seek advice from your own advisers with regard to the various risks and factors to be considered when investing in an emerging markets investment.

Alternative investments

Hedge funds are not subject to the numerous investor protection regulations that apply to regulated authorized collective investments and hedge fund managers are largely unregulated. Hedge funds are not limited to any particular investment discipline or trading strategy, and seek to profit in all kinds of markets by using leverage, derivatives, and complex speculative investment strategies that may increase the risk of investment loss.

Commodity transactions carry a high degree of risk, including the loss of the entire investment, and may not be suitable for many private investors. The performance of such investments depends on unpredictable factors such as natural catastrophes, climate influences, hauling capacities, political unrest, seasonal fluctuations and strong influences of rolling-forward, particularly in futures and indices.

Investors in real estate are exposed to liquidity, foreign currency and other risks, including cyclical risk, rental and local market risk as well as environmental risk, and changes to the legal situation.

Private Equity

Private Equity (hereafter "PE") means private equity capital investment in companies that are not traded publicly (i.e. are not listed on a stock exchange), they are complex, usually illiquid and long-lasting. Investments in a PE fund generally involve a significant degree of financial and/or business risk. Investments in private equity funds are not principal-protected nor guaranteed. Investors will be required to meet capital calls of investments over an extended period of time. Failure to do so may traditionally result in the forfeiture of a portion or the entirety of the capital account, forego any future income or gains on investments made prior to such default and among other things, lose any rights to participate in future investments or forced to sell their investments at a very low price, much lower than secondary market valuations. Companies or funds may be highly leveraged and therefore may be more sensitive to adverse business and/or financial developments or economic factors. Such investments may face intense competition, changing business or economic conditions or other developments that may adversely affect their performance.

Interest rate and credit risks

The retention of value of a bond is dependent on the creditworthiness of the Issuer and/or Guarantor (as applicable), which may change over the term of the bond. In the event of default by the Issuer and/or Guarantor of the bond, the bond or any income derived from it is not guaranteed and you may get back none of, or less than, what was originally invested.

Investment Strategy Department

Investment Strategists are responsible for multi-asset class strategy formation and subsequent implementation in CS's discretionary and advisory businesses. If shown, Model Portfolios are provided for illustrative purposes only. Your asset allocation, portfolio weightings and performance may look significantly different based on your particular circumstances and risk tolerance. Opinions and views of Investment Strategists may be different from those expressed by other Departments at CS. Investment Strategist views may change at any time without notice and with no obligation to update. CS is under no obligation to ensure that such updates are brought to your attention.

From time to time, Investment Strategists may reference previously published Research articles, including recommendations and rating changes collated in the form of lists. The recommendations contained herein are extracts and/or references to previously published recommendations by Credit Suisse Research. For equities, this relates to the respective Company Note or Company Summary of the issuer. Recommendations for bonds can be found within the respective Research Alert (bonds) publication or Institutional Research Flash/Alert – Credit Update Switzerland. These items are available on request or from <https://investment.credit-suisse.com>. Disclosures are available from www.credit-suisse.com/disclosure.

Global disclaimer/Important Information

The information provided herein constitutes marketing material; it is not investment research.

This document is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or which would subject CS to any registration or licensing requirement within such jurisdiction.

References in this document to CS include Credit Suisse AG, the Swiss bank, its subsidiaries and affiliates. For more information on our structure, please use the following link: <http://www.credit-suisse.com>

NO DISTRIBUTION, SOLICITATION, OR ADVICE: This document is provided for information and illustrative purposes and is intended for your use only. It is not a solicitation, offer or recommendation to buy or sell any security or other financial instrument. Any information including facts, opinions or quotations, may be condensed or summarized and is expressed as of the date of writing. The information contained in this document has been provided as a general market commentary only and does not constitute any form of regulated investment research financial advice, legal, tax or other regulated service. It does not take into account the financial objectives, situation or needs of any persons, which are necessary considerations before making any investment decision. You should seek the advice of your independent financial advisor prior to taking any investment decisions based on this document or for any necessary explanation of its contents. This document is intended only to provide observations and views of CS at the date of writing, regardless of the date on which you receive or access the information. Observations and views contained in this document may be different from those expressed by other Departments at CS and may change at

any time without notice and with no obligation to update. CS is under no obligation to ensure that such updates are brought to your attention. . FORECASTS & ESTIMATES: Past performance should not be taken as an indication or guarantee of future performance, and no representation or warranty, express or implied, is made regarding future performance. To the extent that this document contains statements about future performance, such statements are forward looking and subject to a number of risks and uncertainties. Unless indicated to the contrary, all figures are unaudited. All valuations mentioned herein are subject to CS valuation policies and procedures. CONFLICTS: CS reserves the right to remedy any errors that may be present in this document. CS, its affiliates and/or their employees may have a position or holding, or other material interest or effect transactions in any securities mentioned or options thereon, or other investments related thereto and from time to time may add to or dispose of such investments. CS may be providing, or have provided within the previous 12 months, significant advice or investment services in relation to the investments listed in this document or a related investment to any company or issuer mentioned. Some investments referred to in this document will be offered by a single entity or an associate of CS or CS may be the only market maker in such investments. CS is involved in many businesses that relate to companies mentioned in this document. These businesses include specialized trading, risk arbitrage, market making, and other proprietary trading. TAX: Nothing in this document constitutes investment, legal, accounting or tax advice. CS does not advise on the tax consequences of investments and you are advised to contact an independent tax advisor. The levels and basis of taxation are dependent on individual circumstances and are subject to change. SOURCES: Information and opinions presented in this document have been obtained or derived from sources which in the opinion of CS are reliable, but CS makes no representation as to their accuracy or completeness. CS accepts no liability for a loss arising from the use of this document. WEBSITES: This document may provide the addresses of, or contain hyperlinks to, websites. Except to the extent to which the document refers to website material of CS, CS has not reviewed the linked site and takes no responsibility for the content contained therein. Such address or hyperlink (including addresses or hyperlinks to CS's own website material) is provided solely for your convenience and information and the content of the linked site does not in any way form part of this document. Accessing such website or following such link through this document or CS's website shall be at your own risk. DATA PRIVACY: Your Personal Data will be processed in accordance with the Credit Suisse privacy statement accessible at your domicile through the official Credit Suisse website <https://www.credit-suisse.com>. In order to provide you with marketing materials concerning our products and services, Credit Suisse Group AG and its subsidiaries may process your basic Personal Data (i.e. contact details such as name, e-mail address) until you notify us that you no longer wish to receive them. You can opt-out from receiving these materials at any time by informing your Relationship Manager.

Distributing entities

Except as otherwise specified herein, this report is distributed by Credit Suisse AG, a Swiss bank, authorized and regulated by the Swiss Financial Market Supervisory Authority

Bahrain: This report is distributed by Credit Suisse AG, Bahrain Branch, a branch of Credit Suisse AG, Zurich/Switzerland, duly authorized and regulated by the Central Bank of Bahrain (CBB) as an Investment Business Firm Category 2. Related financial services or products are only made available to Accredited Investors, as defined by the CBB, and are not intended for any other persons. The Central Bank of Bahrain has not reviewed, nor has it approved, this document or the marketing of any investment vehicle referred to herein in the Kingdom of Bahrain and is not responsible for the performance of any such investment vehicle. Credit Suisse AG, Bahrain Branch is located at Level 21, East Tower, Bahrain World Trade Centre, Manama, Kingdom of Bahrain. **Brazil:** This report is distributed in Brazil by Credit Suisse (Brasil) S.A. Corretora de Títulos e Valores Mobiliários or its affiliates. **Chile:** This report is distributed by Credit Suisse Agencia de Valores (Chile) Limitada, a branch of Credit Suisse AG (incorporated in the Canton of Zurich), regulated by the Chilean Financial Market Commission. Neither the issuer nor the securities have been registered with the Financial Market Commission of Chile (Comisión para el Mercado Financiero) pursuant to Law no. 18.045, the Ley de Mercado de Valores, and regulations thereunder, so they may not be offered or sold publicly in Chile. This document does not constitute an offer of, or an invitation to subscribe for or purchase, the securities in the Republic of Chile, other than to individually identified investors pursuant to a private offering within the meaning of article 4 of the Ley de Mercado de Valores (an offer that is not "addressed to the public in general or to a certain sector or specific group of the public"). **DIFC:** This information is being distributed by Credit Suisse AG (DIFC Branch). Credit Suisse AG (DIFC Branch) is licensed and regulated by the Dubai Financial Services Authority ("DFSA"). Related financial services or products are only made available to Professional Clients or Market Counterparties, as defined by the DFSA, and are not intended for any other persons. Credit Suisse AG (DIFC Branch) is located on Level 9 East, The Gate Building, DIFC, Dubai, United Arab Emirates. **France:** This report is distributed by Credit Suisse (Luxembourg) S.A. Succursale en France (the "France branch") which is a branch of Credit Suisse (Luxembourg) S.A., a duly authorized credit institution in the Grand Duchy of Luxembourg with registered

address 5, rue Jean Monnet, L-2180 Luxembourg. The France branch is subject to the prudential supervision of the Luxembourg supervisory authority, the Commission de Surveillance du Secteur Financier (CSSF), and of the French supervisory authorities, the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and the Autorité des Marchés Financiers (AMF). **Germany:** This report is distributed by Credit Suisse (Deutschland) Aktiengesellschaft regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht („BaFin“). **Guernsey:** This report is distributed by Credit Suisse AG Guernsey Branch, a branch of Credit Suisse AG (incorporated in the Canton of Zurich), with its place of business at Helvetia Court, Les Echelons, South Esplanade, St Peter Port, Guernsey. Credit Suisse AG Guernsey Branch is wholly owned by Credit Suisse AG and is regulated by the Guernsey Financial Services Commission. Copies of the latest audited accounts of Credit Suisse AG are available on request. **India:** This report is distributed by Credit Suisse Securities (India) Private Limited (CIN no. U67120MH1996PTC104392) regulated by the Securities and Exchange Board of India as Research Analyst (registration no. INH 000001030), as Portfolio Manager (registration no. INP000002478) and as Stock Broker (registration no. INZ000248233), having registered address at 9th Floor, Ceejay House, Dr. Annie Besant Road, Worli, Mumbai – 400 018, India, T- +91-22 6777 3777. **Israel:** If distributed by Credit Suisse Financial Services (Israel) Ltd. in Israel: This document is distributed by Credit Suisse Financial Services (Israel) Ltd. Credit Suisse AG, including the services offered in Israel, is not supervised by the Supervisor of Banks at the Bank of Israel, but by the competent banking supervision authority in Switzerland. Credit Suisse Financial Services (Israel) Ltd. is a licensed investment marketer in Israel and thus, its investment marketing activities are supervised by the Israel Securities Authority. **Italy:** This report is distributed in Italy by Credit Suisse (Italy) S.p.A., a bank incorporated and registered under Italian law subject to the supervision and control of Banca d'Italia and CONSOB. **Lebanon:** This report is distributed by Credit Suisse (Lebanon) Finance SAL ("CSLF"), a financial institution incorporated in Lebanon and regulated by the Central Bank of Lebanon ("CBL") and having a financial institution license number 42. Credit Suisse (Lebanon) Finance SAL is subject to the CBL's laws and circulars as well as the laws and regulations of the Capital Markets Authority of Lebanon ("CMA"). CSLF is a subsidiary of Credit Suisse AG and part of the Credit Suisse Group (CS). The CMA does not accept any responsibility for the content of the information included in this report, including the accuracy or completeness of such information. The liability for the content of this report lies with the issuer, its directors and other persons, such as experts, whose opinions are included in the report with their consent. The CMA has also not assessed the suitability of the investment for any particular investor or type of investor. It is hereby expressly understood and acknowledged that investments in financial markets may involve a high degree of complexity and risk of loss in value and may not be suitable to all investors. The suitability assessment performed by CSLF with respect to this investment will be undertaken based on information that the investor would have provided to CSLF as at the date of such assessment and in accordance with Credit Suisse internal policies and processes. It is understood that the English language will be used in all communication and documentation provided by CS and/or CSLF. By accepting to invest in the product, the investor expressly and irrevocably confirms that he fully understands, and has no objection to the use of the English language. **Luxembourg:** This report is distributed by Credit Suisse (Luxembourg) S.A., a duly authorized credit institution in the Grand Duchy of Luxembourg with registered address 5, rue Jean Monnet, L-2180 Luxembourg. Credit Suisse (Luxembourg) S.A. is subject to the prudential supervision of the Luxembourg supervisory authority, the Commission de Surveillance du Secteur Financier (CSSF) **Mexico:** This document represents the vision of the person who provides his/her services to C. Suisse Asesoría México, S.A. de C.V. ("C. Suisse Asesoría") and/or Banco Credit Suisse (México), S.A., Institución de Banca Múltiple, Grupo Financiero Credit Suisse (México) ("Banco CS") so that both C. Suisse Asesoría and Banco CS reserve the right to change their mind at any time not assuming any liability in this regard. This document is distributed for informational purposes only, and does not imply a personal recommendation or suggestion, nor the invitation to celebrate any operation and does not replace the communication you have with your executive in relation to C. Suisse Asesoría and/or Banco CS prior to taking any investment decision. C. Suisse Asesoría and/or Banco CS does not assume any responsibility for investment decisions based on information contained in the document sent, as the same may not take into account the context of the investment strategy and objectives of particular clients. Prospectus, brochures, investment regimes of investment funds, annual reports or periodic financial information contain all additional useful information for investors. These documents can be obtained free of charge directly from issuers, operators of investment funds, in the Internet page of the stock exchange in which they are listed or through its executive in C. Suisse Asesoría and/or Banco CS. Past performance and the various scenarios of existing markets do not guarantee present or future yields. In the event that the information contained in this document is incomplete, incorrect or unclear, please contact your Executive of C. Suisse Asesoría and/or Banco CS as soon as possible. It is possible that this document may suffer modifications without any responsibility for C. Suisse Asesoría and/or Banco CS. This document is distributed for informational purposes only and is not a substitute for the Operations Reports and/or Account Statements you receive from C. Suisse Asesoría and/or Banco CS in terms of the General Provisions Applicable to Financial Institutions and other Legal Entities that Provide Investment Services

issued by the Mexican Banking and Securities Commission ("CNBV"). Given the nature of this document, C. Suisse Asesoría and/or Banco CS does not assume any responsibility derived from the information contained therein. Without prejudice to the fact that the information was obtained from or based on sources believed to be reliable by C. Suisse Asesoría and/or Banco CS, there is no guarantee that the information is either accurate or complete. Banco CS and/or C. Suisse Asesoría does not accept any liability arising from any loss arising from the use of the information contained in the document sent to you. It is recommended that investor make sure that the information provided is in accordance to his/her personal circumstances and investment profile, in relation to any particular legal, regulatory or fiscal situation, or to obtain independent professional advice. C. Suisse Asesoría México, S.A. de C.V. is an investment adviser created in accordance with the Mexican Securities Market Law ("LMV"), registered with the CNBV under the folio number 30070. C. Suisse Asesoría México, S.A. de C.V. is not part of Grupo Financiero Credit Suisse (México), S.A. de C.V., or any other financial group in Mexico. C. Suisse Asesoría México, S.A. de C.V. is not an independent investment adviser as provided by LMV and other applicable regulations due to its direct relationship with Credit Suisse AG, a foreign financial institution, and its indirect relationship with the entities that make up Grupo Financiero Credit Suisse (México), S.A. de C.V. Netherlands: This report is distributed by Credit Suisse (Luxembourg) S.A., Netherlands Branch (the "Netherlands branch") which is a branch of Credit Suisse (Luxembourg) S.A., a duly authorized credit institution in the Grand Duchy of Luxembourg with registered address 5, rue Jean Monnet, L-2180 Luxembourg. The Netherlands branch is subject to the prudential supervision of the Luxembourg supervisory authority, the Commission de Surveillance du Secteur Financier (CSSF), and of the Dutch supervisory authority, De Nederlandsche Bank (DNB), and of the Dutch market supervisor, the Autoriteit Financiële Markten (AFM). Portugal: This report is distributed by Credit Suisse (Luxembourg) S.A., Sucursal em Portugal (the "Portugal branch") which is a branch of Credit Suisse (Luxembourg) S.A., a duly authorized credit institution in the Grand Duchy of Luxembourg with registered address 5, rue Jean Monnet, L-2180 Luxembourg. The Portugal branch is subject to the prudential supervision of the Luxembourg supervisory authority, the Commission de Surveillance du Secteur Financier (CSSF), and of the Portuguese supervisory authorities, the Banco de Portugal (BdP) and the Comissão do Mercado dos Valores Mobiliários (CMVM). Qatar: This information has been distributed by Credit Suisse (Qatar) L.L.C., which is duly authorized and regulated by the Qatar Financial Centre Regulatory Authority (QFCRA) under QFC License No. 00005. All related financial products or services will only be available to Eligible Counterparties (as defined by the QFCRA) or Business Customers (as defined by the QFCRA), including individuals, who have opted to be classified as a Business Customer, with net assets in excess of QR 4 million, and who have sufficient financial knowledge, experience and understanding to participate in such products and/or services. Therefore this information must not be delivered to, or relied on by, any other type of individual. Saudi Arabia: This document is being distributed by Credit Suisse Saudi Arabia (CR Number 1010228645), duly licensed and regulated by the Saudi Arabian Capital Market Authority pursuant to License Number 08104-37 dated 23/03/1429H corresponding to 21/03/2008AD. Credit Suisse Saudi Arabia's principal place of business is at King Fahad Road, Hay Al Mhamadiya, 12361-6858 Riyadh, Saudi Arabia. Website: <https://www.credit-suisse.com/sa>. Under the Rules on the Offer of Securities and Continuing Obligations this document may not be distributed in the Kingdom except to such persons as are permitted under the Rules on the Offer of Securities and Continuing Obligations issued by the Capital Market Authority. The Capital Market Authority does not make any representation as to the accuracy or completeness of this document, and expressly disclaims any liability whatsoever for any loss arising from, or incurred in reliance upon, any part of this document. Prospective purchasers of the securities offered hereby should conduct their own due diligence on the accuracy of the information relating to the securities. If you do not understand the contents of this document, you should consult an authorised financial adviser. Under the Investment Fund Regulations this document may not be distributed in the Kingdom except to such persons as are permitted under the Investment Fund Regulations issued by the Capital Market Authority. The Capital Market Authority does not make any representation as to the accuracy or completeness of this document, and expressly disclaims any liability whatsoever for any loss arising from, or incurred in reliance upon, any part of this document. Prospective subscribers of the securities offered hereby should conduct their own due diligence on the accuracy of the information relating to the securities. If you do not understand the contents of this document you should consult an authorised financial adviser. South Africa: This information is being distributed by Credit Suisse AG which is registered as a financial services provider with the Financial Sector Conduct Authority in South Africa with FSP number 9788 and / or by Credit Suisse (UK) Limited which is registered as a financial services provider with the Financial Sector Conduct Authority in South Africa with FSP number 48779. Spain: This document is a marketing material and is provided by Credit Suisse AG, Sucursal en España, legal entity registered at the Comisión Nacional del Mercado de Valores for information purposes. It is exclusively addressed to the recipient for personal use only and, according to current regulations in force, by no means can it be considered as a security offer, personal investment advice or any general or specific recommendation of products or investment strategies with the aim that you perform any operation. The client

shall be deemed responsible, in all cases, for taking whatever decisions on investments or disinvestments, and therefore the client takes all responsibility for the benefits or losses resulting from the operations that the client decides to perform based on the information and opinions included in this document. This document is not the result of a financial analysis or research and therefore, neither it is subject to the current regulations that apply to the production and distribution of financial research, nor its content complies with the legal requirements of independence of financial research. Turkey: The investment information, comments and recommendations contained herein are not within the scope of investment advisory activity. The investment advisory services are provided by the authorized institutions to the persons in a customized manner taking into account the risk and return preferences of the persons. Whereas, the comments and advices included herein are of general nature. Therefore recommendations may not be suitable for your financial status or risk and yield preferences. For this reason, making an investment decision only by relying on the information given herein may not give rise to results that fit your expectations. This report is distributed by Credit Suisse Istanbul Menkul Degerler Anonim Sirketi, regulated by the Capital Markets Board of Turkey, with its registered address at Levazim Mahallesi, Koru Sokak No. 2 Zorlu Center Terasevier No. 61 34340 Besiktas/Istanbul-Turkey. United Kingdom: This material is distributed by Credit Suisse (UK) Limited. Credit Suisse (UK) Limited, is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. Where this material is distributed into the United Kingdom by an offshore entity not exempted under the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 the following will apply: To the extent communicated in the United Kingdom ("UK") or capable of having an effect in the UK, this document constitutes a financial promotion which has been approved by Credit Suisse (UK) Limited which is authorized by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority for the conduct of investment business in the UK. The registered address of Credit Suisse (UK) Limited is Five Cabot Square, London, E14 4QR. Please note that the rules under the UK's Financial Services and Markets Act 2000 relating to the protection of retail clients will not be applicable to you and that any potential compensation made available to "eligible claimants" under the UK's Financial Services Compensation Scheme will also not be available to you. Tax treatment depends on the individual circumstances of each client and may be subject to changes in future.

Important regional disclosure information

Pursuant to CVM Resolution No. 20/2021, of February 25, 2021, the author(s) of the report hereby certify(ies) that the views expressed in this report solely and exclusively reflect the personal opinions of the author(s) and have been prepared independently, including with respect to Credit Suisse. Part of the author(s)'s compensation is based on various factors, including the total revenues of Credit Suisse, but no part of the compensation has been, is, or will be related to the specific recommendations or views expressed in this report. In addition, Credit Suisse declares that: Credit Suisse has provided, and/or may in the future provide investment banking, brokerage, asset management, commercial banking and other financial services to the subject company/companies or its affiliates, for which they have received or may receive customary fees and commissions, and which constituted or may constitute relevant financial or commercial interests in relation to the subject company/companies or the subject securities.

UNITED STATES: NEITHER THIS REPORT NOR ANY COPY THEREOF MAY BE SENT, TAKEN INTO OR DISTRIBUTED IN THE UNITED STATES OR TO ANY US PERSON (within the meaning of Regulation S under the US Securities Act of 1933, as amended).

APAC - IMPORTANT NOTICE

The information provided herein constitutes marketing material; it is not investment research. For all, except accounts managed by relationship managers and/or investment consultants of Credit Suisse AG, Hong Kong Branch: This material has been prepared by Credit Suisse AG ("Credit Suisse") as general information only. This material is not and does not purport to provide substantive research or analysis and, accordingly, is not investment research or a research recommendation for regulatory purposes. It does not take into account the financial objectives, situation or needs of any person, which are necessary considerations before making any investment decision. The information provided is not intended to provide a sufficient basis on which to make an investment decision and is not a personal recommendation or investment

advice. Credit Suisse makes no representation as to the suitability of the products or services specified in this material for any particular investor. It does not constitute an invitation or an offer to any person to subscribe for or purchase any of the products or services specified in this material or to participate in any other transactions. The only legally binding terms are to be found in the applicable product documentation or specific contracts and confirmations prepared by Credit Suisse. For accounts managed by relationship managers and/or investment consultants of Credit Suisse AG, Hong Kong Branch: This material has been prepared by Credit Suisse AG ("Credit Suisse") as general information only. This material is not and does not purport to provide substantive research or analysis and, accordingly, is not investment research for regulatory purposes. It does not take into account the financial objectives, situation or needs of any person, which are necessary considerations before making any investment decision. Credit Suisse makes no representation as to the appropriateness of the products or services specified in this material for any particular investor. It does not constitute an invitation or an offer to any person to subscribe for or purchase any of the products or services specified in this material or to participate in any other transactions. The only legally binding terms are to be found in the applicable product documentation or specific contracts and confirmations prepared by Credit Suisse. For all: In connection with the products specified in this material, Credit Suisse and/or its affiliates may:

- (i) have had a previous role in arranging or providing financing to the subject entities;
- (ii) be a counterparty in any subsequent transaction in connection with the subject entities; or
- (iii) pay, or may have paid, or receive, or may have received, one-time or recurring remuneration from the entities specified in this material, as part of its/their compensation. These payments may be paid to or received from third parties.

Credit Suisse and/or its affiliates (including their respective officers, directors and employees) may be, or may have been, involved in other transactions with the subject entities specified in this material or other parties specified in this material which are not disclosed in this material. Credit Suisse, for itself and on behalf of each of its affiliates, reserves the right to, provide and continue to provide services, and deal and continue to deal with the subject entities of the products specified in this material or other parties in connection with any product specified in this material. Credit Suisse or its affiliates may also hold, or may be holding, trading positions in the share capital of any of the subject entities specified in this material.

For all, except accounts managed by relationship managers and/or investment consultants of Credit Suisse AG, Hong Kong Branch: A Credit Suisse affiliate may have acted upon

the information and analysis contained in this material before being made available to the recipient. A Credit Suisse affiliate may, to the extent permitted by law, participate or invest in other financing transactions with the issuer of any securities referred to herein, perform services or solicit business from such issuers, or have a position or effect transactions in the securities or options thereof. To the fullest extent permitted by law, Credit Suisse and its affiliates and each of their respective directors, employees and consultants do not accept any liability arising from an error or omission in this material or for any direct, indirect, incidental, specific or consequential loss and/or damage suffered by the recipient of this material or any other person from the use of or reliance on the information set out in this material. None of Credit Suisse or its affiliates (or their respective directors, officers, employees or advisers) makes any warranty or representation as to the accuracy, reliability and/or completeness of the information set out in this material. The information contained in this material has been provided as a general market commentary only and does not constitute any form of regulated financial advice, legal, tax or other regulated service. Observations and views contained in this material may be different from, or inconsistent with, the observations and views of Credit Suisse's Research analysts, other divisions or the proprietary positions of Credit Suisse. Credit Suisse is under no obligation to update, notify or provide any additional information to any person if Credit Suisse becomes aware of any inaccuracy, incompleteness or change in the information contained in the material. To the extent that this material contains statements about future performance, such statements are forward looking and subject to a number of risks and uncertainties. Past performance is not a reliable indicator of future performance. For accounts managed by relationship managers and/or investment consultants of Credit Suisse AG, Hong Kong Branch: A Credit Suisse affiliate may have acted upon the information and analysis contained in this material before being made available to the recipient. A Credit Suisse affiliate may, to the extent permitted by law, participate or invest in other financing transactions with the issuer of any securities referred to herein, perform services or solicit business from such issuers, or have a position or effect transactions in the securities or options thereof. To the fullest extent permitted by law, Credit Suisse and its affiliates and each of their respective directors, employees and consultants do not accept any liability arising from an error or omission in this material or for any direct, indirect, incidental, specific or consequential loss and/or damage offered by the recipient of this material or any other person from the use of or reliance on the information set out in this material. None of Credit Suisse or its affiliates (or their respective directors, officers, employees or advisers) makes any warranty or representation as to the accuracy, reliability and/or completeness of the information set out in this material. The information contained in this material has been provided as a general market commentary only and does not constitute any form of legal, tax or other regulated service. Observations and views contained in this material may be different from, or inconsistent with, the observations and views of Credit Suisse's Research analysts, other divisions or the proprietary positions of Credit Suisse. Credit Suisse is under no obligation to update, notify or provide any additional information to any person if Credit Suisse becomes

aware of any inaccuracy, in-completeness or change in the information contained in the material. To the extent that this material contains statements about future performance, such statements are forward looking and subject to a number of risks and uncertain-ties.

Past performance is not a reliable indicator of future performance. For all: This material is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of, or is located in, any jurisdiction where such distribution, publication, availability or use would be contrary to applicable law or regulation, or which would subject Credit Suisse and/or its subsidiaries or affiliates to any registration or licensing requirement within such jurisdiction. Materials have been furnished to the recipient and should not be redistributed without the express prior written consent of Credit Suisse. For further information, please contact your Relationship Manager. To the extent that this material contains an appendix comprising research re-ports, the following additional notice applies to such appendix.

ADDITIONAL IMPORTANT NOTICE FOR APPENDIX

The reports in the Appendix ("Reports") have been authored by members of the Credit Suisse Research department, and the information and opinions ex-pressed therein were as of the date of writing and are subject to change without notice. Views expressed in respect of a particular security in the Reports may be different from, or inconsistent with, the observations and views of the Credit Suisse Research department of the Investment Banking division due to the differences in evaluation criteria. These Reports have been previously published by Credit Suisse Research on the web:

Credit Suisse does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that Credit Suisse may have a conflict of interest that could affect the objectivity of these Reports.

For all, except accounts managed by relationship managers and/or investment consultants of Credit Suisse AG, Hong Kong Branch: Credit Suisse may not have taken any steps to ensure that the securities referred to in these Reports are suitable for any particular investor. Credit Suisse will not treat recipients of the Reports as its customers by virtue of their receiving the Reports. For accounts managed by relationship managers and/or investment consultants of Credit Suisse AG, Hong Kong Branch: Credit Suisse may not have taken any steps to ensure that the securities referred to in these Reports are appropriate for any particular investor. Credit Suisse will not treat recipients of the Reports as its customers by virtue of their receiving the Reports. For all: For a discussion of the risks of investing in the securities mentioned in the Reports, please refer to the following Internet link:

<https://research.credit-suisse.com/riskdisclosure>

For information regarding disclosure information on Credit Suisse Investment Banking rated companies mentioned in this report, please refer to the Investment Banking division disclosure site at:

<https://rave.credit-suisse.com/disclosures>

For further information, including disclosures with respect to any other issuers, please refer to the Credit Suisse Global Research Disclosure site at:

<https://www.credit-suisse.com/disclosure>

AUSTRALIA This material is distributed in Australia by Credit Suisse AG, Sydney Branch solely for information purposes only to persons who are "wholesale clients" (as defined by section 761G(7) of the Corporations Act). Credit Suisse AG, Sydney Branch does not guarantee the performance of, nor make any assurances with respect to the performance of any financial product referred herein. In Australia, Credit Suisse Group entities, other than Credit Suisse AG, Sydney Branch, are not authorised deposit-taking institutions for the purposes of the Banking Act 1959 (Cth.) and their obligations do not represent deposits or other liabilities of Credit Suisse AG, Sydney Branch. Credit Suisse AG, Sydney Branch does not guarantee or otherwise provide assurance in respect of the obligations of such Credit Suisse entities or the funds.

HONG KONG This material is distributed in Hong Kong by Credit Suisse AG, Hong Kong Branch, an Authorized Institution regulated by the Hong Kong Monetary Authority and a Registered Institution regulated by the Securities and Futures Commission, and was prepared in compliance with section 16 of the "Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission". The contents of this material have not been reviewed by any regulatory authority in Hong Kong. You are advised to exercise caution in relation to any offer. If you are in any doubt about any of the contents of this material, you should obtain independent professional advice. No one may have issued or had in its possession for the purposes of issue, or issue or have in its possession for the purposes of issue, whether in Hong Kong or elsewhere, any advertisement, invitation or material relating to this product, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than where this product is or is intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong and any rules made thereunder. **SINGAPORE:** This material is distributed in Singapore by Credit Suisse AG, Singapore Branch, which is licensed by the Monetary Authority of Singapore under the Banking Act (Cap. 19) to carry on banking business. This report has been prepared and issued for distribution in Singapore to institutional investors, accredited investors and expert investors (each as defined under the Financial Advisers Regulations ("FAR")) only. Credit Suisse AG, Singapore Branch may distribute reports produced by its foreign entities or affiliates pursuant to an arrangement under Regulation 32C of the FAR. Singapore recipients should contact Credit Suisse AG, Singapore Branch at +65-6212-2000 for matters arising from, or in connection with, this report. By virtue of your status as an institutional investor, accredited investor or expert investor, Credit Suisse AG, Singapore Branch is exempted from complying with certain requirements under the Financial Advisers Act, Chapter 110 of Singapore (the "FAA"), the FAR and the relevant Notices and Guidelines issued thereunder, in respect of any financial advisory service which Credit Suisse AG, Singapore

branch may provide to you. These include exemptions from complying with:

i) Section 25 of the FAA (pursuant to Regulation 33(1) of the FAR

ii) Section 27 of the FAA (pursuant to Regulation 34(1) of the FAR); and

iii) Section 36 of the FAA (pursuant to Regulation 35(1) of the FAR).

Singapore recipients should contact Credit Suisse AG, Singapore Branch for any matters arising from, or in connection with, this material. If you have any queries/objections relating to the receipt of marketing materials from us, please contact our Data Protection Officer at dataprotectionofficer.pb@credit-suisse.com (for Credit Suisse AG, HK Branch) or PDPO.SGD@credit-suisse.com (for Credit Suisse AG, SG Branch) or csau.privacyofficer@credit-suisse.com (for Credit Suisse AG, Sydney Branch).
(for Credit Suisse AG, HK Branch) or PDPO.SGD@credit-suisse.com
(for Credit Suisse AG, SG Branch) or csau.privacyofficer@credit-suisse.com
(for Credit Suisse AG, Sydney Branch).

The entire contents of this document are protected by copyright law (all rights reserved). This document or any part thereof may not be reproduced, transmitted (electronically or otherwise), altered or used for public or commercial purposes, without the prior written permission of Credit Suisse. © 2021, Credit Suisse Group AG and/or its affiliates. All rights reserved. Credit Suisse AG (Unique Entity Number in Singapore: S73FC2261L) is incorporated in Switzerland with limited liability.

21C014A_IS