Global Machine Tool Outlook

April 2020

OXFORD ECONOMICS

Global Machine Tool Outlook Member Organisations

AMT

cecimo
European Association of the Machine Tool Industries and related Manufacturing Technologies

MTA The Manufacturing Technologies Association

VDW

AFM Advanced Manufacturing Technologies

.AGORIA

AIMMAP
ASSOCIAÇÃO DOS INDUSTRIAIS METALÚRGICOS, METALOMECÂNICOS E AFINS DE PORTUGAL

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UCIMU
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Indian Machine Tool Manufacturers' Association

AMTIL Connect. Inform. Grow.

TMBA

Global Machine Tools Outlook

Coronavirus baseline forecast assumptions

Economist

Amit Sharda

Lead Industry Economist

- **The impact of coronavirus on the global economy has prompted revisions to our baseline forecast, which now envisages a 2.8% fall in global GDP for 2020 with significant downside risks.**
- **Our baseline assumes that lockdowns remain in place until May or June depending on the country. While this assumption seems appropriately conservative compared with China's experience, we have learned in 2020 that circumstances can change quickly.**

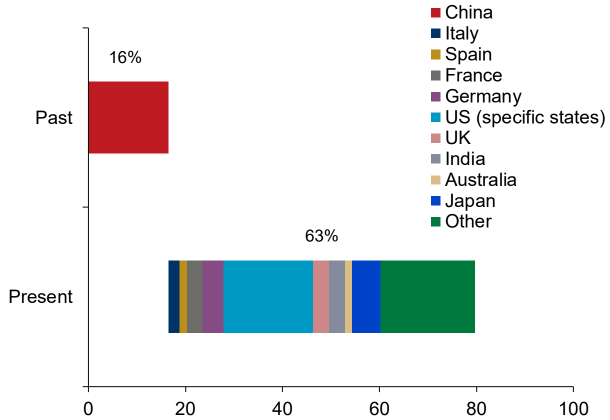
Even though Chinese activity picked up in late-Q1 as lockdown restrictions were eased, Q1 GDP is estimated to have fallen 12% q/q. We had expected a strong rebound in Q2 to support the global economy, but it will be swamped by the collapse in activity caused by much of the rest of the world going into lockdown.

Although lockdowns elsewhere are less severe than those imposed in China, business survey and labour market data still point to sharp falls in activity in most countries in Q2. Quarterly GDP declines of 8% or more in the US and eurozone seem likely. Overall, world GDP is expected to fall by about 7% in H1.

In those economies subject to some form of lockdown, we expect restrictions to begin to be lifted during Q2. As a result, growth should resume in Q3 and pick up considerable pace in Q4. But the rebound will be insufficient to recoup early-year losses, so world GDP is now seen shrinking 2.8% in 2020 overall, more than double the rate of contraction in 2009 during the global financial crisis. But the strong rebound into 2021 means that world GDP growth rises to almost 6% in 2021, helped also by the recent collapse in oil prices.

Lockdowns are the main strategy being used to control the spread of the coronavirus

Global lockdowns



Source : Oxford Economics/Haver Analytics

We estimate that, outside China, economies in a severe or partial lockdown account for nearly 63% of global GDP. This is likely to restrict business and spending. Although all the regional shutdowns in China are set to end by early April, lockdowns will take a heavy toll on the world economy in March and beyond.

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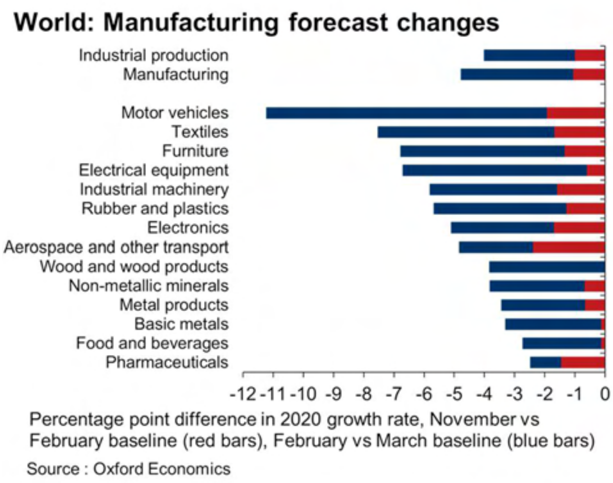
MT-purchasing sectors will be hit hard

The auto sector has seen its most extensive factory shutdowns since World War II in response to weak demand, supply-chain bottlenecks, and coronavirus containment measures. This negative impact on the automotive sector is expected to filter through the supply chain, denting sectors like industrial machinery and metal products, which are also key MT-consuming sectors. As such, we expect the impact on MT demand to be severe this year.

Despite the sharp deterioration in the near-term outlook, we expect a strong recovery towards the end of 2020, similarly to the wider economy, and into 2021 as lockdowns end, social distancing measures ease, consumer and business spending resumes, and massive policy stimulus kicks in.

However, risks are clearly to the downside, and economic conditions have deteriorated even more since these industry forecasts were finalised. Indeed, the unprecedented and fast-changing nature of this crisis leaves a significant uncertainty around our baseline forecasts (more detail can be found in the Risks section).

Social distancing measures, combined with supply-chain bottlenecks, will hit the auto sector particularly hard of two lines



Global lockdowns due to coronavirus

	Type of lockdown				Internal lockdown	
	Essential services only	Partial internal lockdown	Minor restrictions	Entrance restrictions for visitors	National	Regional
US		X		X		X
Canada		X		X		X
Japan			X	X		
S Korea			X	X		
Taiwan			X	X		
Germany		X		X	X	
France		X		X	X	
Italy	X				X	
Spain		X			X	
Austria		X		X	X	
Slovak Republic		X				
Switzerland		X			X	
UK	X			X	X	
Brazil		X		X		X
Mexico	X			X	X	
China		X		X		X
India	X	X		X		X
Indonesia			X	X		
Malaysia		X			X	
Thailand	X			X		
Czech Republic	X				X	
Hungary	X			X	X	
Poland		X		X	X	
Russian Fed.			X	X	X	
Turkey		X		X		

Source: Oxford Economics

Global Machine Tools Outlook

Latest e-mobility forecast assumptions

Economist

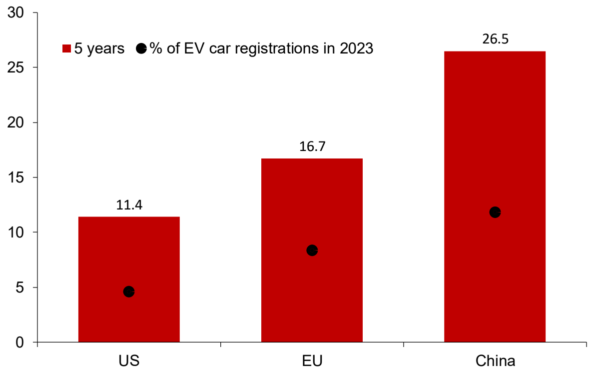
Amit Sharda
Lead Economist
Oxford Economics

- **Despite being overshadowed by the recent impacts of the coronavirus, the movement towards e-mobility remains a significant issue for MT producers and other traditional automotive parts suppliers as automotive firms increasingly focus upon developing and producing electric vehicles (EVs).**
- **We have recently adjusted our modelling methodology to account for the lag between e-mobility-focused automotive investment and subsequent EV car registrations.**
- Within our modelling framework, the automotive-related variables (vehicle registrations, automotive output and automotive investment) are adjusted so that they only take account of vehicles with internal combustion engines. This is done by using detailed data provided by LMC Automotive, which splits vehicle registrations into different hybrid and EV types as well as vehicles with ICEs only. However, one of the limitations of using vehicle registrations is that much of the investment by automotive firms is occurring now, meaning that the negative impact on MT demand is already considerable in countries that have made a significant push towards e-mobility.
- By using automotive investment data from a study by VDMA and combining it with total automotive investment data from Oxford Economics, we confirmed this lag between e-mobility-focused automotive investment and EV sales (see chart). We now use EV car registrations shares - five-years ahead - as a proxy for e-mobility-focused automotive investment.
- Based on our current estimates of EV market penetration over the next decade, we expect the impact on machine tool demand to be negative, but not catastrophic, with those countries that have made efforts to move towards e-mobility impacted the most.

China has the highest share of e-mobility focused investment in total automotive investment

Regional automotive investment in e-mobility

% share of total automotive investment after specific time periods



Source : Oxford Economics/VDMA, Antrieb im Wandel, ZEV Index Update, February 2019

The share of e-mobility investment in total automotive investment is expected to be highest in China.

The lower share when analysing car registrations is because of the lag between e-mobility-focused investment and EV car registrations. This justifies the change to our methodology to account for this.

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The Global Machine Tool Outlook is a project exclusively for machine tool builders associations.

Current partners in the project are the AMT, CECIMO (on behalf of its member associations), AMTIL, IMTMA and TMBA.

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April
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Machine Tool Outlook

Forecasts finalised on 15th April

OXFORD ECONOMICS

Overview

Short but deep industrial dip on the cards…

The rapid spread of the coronavirus and the associated isolation policies implemented to contain the outbreak have led to a significant disruption in economic activity. Services activity has seen the brunt of the impact, but manufacturing has also been hit. The JP Morgan Global Manufacturing PMI fell sharply in February and remained firmly below the 50-benchmark, at 47.6, in March while more manufacturing PMIs for key industrialised countries suggest that the supply chain disruptions have had a severe and widespread impact on production.

Global manufacturing is expected to remain weak in Q2 before a swift rebound is seen in H2 2020 as the spread of the virus slows and isolation restrictions are eased, leading to the release of pent-up demand as business confidence increases. However, the exceptionally weak start to this year means that we expect global industrial production to fall by 5.3% in 2020, the first annual drop since the GFC, before rebounding by 7% in 2021. But risks are clearly to the downside, and economic conditions have deteriorated even more since these forecasts were finalised.

…with little relief from lower oil prices

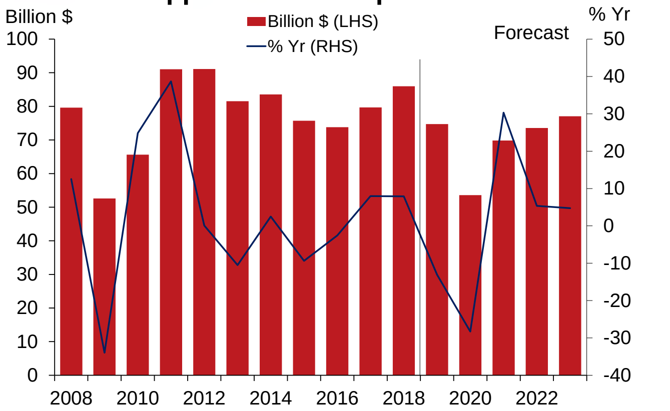
The oil market is still reeling from a severe demand and supply shock, with Brent oil prices hovering around the US$30pb mark at the time of writing. On the demand side, the rapid spread of coronavirus is hitting travel and transport particularly hard. On the supply side, Saudi Arabia has unleashed a savage fight for market share – selling oil at a discount and running down spare inventory. For now, we assume that oil prices remain low enough for long enough to force significant cutbacks in US production.

Lower global oil prices act as a double-edged sword for manufacturers. Industries supplying goods to the oil sector, such as oil-related machinery, are hit hard, while consumer-facing sectors typically benefit from lower energy prices and a boost to disposable incomes – but lockdowns will stifle this so long as they are in place.

Chinese industry steadily recovering…

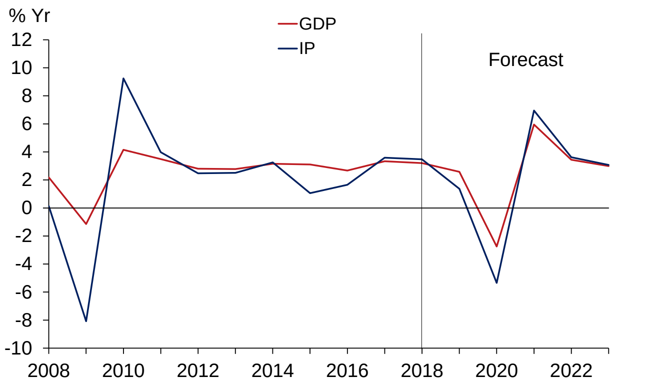
In China, recent data on industrial activity show that the coronavirus had massive effects on production, which fell by 13% year-on-year in Jan-Feb. At the same time, fixed asset investment in manufacturing dropped by 31.5% year-on-year. There are signs that production is beginning to recover, anecdotal evidence suggests that factory

World: MT Apparent consumption



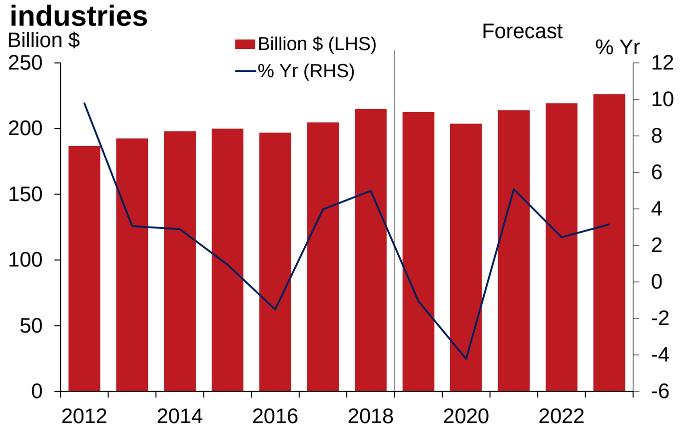
Source: Oxford Economics

World: GDP & Industrial production



Source: Oxford Economics

World: Investment in machine tool purchasing industries



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = spending on all assets by the nine primary machine tool purchasing industries

operating rates remain relatively low, although they are increasing, and daily indicators like coal consumption are approaching normal levels. This suggests a gradual return to normal, which will be helped by the lifting of lockdowns in Wuhan and Hubei province. While we expect a strong recovery in industrial activity in H2 2020, we still expect a Chinese industrial production to contract for 2020 as a whole, with automotives and electronics production among the hardest hit segments, before rebounding in 2021.

…but lockdowns remain in place elsewhere

As well as the trade- and supply-chain spillovers from the outbreak in China, coronavirus-induced lockdowns have become widespread, having a devastating impact on industrial activity in many countries.

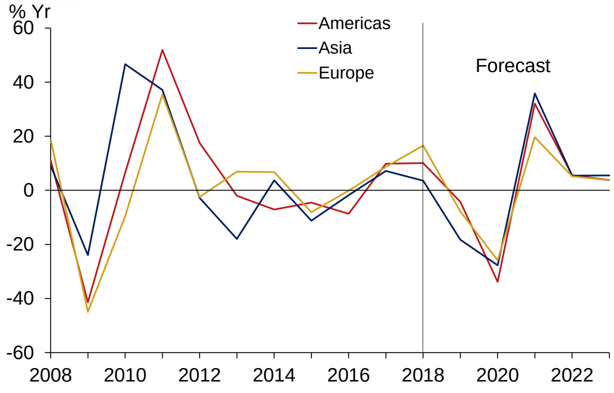
In Europe, the latest hard production data for February do not fully reflect the impact of the coronavirus but the latest manufacturing PMIs from March provide a glimpse of the likely impact. The components for production and orders were down considerably due to the lockdowns while supply disruptions have led to a considerable increase in delivery times, which, in this case, actually lifts the PMIs. Italy and Spain have been the worst affected countries with the most extreme isolation policies in the region, but we could see other countries putting in place similar policies to contain the outbreak, which would further hit regional manufacturing.

The implications of the coronavirus will also ripple through US supply chains, which might be more vulnerable than the industrial sectors of other advanced economies due the high share of intermediate goods imports from China. Also, manufacturers in the Boeing supply chain face the ongoing risk that the 737 MAX will not return to production for some time while the collapse in global oil prices will impact machinery producers supplying the oil & gas sector.

Considerable volatility seen for MT demand

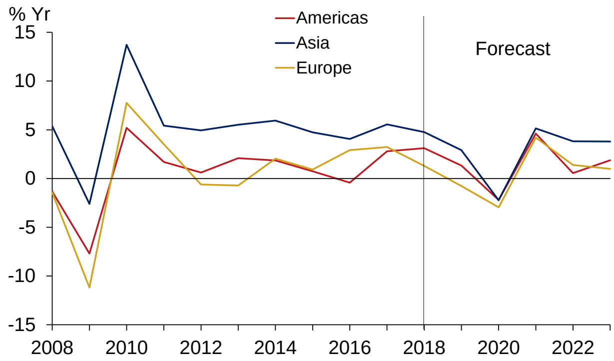
The coronavirus pandemic has dashed hopes for an MT recovery, making a sharp contraction this year inevitable – though a strong rebound is expected in 2021 as activity returns to normal. We expect weighted output of the MT using industries to fall by 4.7% in 2020 and rise by 6.6% in 2021. Meanwhile, weighted investment by these industries is expected to have a similar growth profile, down by 4.1% in 2020 before recovering by 5% in 2021. However, prior to the outbreak, domestic orders had weakened considerably in H2 2019 suggesting a much deeper contraction in MT demand. We expect global MT consumption to drop by 28.3% in 2020 before rebounding by 33% in 2021.

Apparent consumption



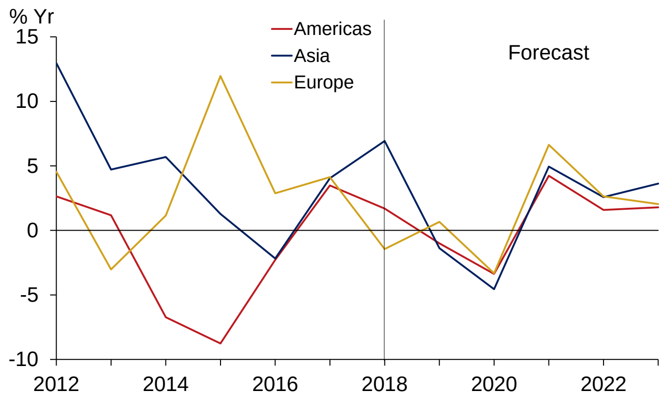
Source: Oxford Economics

Industrial production



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = spending on all assets by the nine primary machine tool purchasing industries

Overview of medium-term trends

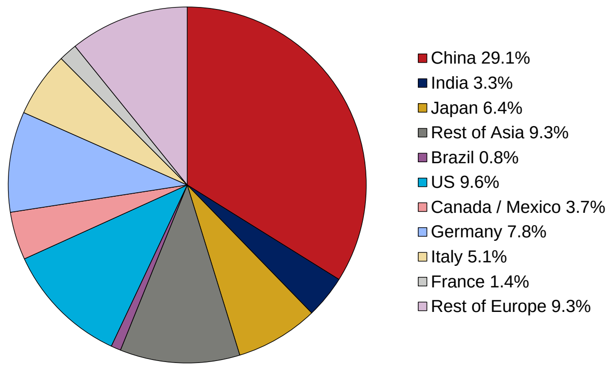
The main driver for world growth since the early 2000s was the emergence of China – both as a producing and consuming nation – and its increasing integration into world trade. Chinese real GDP growth in the ten years to 2012 averaged 10.5%pa with real fixed investment spending across all sectors of the economy increasing by just under 14%pa over the same period, accounting for a much larger share of world investment than its GDP share. Since then, Chinese GDP has decelerated considerably, with growth averaging 6.4% in 2018-2019.

Looking ahead, both Chinese GDP and fixed investment are set to grow more slowly as the Chinese economy rebalances away from excessive investment as the main engine for growth. As a result, GDP is expected to grow at an average annual rate of 5.2% in the 2020-2023 period and fixed investment at a rate of 3.5%pa – although the near term is impacted by the coronavirus impacts. Weaker investment trends suggest more moderate Chinese MT consumption growth rates for the medium term compared to those typically seen prior to 2011. At the same time, such rebalancing favours comparatively rapid consumer spending, 6.1%pa over the 2020-2023 period, and a switch in consumer demand towards more discretionary spending on manufactured goods and services as per capita incomes rise. Moreover, despite weaker GDP and investment growth, there remains scope for catch-up which will ensure China remains an important engine for the world MT market.

This process of catch-up is evident in many emerging countries and is a key driver of world growth in the medium term. The nine key machine tool buying sectors will benefit from this process. For example, both motor vehicles and high-tech consumer products are expected to be increasingly in demand in emerging countries as per capita incomes rise in the coming five years. Although penetration of these discretionary products into households has increased over the past decade, there is clearly scope for more gains as the middle classes in these countries expand.

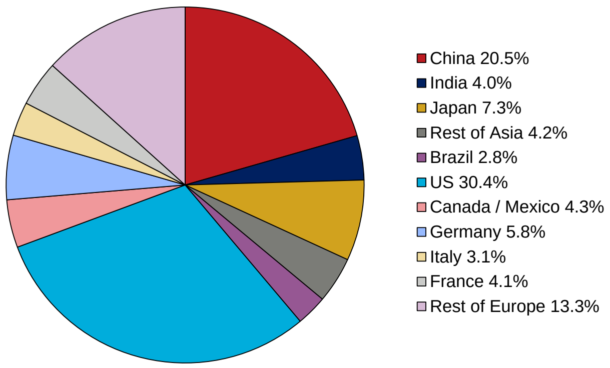
This in turn is expected to drive growth in machine tool purchases in the medium term. The machine tool sector tends to be more cyclical even than overall fixed investment spending, itself one of the most cyclical parts of GDP, but these medium-term trends are expected to underpin growth in apparent machine tool consumption. China, already the largest consumer and producer of machine tools, is expected to maintain its lead as its domestic demand expands and its attraction as a production base for export to the rest of the world continues. This comes despite the

World: Machine tool consumption in 2018



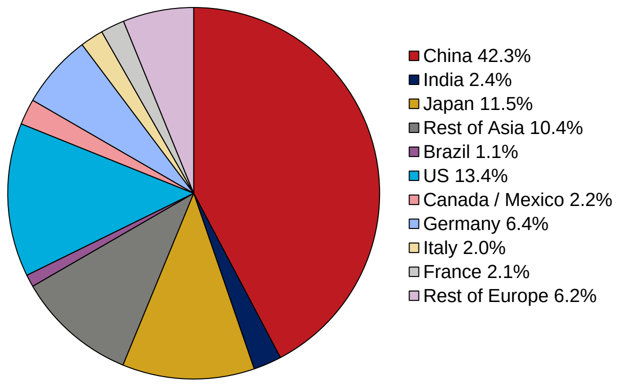
Source: Oxford Economics

World: Nominal GDP in 2018



Source: Oxford Economics

World: Investment in machine tool-buying industries in 2018



Source: Oxford Economics

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ongoing erosion of China's competitiveness on the back of rising wages.

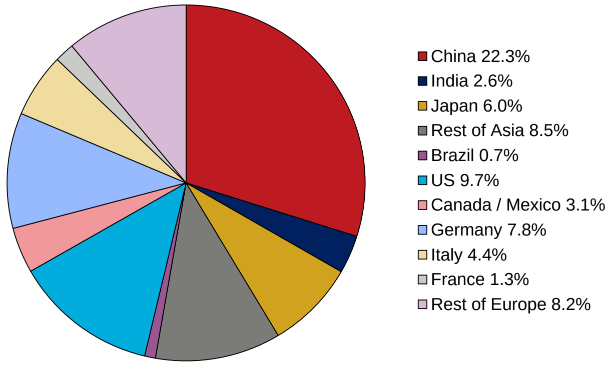
In contrast, for Europe, GDP growth over the 2020-2023 period is expected to be a far more modest 1.3%pa, with fixed investment growth averaging 1.8% over the same period. Over this time, governments are expected to continue addressing deficits and public sector debts.

More fundamentally, populations are generally ageing, and this trend is resulting in – at best – very slow growth in labour supply at a time when immigration has become a political issue. Indeed, in some countries, labour forces are set to contract markedly in the coming years. Although unemployed workers can be re-employed in order to ease the restriction on growth from limited labour supply growth, such limits constrain potential output growth across the region. Greater capital intensity in production can sidestep the labour force constraints and favours increased purchases of machine tools, but another often more attractive solution is to shift further production into emerging countries where labour shortages are not prevalent and costs are lower.

For the key MT buying sectors, fresh demand for their products (e.g. motor vehicles) is less dynamic in Europe as penetration levels are already very high. Markets here are large, so replacement demand does provide a continual stimulus to production and hence investment spending. Greater dynamism is expected to come from emerging countries. However, e-mobility will gradually alter traditional automotive supply chains over the longer term, and this could have a considerably adverse impact upon demand for machine tools, given that pure electric vehicles require fewer machined parts than conventional motor vehicles and hybrids. In the near term, however, the EV market faces a number of constraints, including the cost of battery technology and limitations in the charging infrastructure, which should soften the near-term disruptive impact.

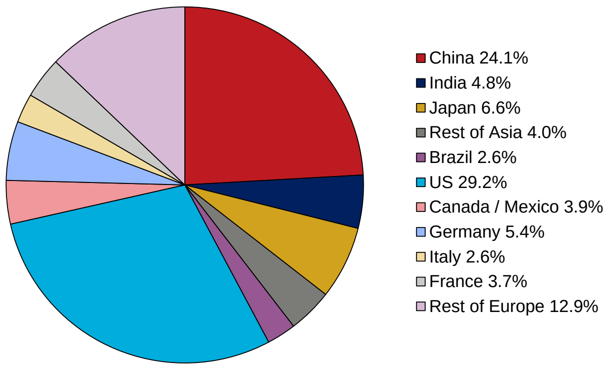
Based on our current estimates of EV market penetration over the next decade, we expect the impact on machine tool demand to be negative, but not catastrophic, with those countries that have made a significant push towards e-mobility impacted the most. Using EV car registrations shares - five-years ahead - as a proxy for e-mobility-focused automotive investment, we expect German and French MT demand to be dampened the most as new EU emissions regulations have come into play. However, our assumptions around Chinese EV demand have been adjusted due to policy changes, suggesting a lesser albeit still significant negative impact on MT demand.

World: Machine tool consumption in 2023



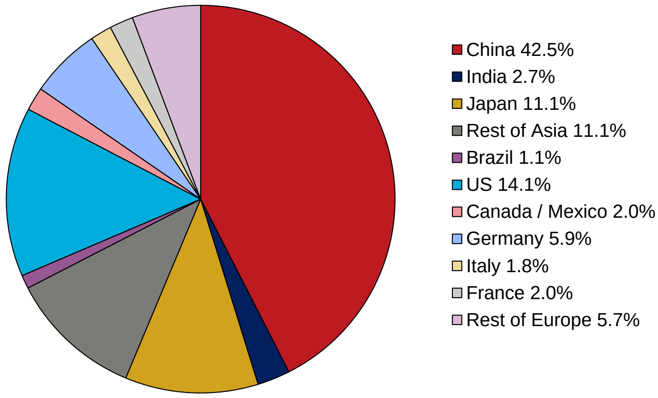
Source: Oxford Economics

World: Nominal GDP in 2023



Source: Oxford Economics

World: Investment in machine tool-buying industries in 2023



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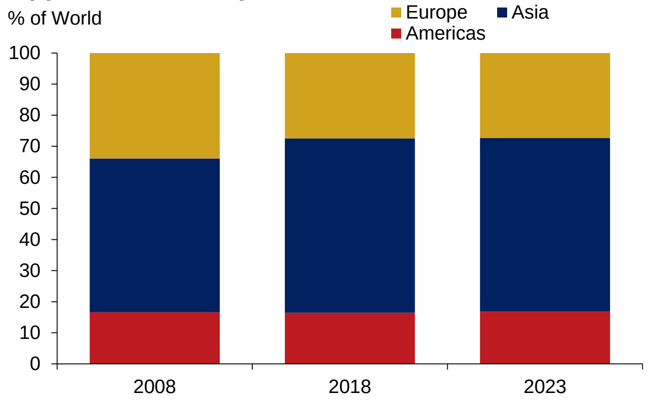
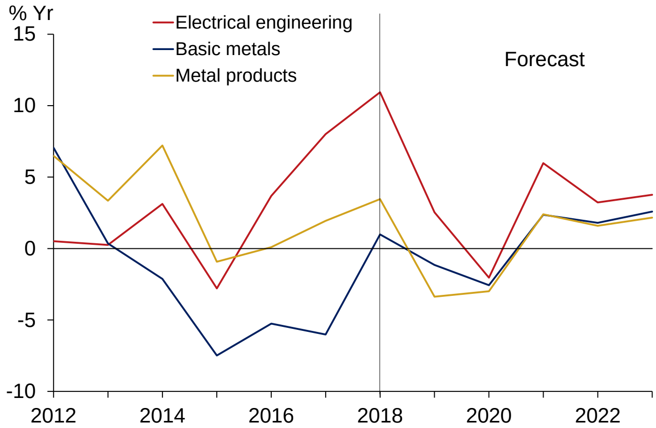
Apparent consumption



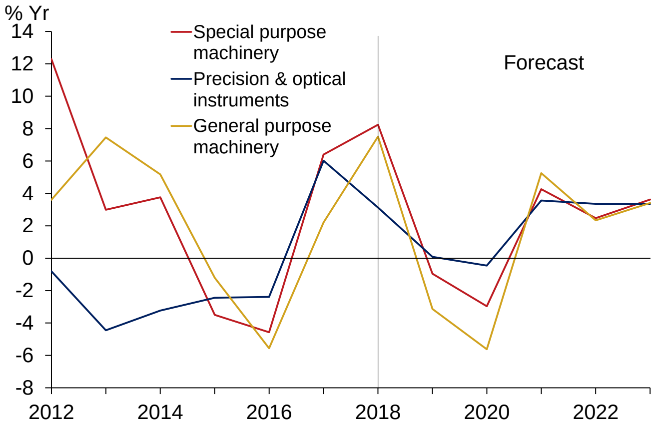
Source: Oxford Economics

World industries: Investment



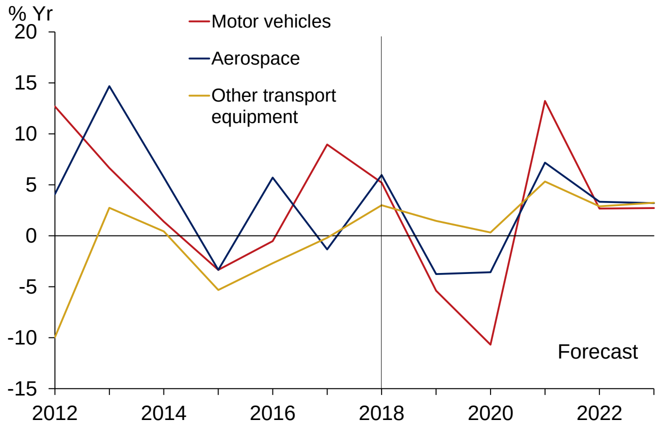
Source: Oxford Economics

World industries: Investment



Source: Oxford Economics

World industries: Investment



Source: Oxford Economics

Overview table

% change

	2018	2019	2020	2021	2022	2023
GDP						
World	3.2	2.6	-2.8	5.9	3.4	3.0
Americas	2.7	2.1	-4.1	7.3	1.7	1.7
Asia	5.0	4.6	-1.2	7.6	5.1	4.8
Europe	1.8	1.2	-5.0	5.0	2.4	1.5
IP						
World	3.5	1.4	-5.3	7.0	3.6	3.1
Americas	3.2	0.2	-7.2	7.2	3.3	1.7
Asia	4.3	2.8	-4.0	7.2	4.5	4.6
Europe	1.9	-0.4	-5.8	5.9	1.9	1.2
Investment						
World	3.9	0.6	-4.1	5.0	2.5	2.9
Americas	3.0	-0.3	-3.2	4.3	1.6	1.8
Asia	4.3	1.3	-4.3	4.8	2.7	3.5
Europe	3.5	-1.2	-3.7	6.6	2.5	1.9
Apparent consumption						
World	6.8	-10.1	-28.3	33.0	5.3	4.7
Americas	12.4	-3.6	-32.4	32.9	5.6	3.9
Asia	1.6	-15.3	-28.4	38.9	5.2	5.2
Europe	15.0	-2.4	-25.0	19.3	5.4	3.9
Exchange rates						
$/€	1.18	1.12	1.09	1.09	1.13	1.17
$/Yen	110.38	109.02	106.94	106.00	105.47	104.40

GDP growth rates are calculated by summing the relevant countries, which are in constant price and dollar exchange rate terms with 2015 as the base year

Regions for industrial production weight relevant countries together using 2015 weights.

Investment and apparent consumption growth rates are weighted averages of national growth in local currency terms.

Machine tool consumption Local currency unit unless otherwise specificied - % change							
	2018	2019	2020	2021	2022	2023	Level in 2018, US$bn
China	-4.8	-20.1	-34.0	47.8	4.6	4.9	29.1
India	56.4	-19.9	-13.3	14.8	12.9	14.3	3.3
Indonesia	36.8	16.9	-9.5	13.7	9.4	8.5	0.6
Japan	11.5	-7.4	-31.9	41.6	2.6	2.0	6.4
S. Korea	-7.5	-11.6	-14.7	17.0	6.1	5.6	3.8
Malaysia	3.0	7.2	-10.5	12.1	9.2	7.5	0.5
Taiwan	18.8	-16.4	-14.4	17.0	4.5	3.6	2.1
Thailand	19.8	-4.5	-11.0	13.1	6.6	5.6	1.1
Vietnam	6.6	7.9	-8.0	13.0	11.3	11.2	1.2
Asia	**1.6**	**-15.3**	**-28.4**	**38.9**	**5.2**	**5.2**	**47.1**
Brazil	45.1	3.4	-10.2	11.6	7.7	5.7	0.8
Canada	10.3	-11.2	-19.4	21.4	2.7	2.4	1.5
Mexico	-5.4	-20.0	-13.4	5.5	5.8	6.7	2.2
US	13.7	0.9	-41.3	43.6	5.8	3.3	9.6
Americas	**12.4**	**-3.6**	**-32.4**	**32.9**	**5.6**	**3.9**	**14.2**
Austria	14.7	-4.6	-8.1	8.4	4.5	3.6	0.9
Czech Republic	15.9	-11.5	-16.3	8.2	6.0	4.5	0.7
France	10.1	-1.4	-20.7	23.1	3.8	3.0	1.4
Germany	11.6	5.5	-30.1	18.2	3.1	2.2	7.8
Hungary	-0.4	33.5	-25.9	14.1	5.8	5.5	0.3
Italy	16.2	-9.4	-32.5	31.5	3.7	3.1	5.1
Poland	19.8	-11.2	-11.9	12.6	8.1	7.5	1.0
Russia	22.2	-3.9	-23.7	12.2	15.2	4.9	1.9
Slovakia	5.7	20.4	-18.6	14.8	5.3	4.0	0.3
Spain	0.3	-5.2	-24.8	23.2	7.5	4.0	0.9
Switzerland	30.7	-11.7	-25.6	24.1	4.2	3.5	1.3
Turkey	22.0	-13.9	-9.6	9.5	10.8	14.3	1.1
UK	11.0	-5.2	-22.6	23.9	1.7	1.5	0.9
Europe	**15.0**	**-2.4**	**-25.0**	**19.3**	**5.4**	**3.9**	**23.6**
World ex-China	**13.3**	**-4.5**	**-25.0**	**24.7**	**5.7**	**4.5**	**55.7**
World	**6.8**	**-10.1**	**-28.3**	**33.0**	**5.3**	**4.7**	**84.8**

World growth rates are calculated using a weighted sum of the local currency growth rates. Each country's share of world consumption in 2015, measures in dollars, is used as its weight for the world growth calculation. Regional growth rates are calculated in a similar way. Regional growth rates are a weighted sum of the local currency growth rates of the countries within the region.
World ex-China is calculated a similar way to world.
Note: World is defined as the aggregate of the 26 countries forecast

Apparent consumption = total consumption of machine tools in the named market, for consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

OXFORD ECONOMICS

Risks

In our baseline forecast, we expect GDP to fall by 2.8% this year as isolation policies across a raft of countries hit service sector activity and the disruption spreads to industry. But risks are clearly to the downside, and economic conditions have deteriorated even more since these forecasts were finalised.

Recession may be longer-lasting

We model a worse, yet plausible downside for the global economy in which: all countries are more severely affected; the impacts are longer lasting and the financial market spill overs are greater than in our current baseline.

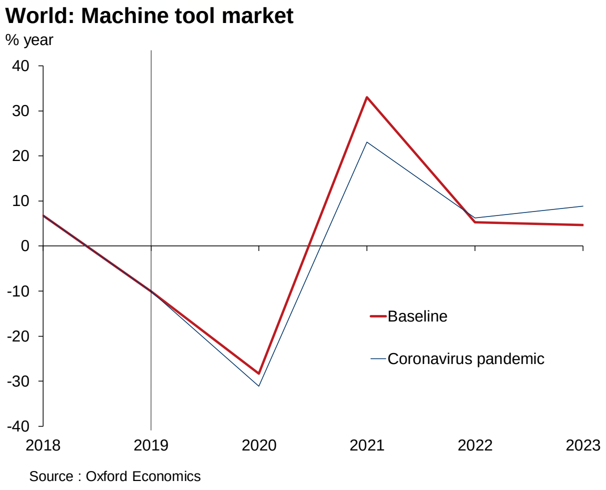
In this scenario the global economy suffers an outright contraction in 2020 of 8% with severe recessions in all major economies at some point during 2020. In countries that are currently very badly affected (China and Italy) there is limited further downside risk but in countries where the impacts in the baseline forecast are currently relatively (in the current environment) small, the risks are far bigger to the downside.

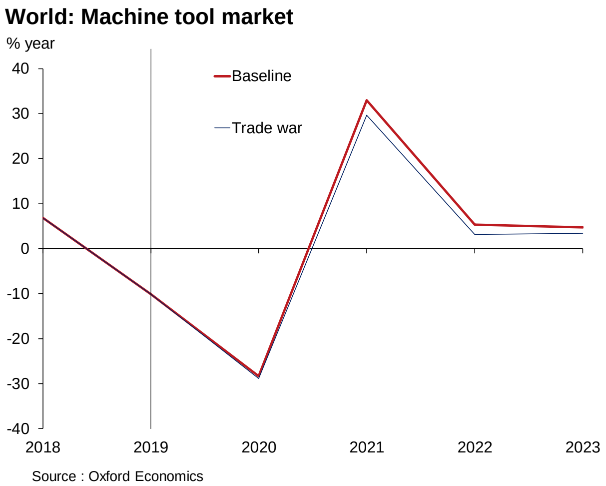
In this scenario, we would expect global MT demand to fall by 31.1% this year before rebounding by a lesser 23.1% in 2021, but it is possible that the upturn is pushed further out than this, reducing 2021 growth prospects even more.

Re-escalation of trade war still a possibility

The likelihood of a re-escalation of trade tensions between the US and China remains a possibility, while the US could also place tariffs on Mexico and the EU, with trading partners retaliating in kind.

In this scenario, we would expect global MT demand to be down by 28.9% in 2020 with a lesser rebound of 29.6% in 2021, although the near-term volatility will largely be due to coronavirus impacts.





World Machine Tool Demand: Scenarios*

% change

	2018	2019	2020	2021	2022	2023
Baseline	6.8	-10.1	-28.3	33.0	5.3	4.7
Coronavirus pandemic	6.8	-10.1	-31.1	23.1	6.3	8.9
Trade war	6.8	-10.1	-28.9	29.6	3.2	3.5

*Scenarios based upon results from Oxford Economics Global Scenario Service

Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = spending on all assets by the nine primary machine tool purchasing industries

Brazil

MT demand growth to come to a standstill

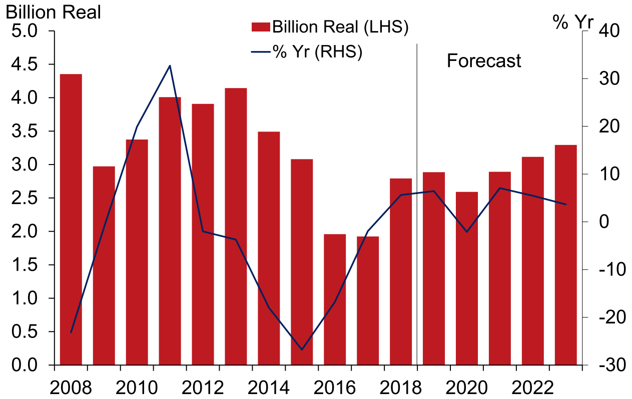
The spread of the coronavirus has not only disrupted supply chains across the globe but has also tightened financial conditions in Brazil. This, coupled with negative data surprises for the final months of 2019 means that we expect GDP to drop by 2.7% in 2020 before recovering by 4.3% in 2021.

At the same time, we expect coronavirus-induced lockdowns to lead to a 2.5% contraction in MT-weighted output in 2020, before recovering by 2.8% in 2021 with a steady pick-up in growth over the medium term. A closer look at the sector breakdown shows that the basic metals, motor vehicles and precision & optical instruments sectors will see the sharpest falls in output this year, down by 6.8%, 6.5% and 5.5%, respectively, although motor vehicles is the only one of the three expected to see a strong recovery in 2021. Furthermore, we expect the drop in global oil prices to impact machinery sectors aimed at serving the oil & gas industry, but general-purpose machinery is still expected to post reasonable albeit slower output growth.

Meanwhile, weighted investment by the major MT consuming sectors is estimated to fall by 3.1% in 2020 before expanding by 7.7% in 2021, as isolation policies are eased and economic activity bounces back. On balance, we expect MT consumption growth to fall sharply by 10.2% in 2020 before recovering by 11.6% in 2021.

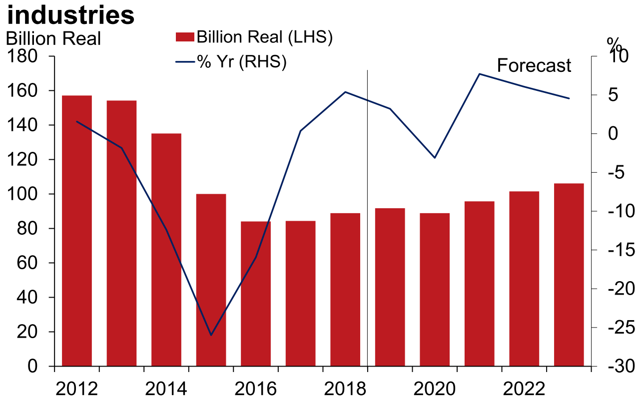
Risks are clearly to the downside. The current outbreak of coronavirus could last longer than we currently anticipate or a second wave could materialise, meaning that we would see further declines in production as isolation policies are extended. This would have a significant impact upon investment by all the key MT consuming sectors and, as a result, MT demand.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for Brazil

% change

	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Real)	-1.8	45.1	3.4	-10.2	11.6	7.7	5.7
Apparent consumption (US$)	7.2	26.8	-4.3	-10.2	11.6	7.7	5.7
GDP	1.3	1.3	1.1	-2.7	4.3	2.5	2.4
Industrial production	2.9	0.8	-1.1	-3.5	3.3	3.4	3.0
Investment	0.4	5.4	3.2	-3.1	7.7	6.1	4.5

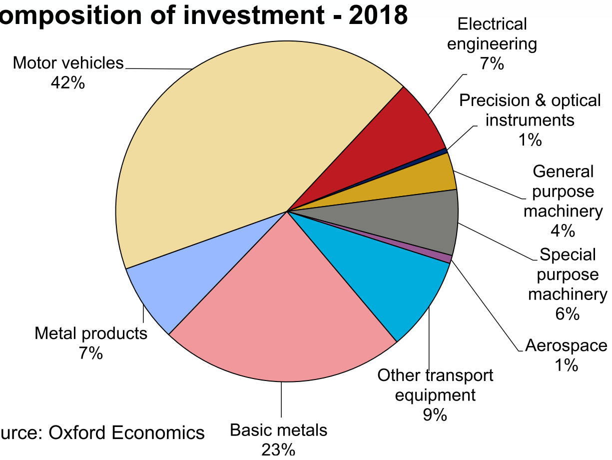
MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 3.94

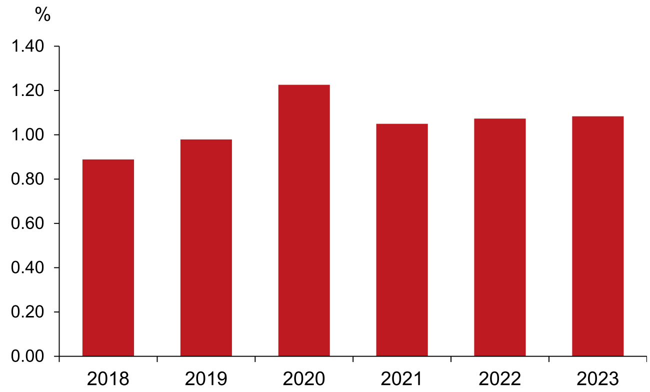
Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Composition of investment - 2018



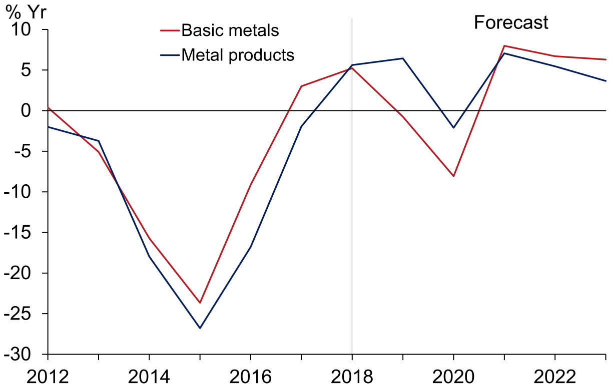
Source: Oxford Economics

Apparent consumption world share



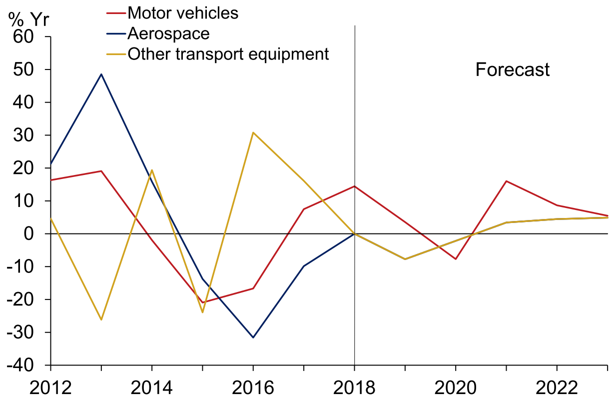
Source: Oxford Economics

Investment



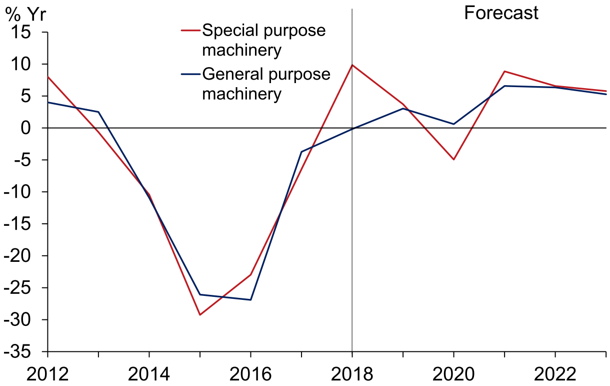
Source: Oxford Economics

Investment



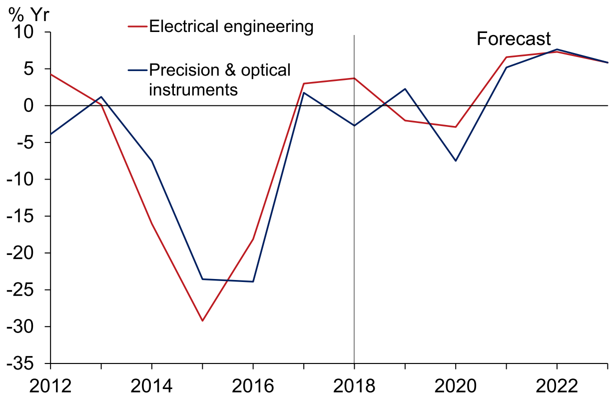
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

OXFORD ECONOMICS

China

Coronavirus accelerates MT demand downturn

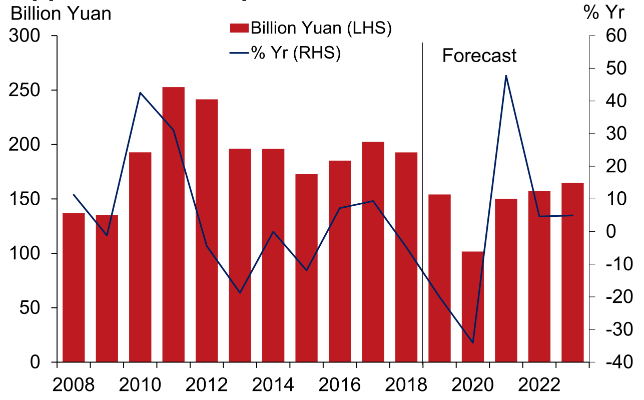
The novel coronavirus outbreak has completely overshadowed the near-term economic outlook, just as trade tensions with the US had eased. But, the shift in the balance of policymaking from containing the outbreak to resuming economic activity supports our view that the impact will be high but relatively short-lived. We forecast GDP will decline by 0.2% in 2020 before a pick-up to 9% in 2021.

Industrial growth tends to be much more cyclical than GDP growth and with numerous reports of plant closures in Q1 2020, we expect a notable impact on MT-weighted output growth this year. We expected MT-weighted production growth to fall by 1.3% in 2020 before rebounding to 5.5% in 2021. Virtually all of the MT consuming sectors will feel the impact of the coronavirus-related disruptions. Motor vehicles is expected to be impact most, with output expected to fall by 8.6% in 2020 before increasing by 10.3% in 2021. Meanwhile, increasing demand for EVs is expected to weigh upon MT demand over the longer-term outlook.

Weak imports growth during the second half of 2019, a considerable fall in orders made with foreign producers and the coronavirus-related disruption suggest that MT demand will be exceptionally weak during the first half of 2020 with a recovery expected in H2 2020. Also, we expect investment by the main MT consuming sectors to fall by 4.9% in 2020 before increasing by 5.1% in 2021. Overall, we expect MT demand to plunge by 34% in 2020 before rebounding by 47.8% in 2021 as conditions improve.

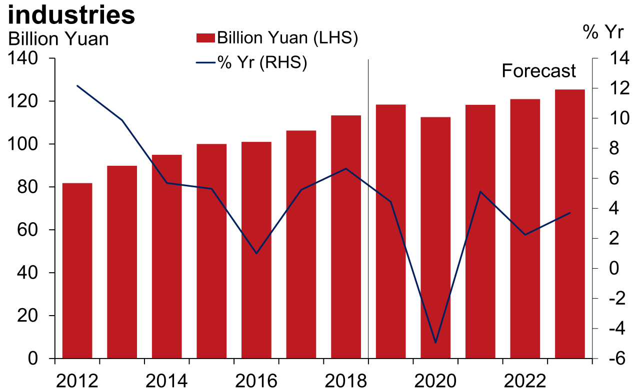
Risks to the MT demand forecast are to the downside. With the economic fallout of coronavirus widening rapidly outside of China, we could see a much more significant impact on MT demand from export-orientated MT-consuming sectors inside China. Also, we could see a re-escalation of US-China trade tensions, which would dent MT demand prospects.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for China

% change

	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Yuan)	9.3	-4.8	-20.1	-34.0	47.8	4.6	4.9
Apparent consumption (US$)	7.5	-2.7	-23.5	-34.0	47.8	4.6	4.9
GDP	6.9	6.7	6.1	-0.2	9.0	5.8	5.6
Industrial production	5.8	5.8	5.7	-3.3	7.4	4.9	5.5
Investment	5.2	6.6	4.4	-4.9	5.1	2.2	3.7

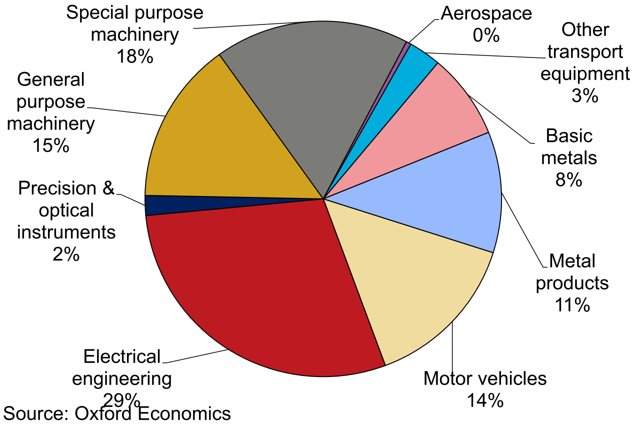
MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 6.91

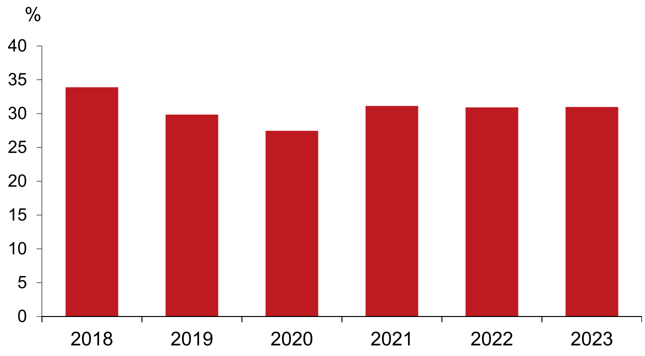
Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Composition of investment - 2018



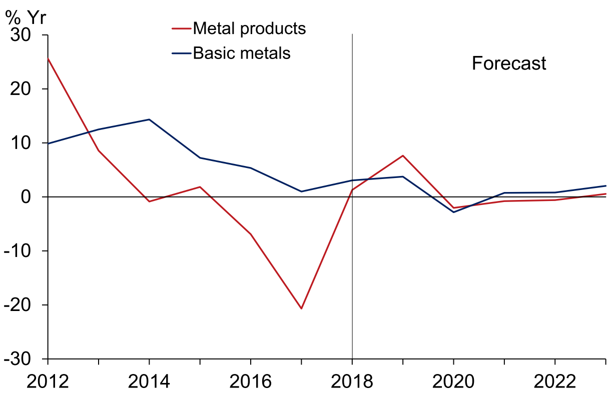
Source: Oxford Economics

Apparent consumption world share



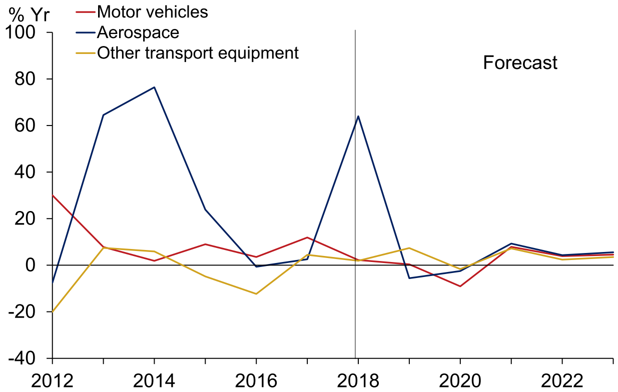
Source: Oxford Economics

Investment



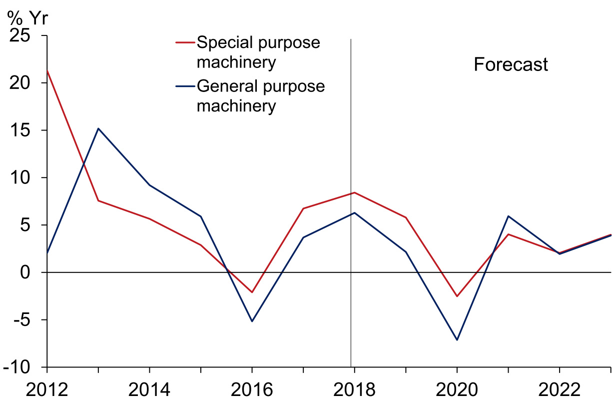
Source: Oxford Economics

Investment



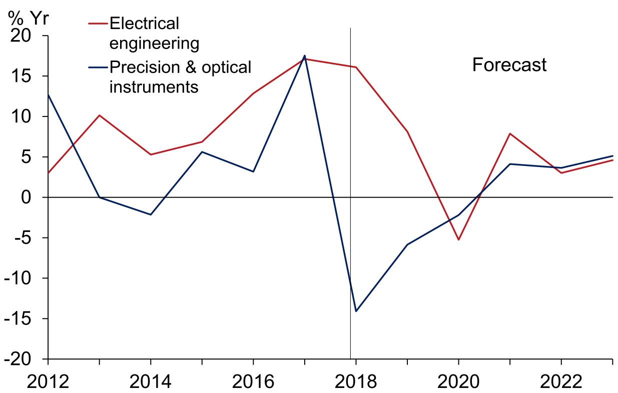
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

France

MT demand to see double-digit fall this year

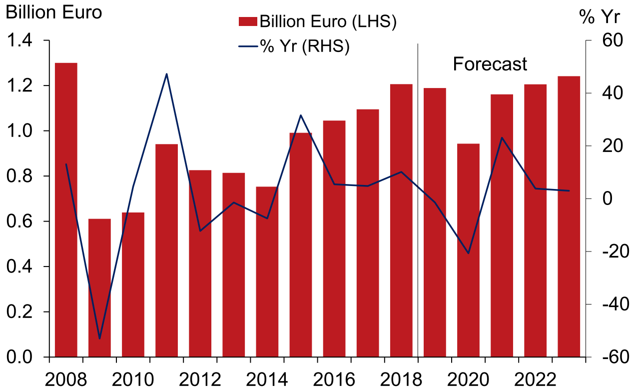
The spread of coronavirus in France will hit the economy hard via the impact on domestic demand as well on global supply chains, external demand and financial markets. We expect the shock to be sharp but short, and see economic growth falling 5.3% in 2020 before bouncing back by 4.4% in 2021. However, the risks are increasingly on the downside in the short term.

Just as global trade tensions had begun to ease and Brexit-uncertainty had faded somewhat, we now expect the impact of the coronavirus to have a drastic impact on output among the key MT-purchasing sectors in the near term. Of these, motor vehicles production is expected to see the sharpest contraction this year with output down by 16.5% in 2020, its second year of decline, before rebounding in 2021. Meanwhile, low business confidence and reduced capacity utilisation is likely to cap growth in some of the investment-led machinery segments. Overall, we expect MT-weighted output to fall by 3.9% in 2020 before recovering by 4.2% in 2021.

In addition to weaker output trends, MT imports worsened towards the end of 2019 while domestic orders were down by 48% year-on-year in H2 2019, well below levels seen during the global financial crisis, and these trends are likely to worsen in the near term. Meanwhile, MT-weighted investment is expected to fall 1.3% in 2020 before increasing 4.6% in 2021. We expect MT demand to drop by 20.7% in 2020 before increasing by 23.1% in 2021.

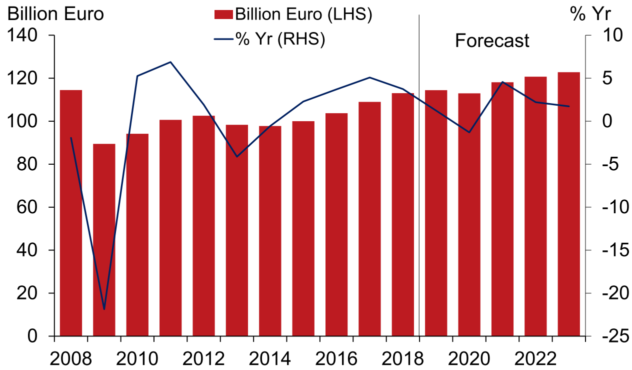
Risks to MT demand are to the downside. We could see a more substantial impact on MT demand if the coronavirus has a much more severe effect upon MT-consuming sectors. Also, once health conditions are under control, we could see a re-escalation in trade tensions with the US and the UK. However, a more ambitious reform agenda represents an upside risk to our forecast.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for France

% change

	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Euro)	4.8	10.1	-1.4	-20.7	23.1	3.8	3.0
Apparent consumption (US$)	7.0	15.2	-6.6	-20.7	23.1	3.8	3.0
GDP	2.4	1.7	1.3	-5.3	4.4	2.5	2.1
Industrial production	2.4	0.4	0.3	-5.0	4.2	2.1	1.5
Investment	5.1	3.7	1.2	-1.3	4.6	2.2	1.7

MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

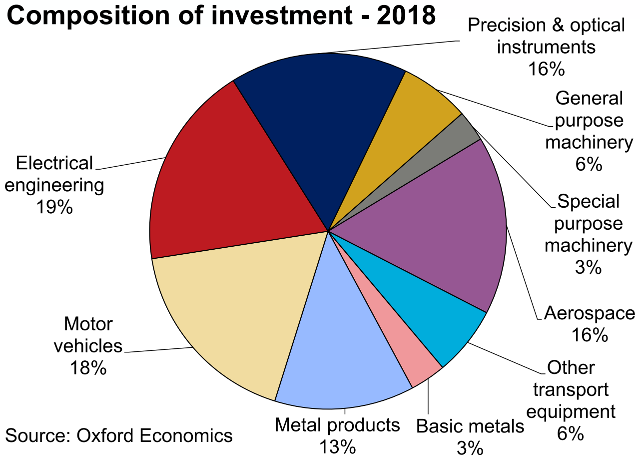
MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 0.89

Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

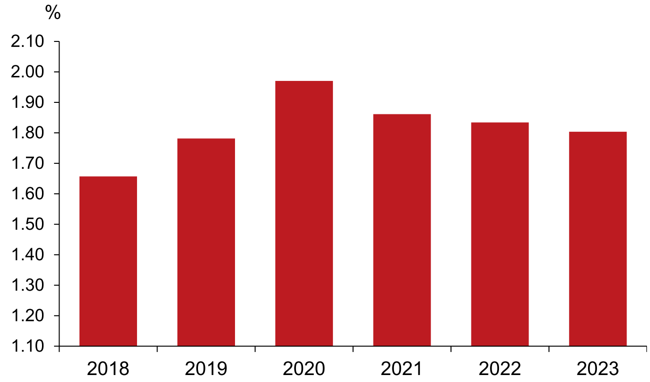
OXFORD ECONOMICS

Composition of investment - 2018



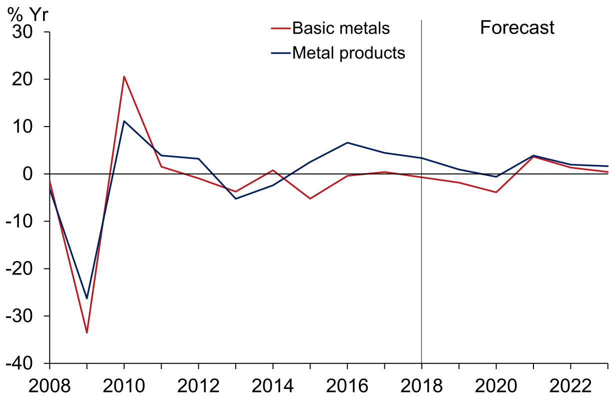
Source: Oxford Economics

Apparent consumption world share



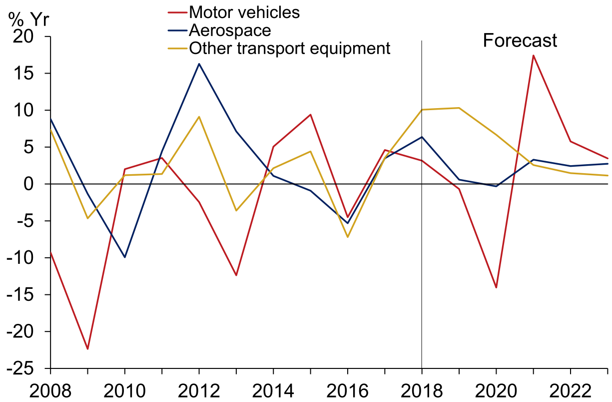
Source: Oxford Economics

Investment



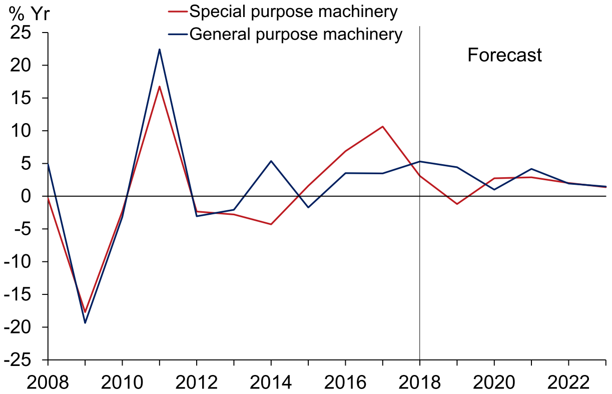
Source: Oxford Economics

Investment



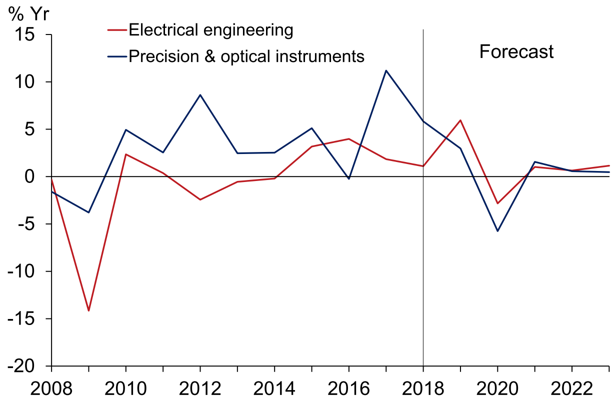
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Germany

Motor vehicles hit to dent MT demand

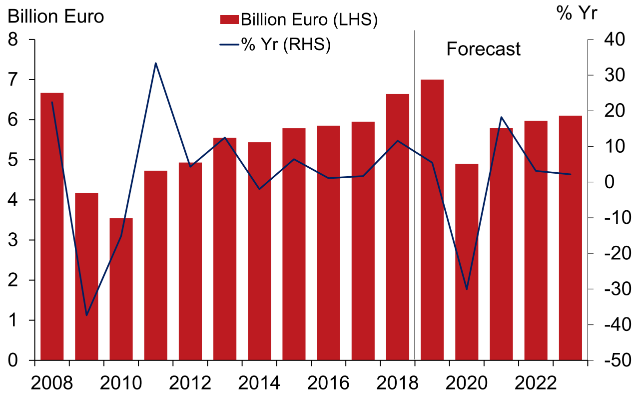
A further ratcheting-up of virus containment measures has brought much of the German economy to a standstill and will trigger a deep recession. But even assuming that these restrictions are partially lifted towards the end of Q2 and despite the massive fiscal response, we expect GDP to fall by 3.9% in 2020 before rebounding by 4.7% in 2021.

Just at it appeared that manufacturing conditions were beginning to ease, the impact of the coronavirus is expected to lead to considerable falls in production across the key MT-consuming industries. We expect MT-weighted output to drop by 7.1% in 2020 before rebounding by 8.3% in 2021 as isolation restrictions are eased. The motor vehicles segment is expected to see the sharpest contraction in production, which will be devastating to sectors further down the supply chain that are also important MT consumers, such as metal products. Meanwhile, a no-trade-deal Brexit and a possible re-escalation in US trade tensions remains a concern while the share of electric vehicles sales is expected to increase over the forecast period, dampening MT demand.

Domestic orders and imports had already declined considerably in H2 2019 compared to year-ago levels and the coronavirus-impact will have only worsened this trend in H1 2020. Also, MT-weighted investment is expected to drop by 3.8% in 2020 before recovering by 5.6% in 2021. Overall, we expect MT consumption to plunge by 30.1% in 2020 before rebounding by 18.2% in 2021.

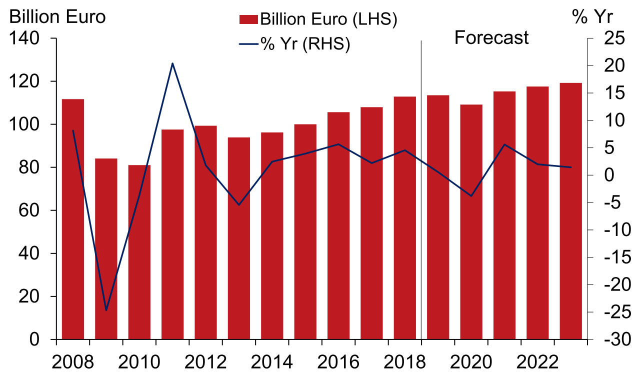
The unprecedented nature of the shock and the unknown length of the lockdown mean that there is huge uncertainty over the forecast. Moreover, we could still see an increase in trade tensions once economic conditions stabilise. Also, a greater push that moves consumers towards electric vehicles, especially pure electric vehicles, could lower MT demand by more than we currently anticipate.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for Germany

% change	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Euro)	1.7	11.6	5.5	-30.1	18.2	3.1	2.2
Apparent consumption (US$)	3.8	16.7	-0.1	-30.1	18.2	3.1	2.2
GDP	2.8	1.5	0.6	-3.9	4.7	1.4	1.1
Industrial production	3.3	1.0	-4.6	-5.7	6.6	0.8	0.9
Investment	2.2	4.6	0.6	-3.8	5.6	2.0	1.4

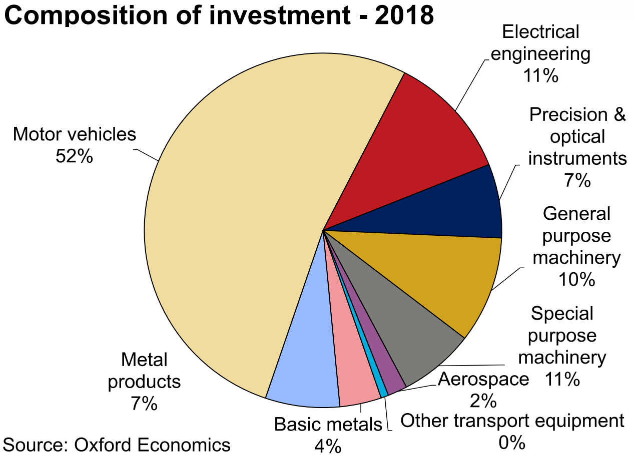
MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 0.89

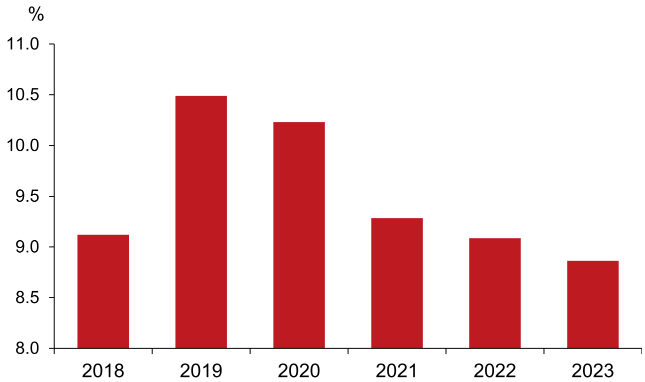
Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Composition of investment - 2018



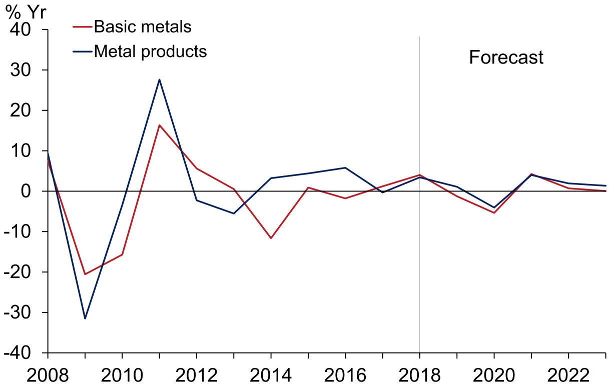
Source: Oxford Economics

Apparent consumption world share



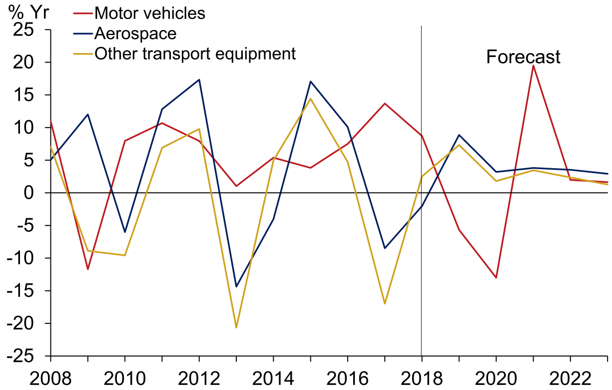
Source: Oxford Economics

Investment



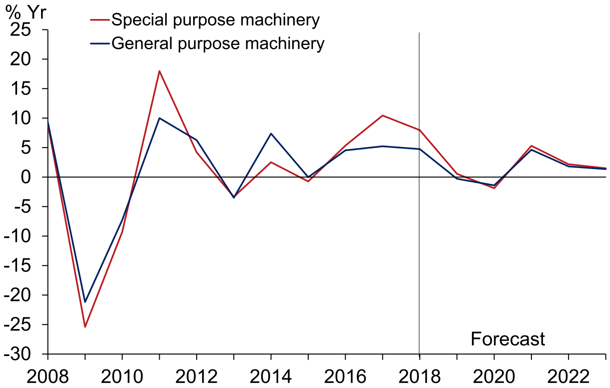
Source: Oxford Economics

Investment



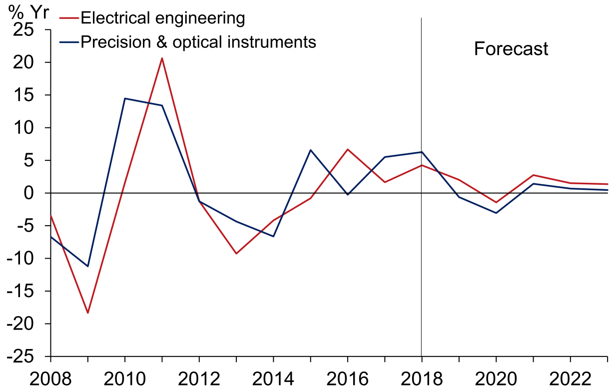
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

India

MT demand capped by supply disruptions

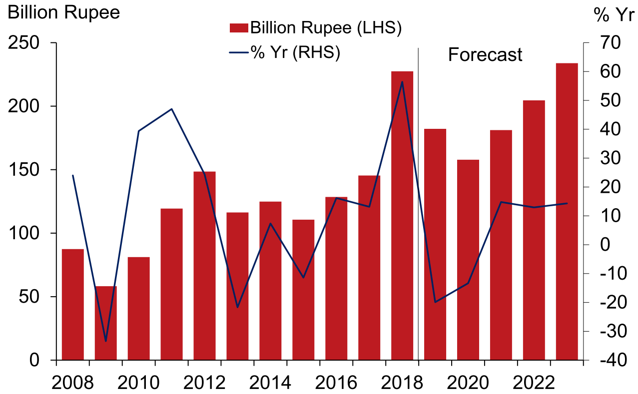
The much-anticipated budget was big on messages and the government's vision of the Indian economy, but it delivered little in terms of an action plan to support sagging domestic demand. The near-term outlook for the economy is also buffeted by the supply-side disruptions due to the coronavirus outbreak. Overall, we forecast GDP will fall by 1% in 2020 before increasing by 8.9% in 2021.

The slowdown in GDP growth is also reflected in the production growth of key MT consuming sectors. We expect MT-weighted production to edge up by 0.1% in 2020 before picking up to more normal growth of 5.9% in 2021, but some sectors are forecast to perform better than others. Basic metals output is expected to remain relatively strong with growth of 6.9% in 2020 and 6.3% in 2021 as demand for residential construction remains buoyant. However, despite policy measures, such as a lower effective tax rate of 17% for manufacturing firms, we expect sluggish manufacturing growth, a slowdown in credit growth and supply disruptions from the coronavirus to cap production in other MT-buying segments.

High frequency trade data suggest that MT import demand dropped back in H2 2019. Meanwhile, MT-weighted investment is expected to post a 0.5% fall in 2020 before increasing by 6.6% in 2021. Despite weak near-term prospects, long-term prospects are healthy and the 'Made in India' initiative will help to steadily move local MT production up the value chain. Overall, we expect MT demand to fall 13.3% in 2020 and rebound 14.8% in 2021.

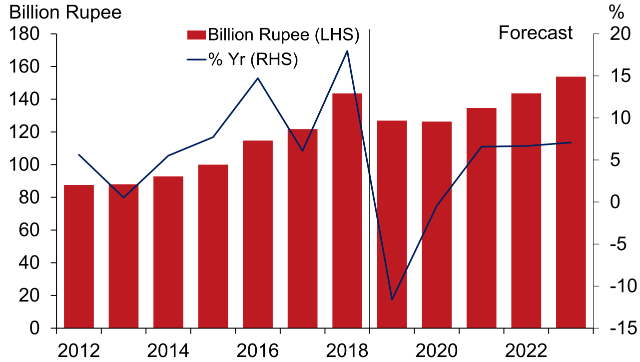
Risks are skewed to the downside. Worsening global trade tensions could undermine investment growth, denting MT demand, but a pick up in the pace of economic reforms and lower global oil prices could boost growth among MT-consuming sectors and, hence, MT demand.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for India

% change	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Rupee)	13.1	56.4	-19.9	-13.3	14.8	12.9	14.3
Apparent consumption (US$)	16.8	48.9	-22.2	-13.3	14.8	12.9	14.3
GDP	6.6	6.8	5.3	-1.0	8.9	6.8	7.1
Industrial production	3.5	5.2	0.6	-2.9	7.7	6.5	6.7
Investment	6.1	18.0	-11.6	-0.5	6.6	6.7	7.1

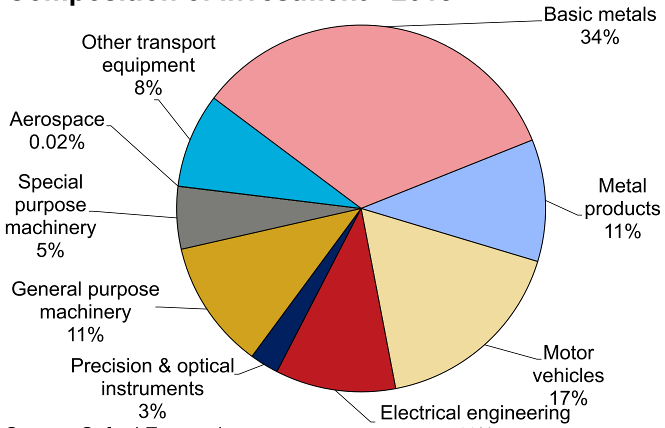
MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 70.42

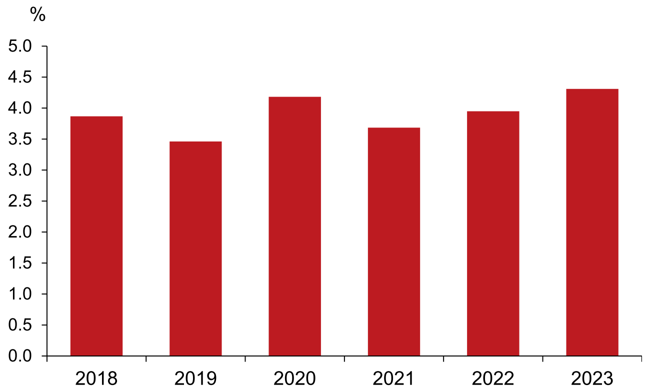
Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Composition of investment - 2018



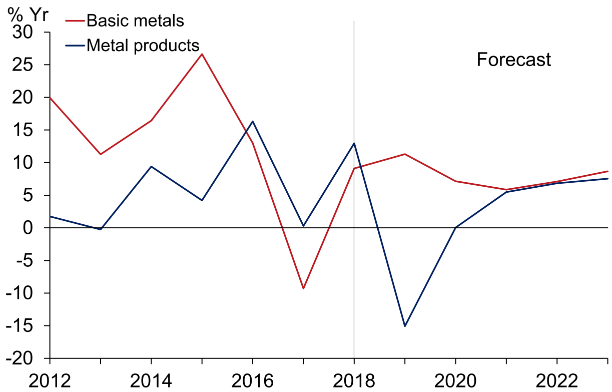
Source: Oxford Economics

Apparent consumption world share



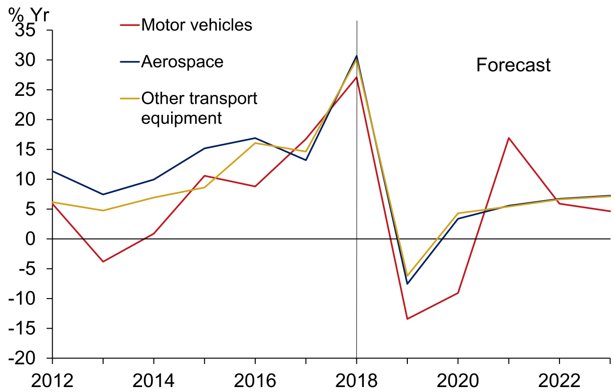
Source: Oxford Economics

Investment



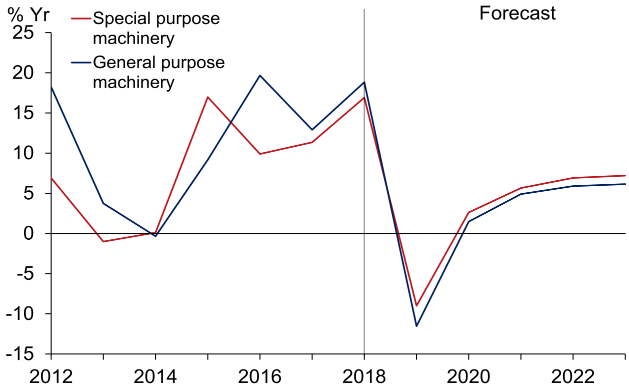
Source: Oxford Economics

Investment



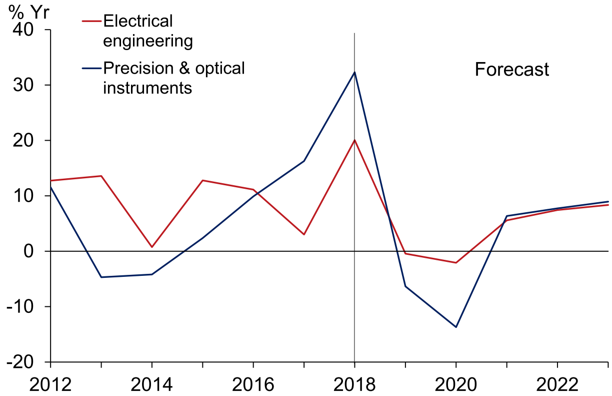
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Italy

Lockdown dents MT demand outlook

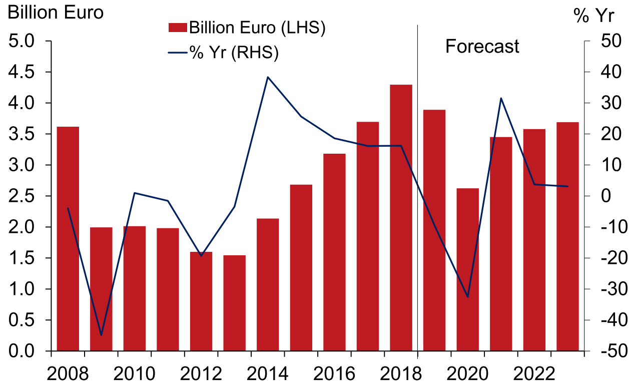
The disastrous spread of the coronavirus to Italy means the near-certainty of a very large contraction in H1 2020, with a combination of virus-induced supply and demand shocks sending the country into a new deep recession. While the uncertainty around our forecast remains very high, we now see the Italian economy shrinking by 7.6% in 2020, before rebounding by 3.8% in 2021.

Before the coronavirus took hold, Italy was facing challenging economic conditions from political uncertainty at home and weak global trade, but the announced quarantines mean that we expect MT-weighted production to drop by 6.8% in 2020 before rebounding by 10.5% in 2021. Of the MT-consuming sectors, motor vehicles production is expected to see the sharpest contraction in output, dropping 12.5% in 2020 before rebounding by 24.8% in 2021. This is expected to have a knock-on effect on sectors further down the supply chain that are also important MT buyers, such as metal products.

Even before the coronavirus outbreak, domestic orders had weakened considerably in H2 2019, down by 20% year-on-year. However, the new measures of tax credit included in the Budget Law 2020 will support the upgrade of machines and equipment, although MT-related investment is likely to be deferred to the second half of 2020. We expect MT-weighted investment to fall by a further 7.7% in 2020 before rebounding by 12.3% in 2021. We expect MT demand to fall 32.5% in 2020 and rebound by 31.5% in 2021.

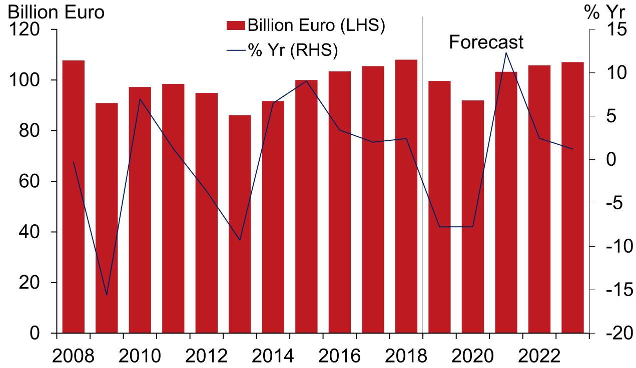
Risks are skewed to the downside and linked to the containment measures in Italy and abroad. We could see much more sizeable disruptions on labour supply, consumer and investment expenditure, global trade and financial markets over the next six months. This would have a much more significant impact on near-term MT demand prospects.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for Italy

% change

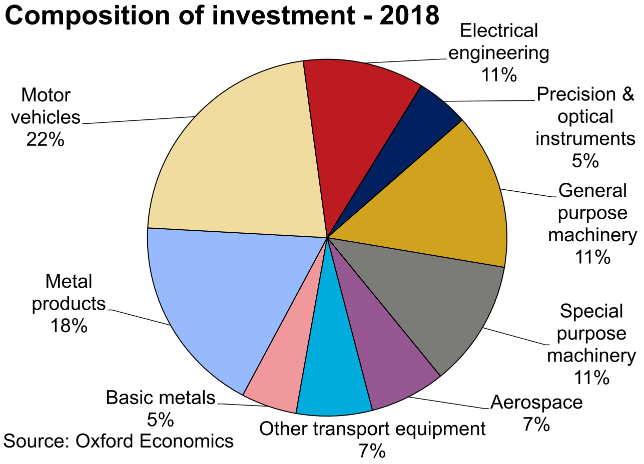
	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Euro)	16.1	16.2	-9.4	-32.5	31.5	3.7	3.1
Apparent consumption (US$)	18.5	21.5	-14.1	-32.5	31.5	3.7	3.1
GDP	1.7	0.7	0.3	-7.6	3.8	2.8	1.4
Industrial production	3.7	0.6	-1.4	-15.4	12.1	3.9	1.4
Investment	2.0	2.4	-7.8	-7.7	12.3	2.5	1.2

MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

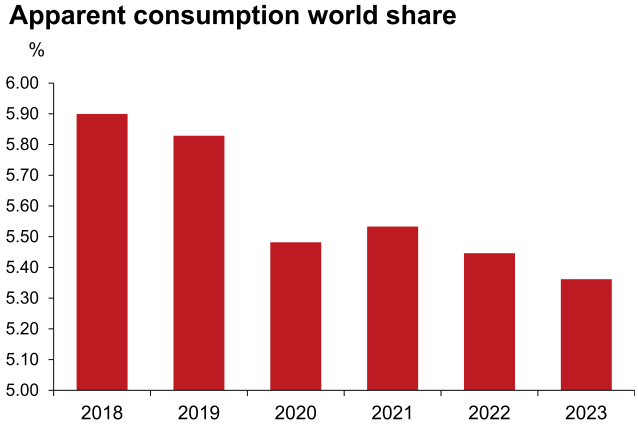
MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 0.89

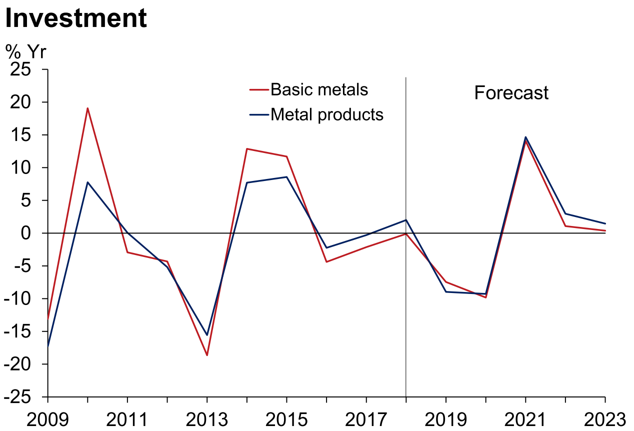
Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms



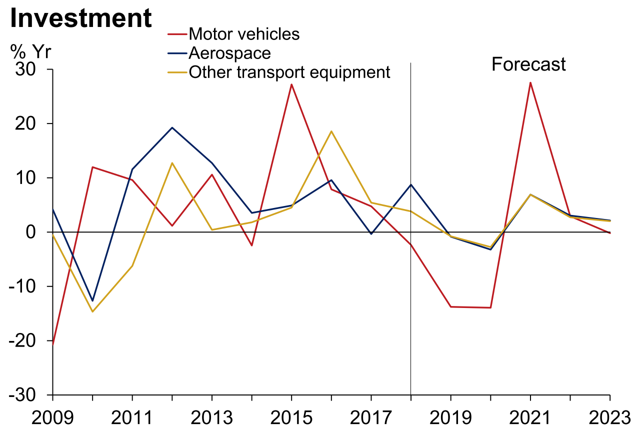
Source: Oxford Economics



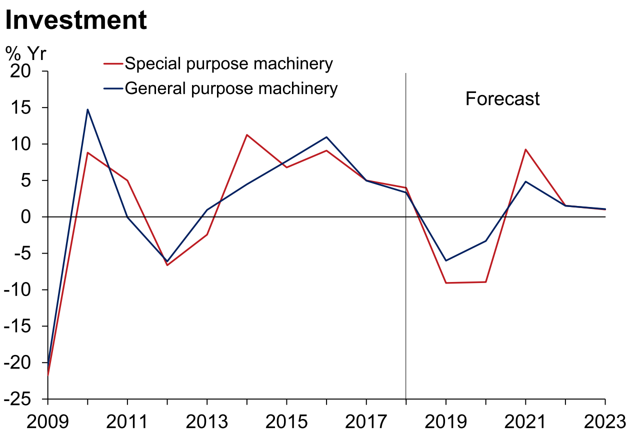
Source: Oxford Economics



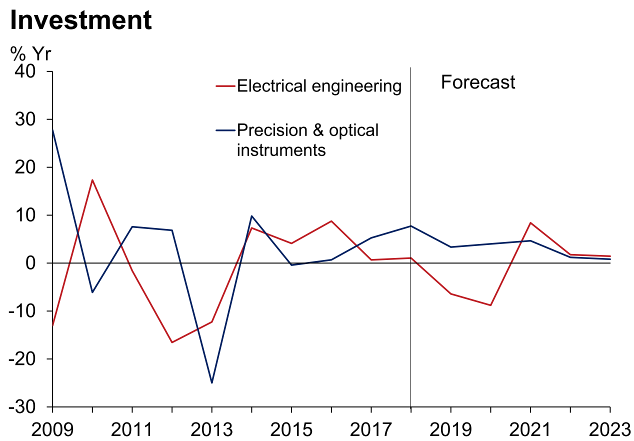
Source: Oxford Economics



Source: Oxford Economics



Source: Oxford Economics



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Japan

Coronavirus adds pressure to MT demand

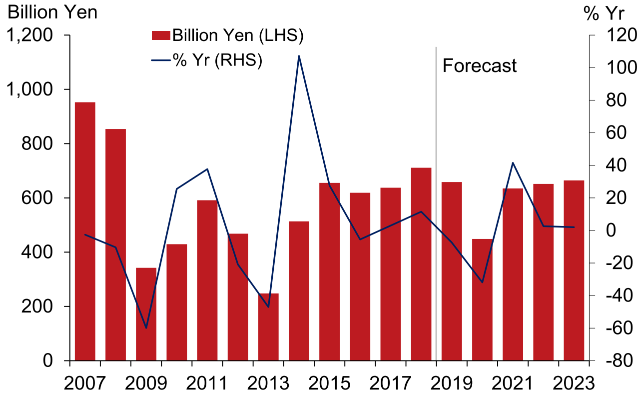
After the Japanese economy fell sharply following the consumption tax hike in Q4, the coronavirus outbreak points to a further contraction in Q1; this would put the economy in recession. We expect coronavirus-related disruptions to reduce exports and consumption as activity declines and private spending falls. We forecast GDP will contract 4.8% in 2020 before growing 3.9% in 2021.

Although global trade frictions have eased somewhat, the impact of the coronavirus has disrupted supply chains and impacted investment plans in Japan. This is expected to have a wide-ranging impact across virtually all of the key MT-consuming sectors, with seven of the nine core industries expected to see a decline in production this year. Furthermore, construction activity has also slowed, dampening demand for metal products, a key MT end-use industry. Overall, we expect production by the main MT consuming industries to fall by 6.2% in 2020, making it the second consecutive annual decline, before a rebound of 2.6% is seen in 2021.

Investment by the MT consuming sectors is expected to fall by 5.8% in 2020 before increasing by 3.6% in 2021. Meanwhile, domestic orders have continued to fall since mid-2018 and were 35% below levels seen a year earlier in Q4 2019, pointing to weakness in MT demand before the coronavirus has taken hold. Consequently, we forecast MT consumption will drop by 31.9% in 2020 before recovering by 41.6% in 2021.

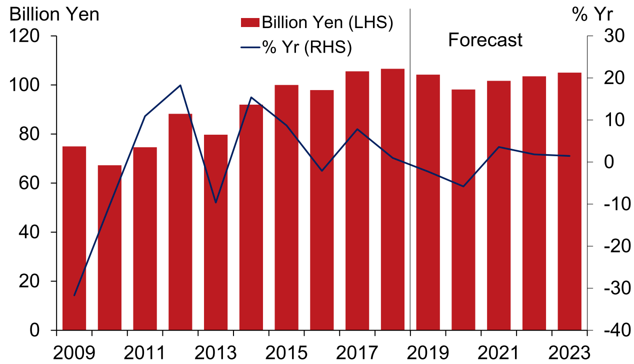
Risks to the MT outlook are to the downside. The impact of the coronavirus could be more pronounced than we anticipate in the near term, while an escalation in trade tensions would still hit Japan via the Asian supply chain even if it is not the direct target of the tariffs. This would dent investment and, as a result, MT demand.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for Japan

% change

	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Yen)	3.0	11.5	-7.4	-31.9	41.6	2.6	2.0
Apparent consumption (US$)	-0.1	13.3	-6.2	-31.9	41.6	2.6	2.0
GDP	2.2	0.3	0.7	-4.8	3.9	2.1	1.2
Industrial production	2.9	1.0	-2.5	-8.9	6.9	1.9	1.2
Investment	7.8	1.0	-2.3	-5.8	3.6	1.8	1.5

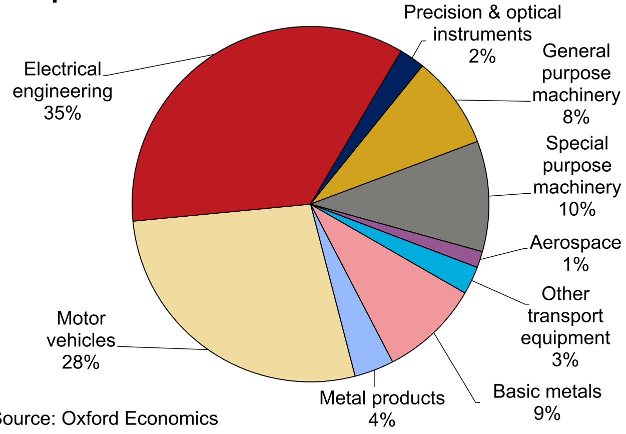
MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 109.02

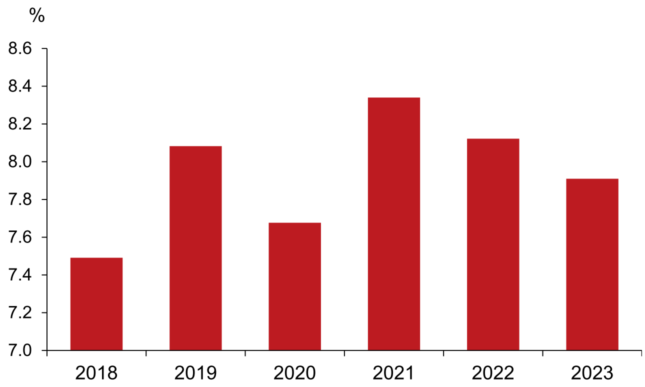
Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Composition of investment - 2018



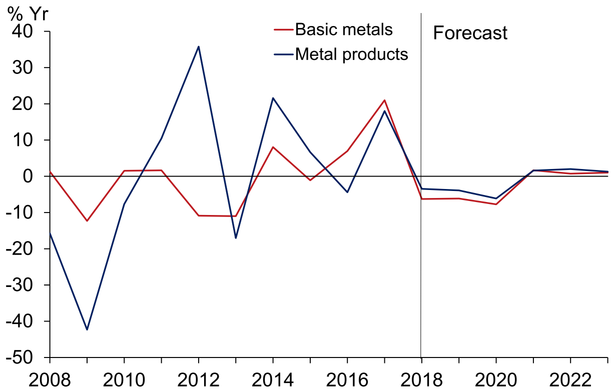
Source: Oxford Economics

Apparent consumption world share



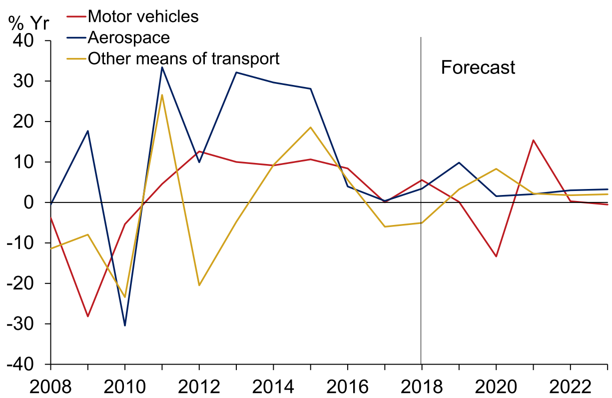
Source: Oxford Economics

Investment



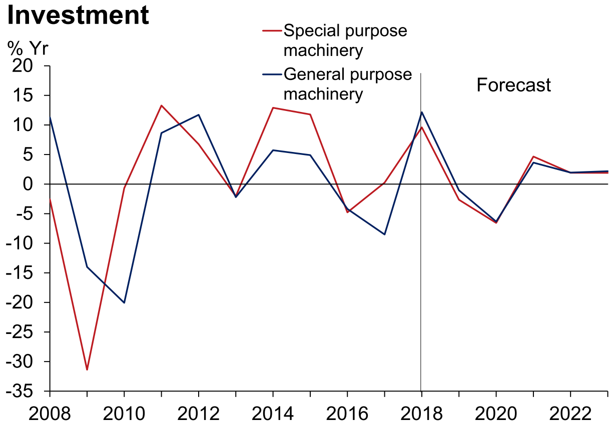
Source: Oxford Economics

Investment



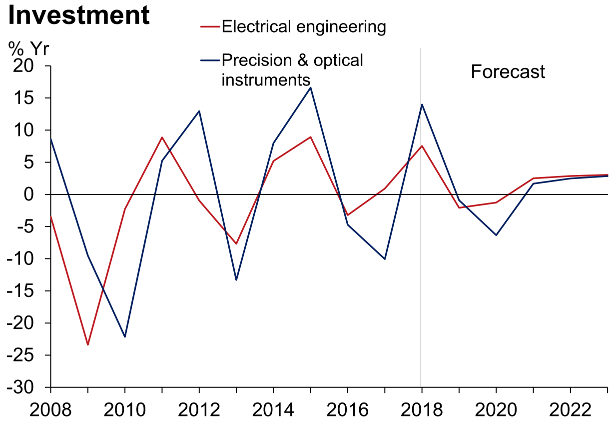
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

OXFORD ECONOMICS

Korea

MT orders point to weak MT consumption

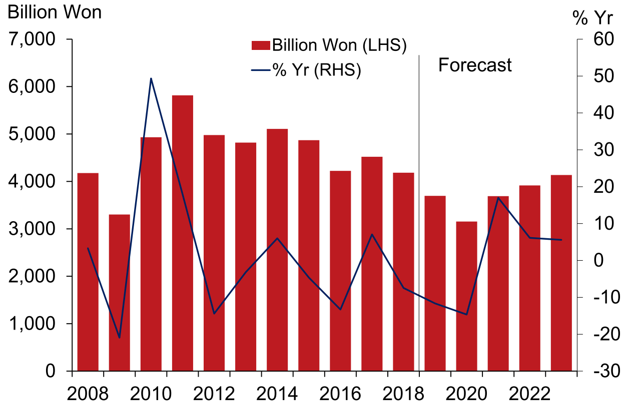
Our tentative hopes for a pick-up in South Korea's trade and manufacturing this year have been dashed by the coronavirus outbreak. This will cause near-term supply chain disruption and dampen South Korea's exports and production, given the strong economic links with China. We expect GDP to fall 1% in 2020 and grow 3.5% in 2021.

Similarly to weak GDP growth, we expect production by the MT-consuming sectors to see near-term weakness. Basic metals production is expected to decline for the third consecutive year as weak external demand, dented by the coronavirus, takes its toll on the machinery sectors. General purpose machinery is expected to decline after strong growth in 2019 while special purpose machinery will see production fall further. On a positive note, we expect fiscal policy incentives, in order to improve industrial competitiveness, to support machinery demand once the impact of the coronavirus abates. On balance, we expect MT-weighted output to fall by 1.6% in 2020 before rebounding by 3.6% in 2021.

Domestic orders paint a dire picture for near-term MT demand, even before the coronavirus outbreak, with a fall of 26.3% in the second half of 2019. Meanwhile, MT-weighted investment is expected to post a decline of 1.3% in 2020 before a 4.5% rise in 2021. Overall, MT consumption is estimated to fall by a further 14.7% in 2020 before rebounding by 17% in 2021.

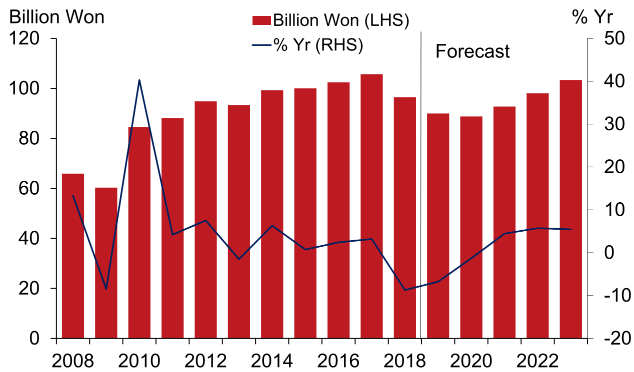
Risks to the MT outlook are to the downside. Close trade links with China and the export-orientated nature of the key MT end-use sectors means that a severe worsening of the coronavirus outbreak and/or a re-escalation of US-China trade tensions would have a substantial impact upon investment trend and, as a result, MT consumption.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for Korea

% change

	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Won)	7.1	-7.5	-11.6	-14.7	17.0	6.1	5.6
Apparent consumption (US$)	9.9	-4.9	-16.6	-14.7	17.0	6.1	5.6
GDP	3.2	2.7	2.0	-1.0	3.5	3.4	3.2
Industrial production	3.2	1.5	-0.5	-2.0	4.5	3.4	2.9
Investment	3.2	-8.7	-6.8	-1.3	4.5	5.7	5.4

MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

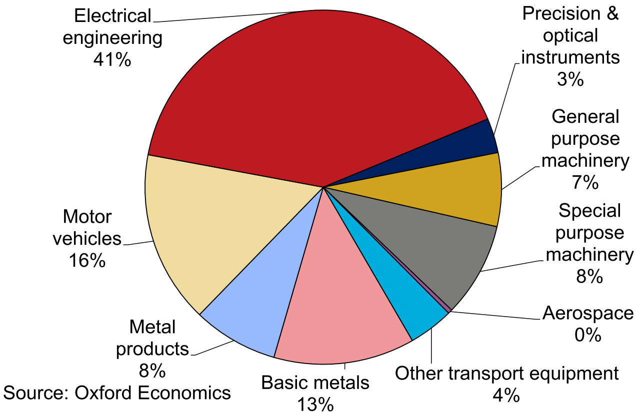
MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 1,165.36

Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

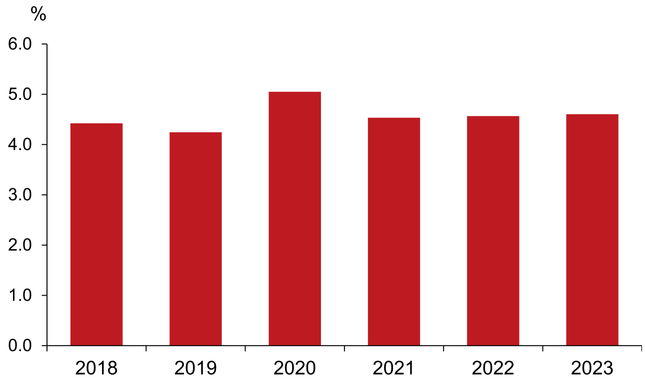
OXFORD ECONOMICS

Composition of investment - 2018



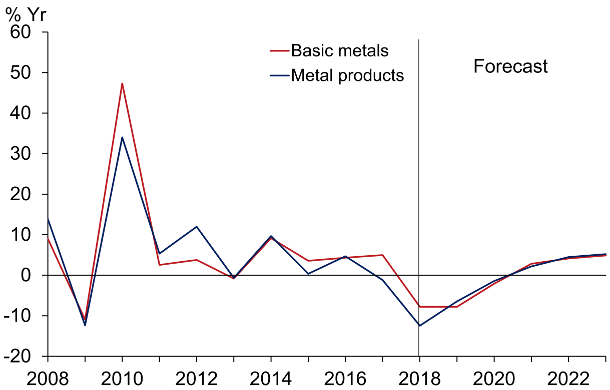
Source: Oxford Economics

Apparent consumption world share



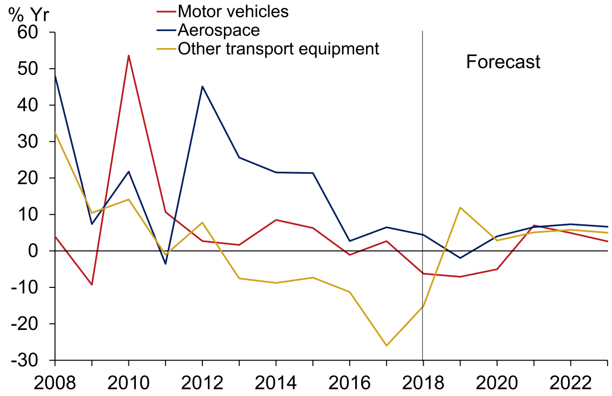
Source: Oxford Economics

Investment



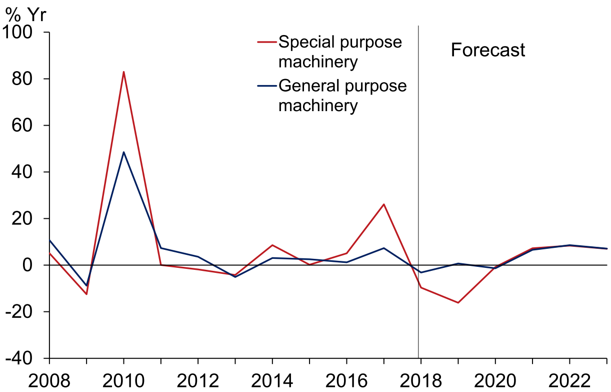
Source: Oxford Economics

Investment



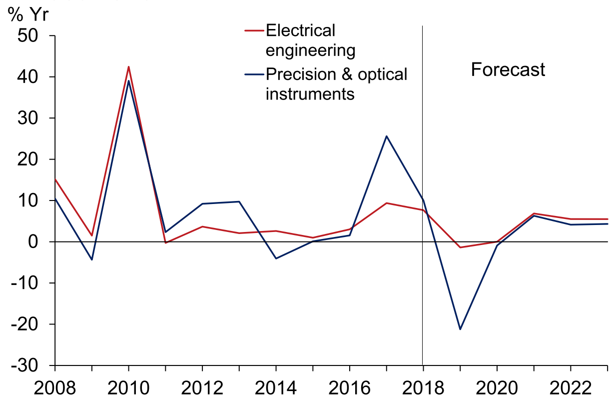
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Mexico

Third consecutive annual fall in MT demand

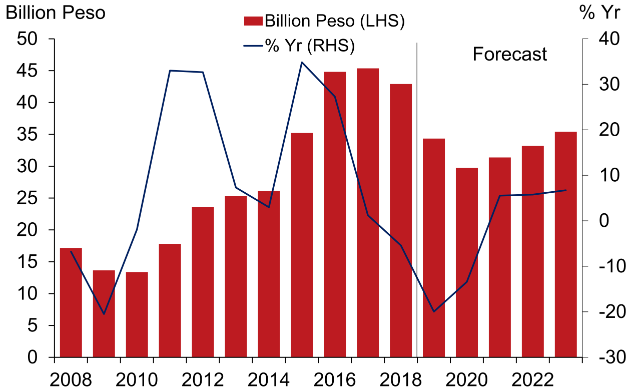
Mexico's economy remains stuck in recession, with recovery now delayed until later this year. The spread of the coronavirus outbreak and the associated disruptions to the economy mean that we expect GDP to fall by 3.9% in 2020 before recovering by 3.2% in 2021. We may need to cut our forecasts further should more factory closures, lockdowns and travel bans take place.

The bleak macroeconomic outlook alongside the economic impact of the coronavirus outbreak means that output among the key MT consuming sectors is forecast to fall by just 7.4% in 2020 before recovering by 8.2% in 2021. There is however some divergence across the main MT consuming sectors. General-purpose machinery and motor vehicles output are expected fall by 7.2% and 12.2%, respectively, as coronavirus-related uncertainty and isolation policies contribute to weak investment. Furthermore, the sharp drop in global oil prices will impact machinery segments aimed at serving the oil industry. In contrast, aerospace and other transport equipment will see relatively strong growth although this is heavily influenced by positive base effects from last year.

Meanwhile, MT-weighted investment is expected to drop at a double-digit pace of 11.1% in 2020 but we forecast only a steady recovery in investment as we move into 2021. Overall, we expect MT consumption to drop by 13.4% in 2020 with a modest rebound of 5.5% predicted in 2021.

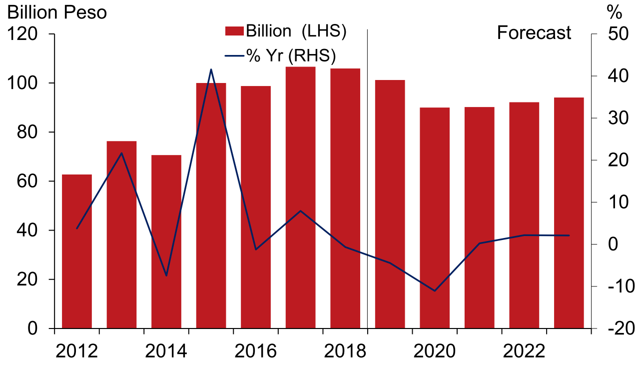
Risks to the outlook are tilted to the downside. Although the USMCA ratification should restore some commercial stability to the region, a coronavirus pandemic prompts shocks to labour supply, production, spending, travel and investment, which in turn could damage MT demand prospects by more than we currently anticipate.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for Mexico

% change

	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Peso)	1.2	-5.4	-20.0	-13.4	5.5	5.8	6.7
Apparent consumption (US$)	0.0	-7.0	-20.0	-13.4	5.5	5.8	6.7
GDP	2.4	2.1	-0.1	-3.9	3.2	2.9	2.3
Industrial production	0.0	0.4	-1.8	-5.8	2.4	1.8	1.9
Investment	7.9	-0.7	-4.4	-11.1	0.2	2.2	2.1

MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

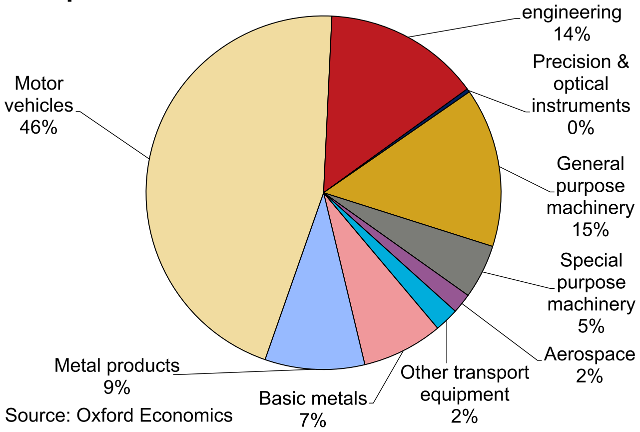
MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 19.25

Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

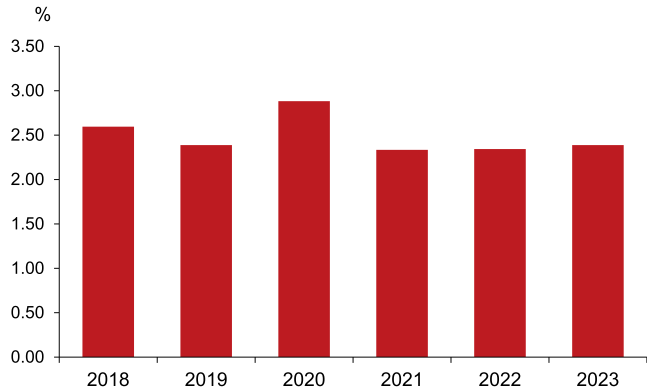
OXFORD ECONOMICS

Composition of investment - 2018



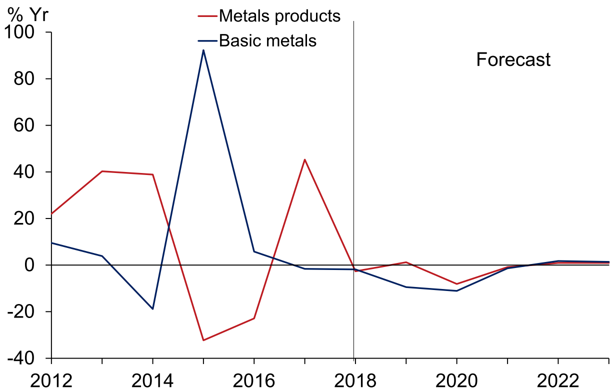
Source: Oxford Economics

Apparent consumption world share



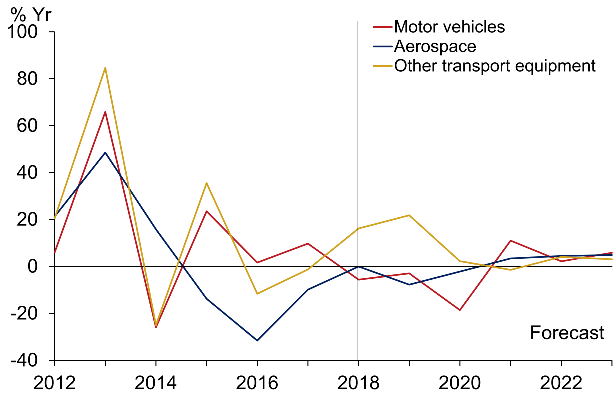
Source: Oxford Economics

Investment



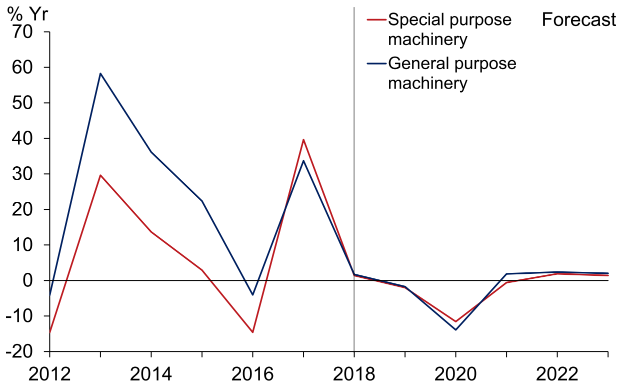
Source: Oxford Economics

Investment



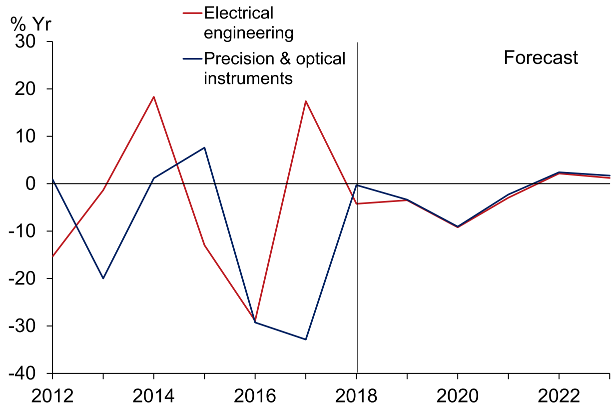
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Spain

Pandemic to further weaken MT orders

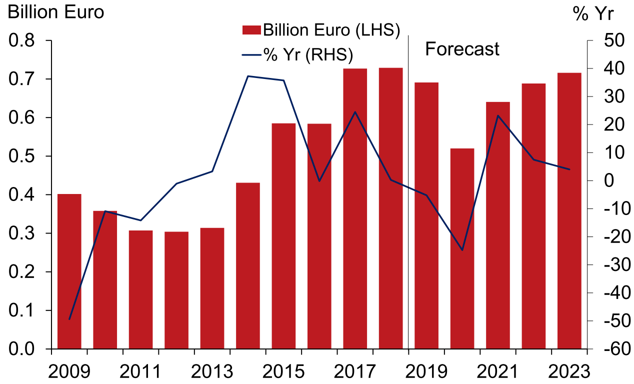
The spread of the coronavirus outbreak and the extreme measures declared by the government in order to contain the epidemic are going to take a massive toll on the economy in the first half of this year. As a result, we expect GDP to contract by 5.6% this year before a strong 4.2% rebound in 2021 as activity starts to stabilise in H2 2020.

Similarly to GDP, the coronavirus-related disruption is expected to have a substantial impact upon the main MT-consuming sectors. We expect production from the key MT purchasing sectors to drop by 2.1% in 2020 before recovering by 5.9% in 2021. Of these industries, motor vehicles production is expected to see the sharpest plunge in production, down by 12.1% in 2020, before a reversal of 21.2% in 2021. Other industries further down the supply chain are also heavy MT users, such as metal products and general-purpose machinery are also expected to see a similar growth profile.

Domestic orders were down by 50% year-on-year in H2 2019, suggesting considerable weakness in MT consumption in the first half of the year, prior to the impact of the coronavirus. Although, MT-weighted investment is forecast to grow by 2.4% in 2020 the forecast does not fully account for the very recent shutdown of non-essential production. Overall, we expect MT demand to drop 24.8% in 2020 before recovering by 23.2% in 2021.

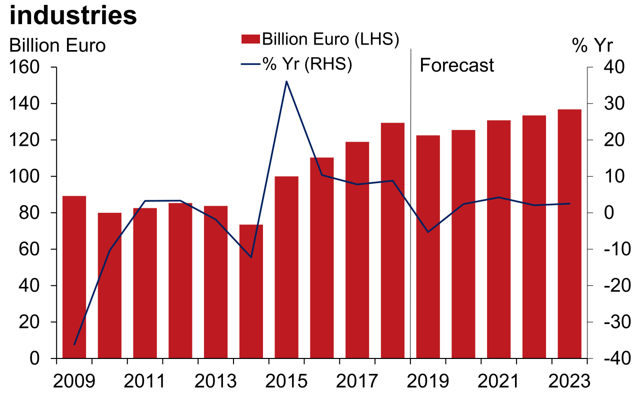
Spain is one of the countries most affected by the coronavirus outbreak, but there is a risk that the impact of the outbreak may be more long-lasting than we currently anticipate. This would have a considerably larger impact upon capital spending by the main MT-consuming industries and, hence, MT consumption. In addition, the political situation remains fragile and this could dampen business uncertainty, limiting MT demand growth.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for Spain

% change

	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Euro)	24.5	0.3	-5.2	-24.8	23.2	7.5	4.0
Apparent consumption (US$)	27.1	4.9	-10.2	-24.8	23.2	7.5	4.0
GDP	2.9	2.4	2.0	-5.6	4.2	3.1	1.8
Industrial production	3.2	0.3	0.7	-11.2	9.5	1.9	1.2
Investment	7.8	8.8	-5.3	2.4	4.2	2.1	2.5

MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

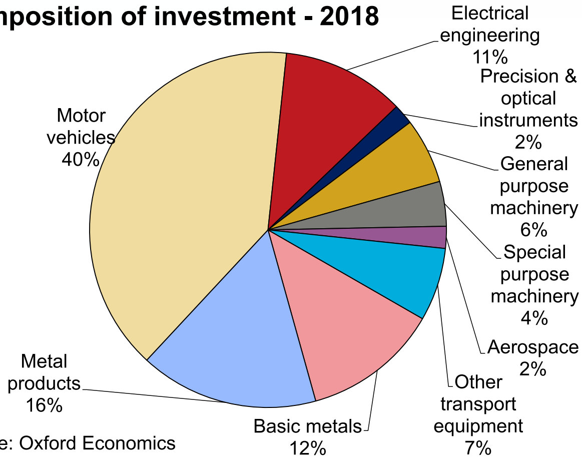
MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 0.89

Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

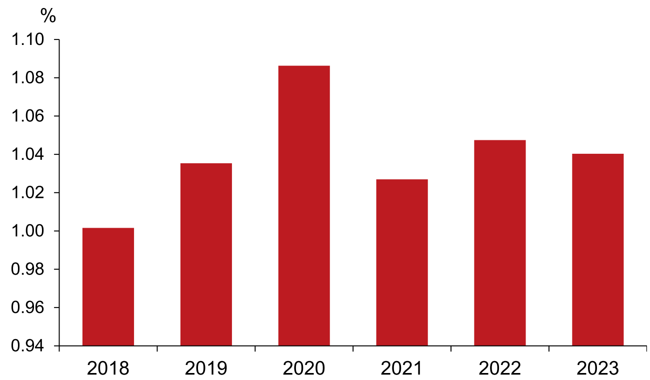
OXFORD ECONOMICS

Composition of investment - 2018



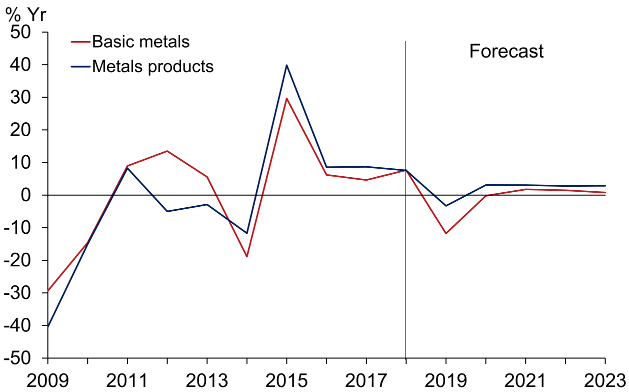
Source: Oxford Economics

Apparent consumption world share



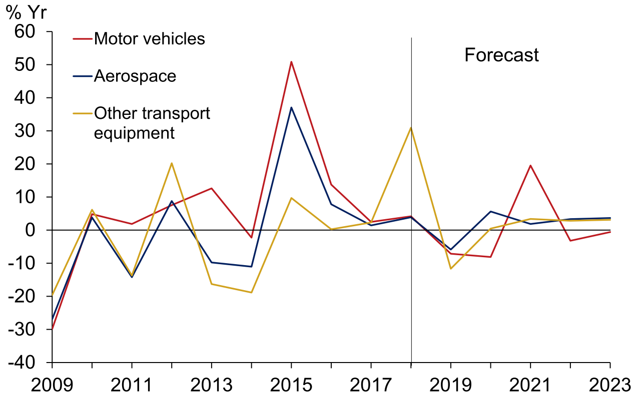
Source: Oxford Economics

Investment



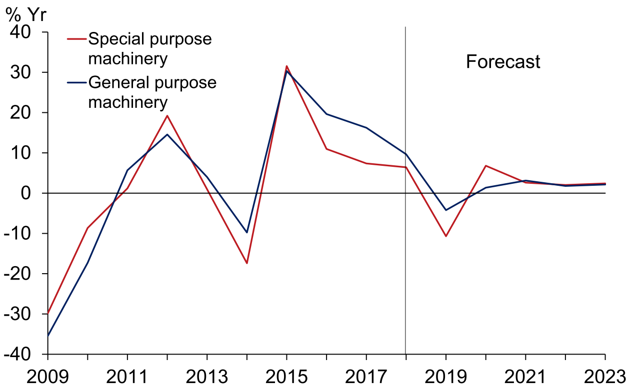
Source: Oxford Economics

Investment



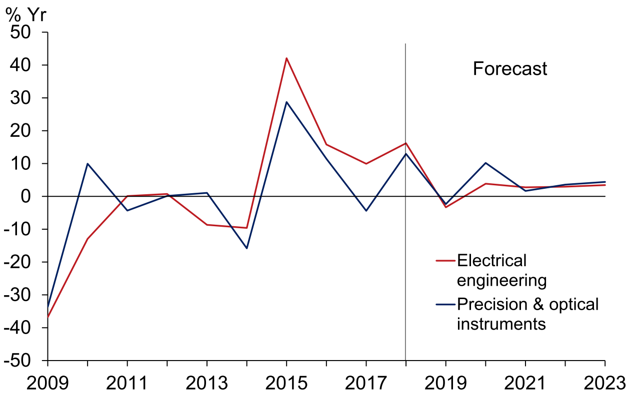
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

OXFORD ECONOMICS

Switzerland

MT demand to be hit hard by coronavirus

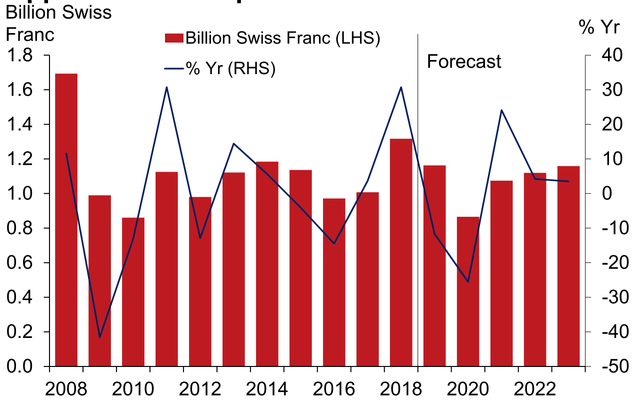
The rapid expansion of the coronavirus outbreak poses major challenges for the Swiss economy. The various protective measures against the virus will cause significant disruption to activity in the short term. As a result, we expect GDP to fall by 3.3% in 2020. However, assuming that these measures succeed in containing the virus by summer, we forecast a strong recovery and GDP growth of 5% in 2021.

Similarly to the GDP growth profile, we expect production by the key MT consuming sectors to collapse by 5.4% in 2020 before rebounding by 4.9% in 2021, assuming that there is a gradual easing of containment measures in the second half of this year. In addition to the near-term impact due to the containment measures, these sectors will also be hit by reduced external demand from countries that have imposed similar policies as well as a strong currency, which has strengthened notably due to coronavirus-induced uncertainty. Of the nine key MT purchasing sectors, we expect motor vehicles, machinery and metal products are expected to be the worst hit segments this year.

Domestic orders were down by 25% year-on-year in H2 2019, pointing to a fall in MT consumption prior to the impact of the coronavirus, which we expect will exacerbate the downturn. Meanwhile, MT-weighted investment is forecast to fall by 7.8% this year and rebound by 10.3% in 2021. Overall, we forecast MT consumption will drop by a further 25.6% in 2020 before increasing by 24.1% in 2021.

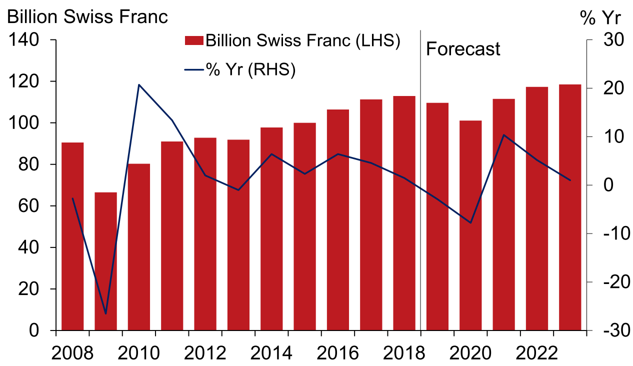
With conditions around the coronavirus continuing to evolve we believe the forecasts are heavily skewed to the downside. If the containment of the coronavirus takes longer then this would have a significant additional economic cost as isolation policies remain in place while the currency would likely remain at a strong level. Also, the movement to e-mobility could have a larger impact on MT demand than we assume.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for Switzerland

% change

	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Swiss Franc)	3.7	30.7	-11.7	-25.6	24.1	4.2	3.5
Apparent consumption (US$)	3.7	31.6	-13.1	-25.6	24.1	4.2	3.5
GDP	1.8	2.8	0.9	-3.3	5.0	2.1	1.0
Industrial production	6.0	5.5	4.5	-2.7	5.1	2.1	2.2
Investment	4.6	1.5	-2.9	-7.8	10.3	5.2	1.0

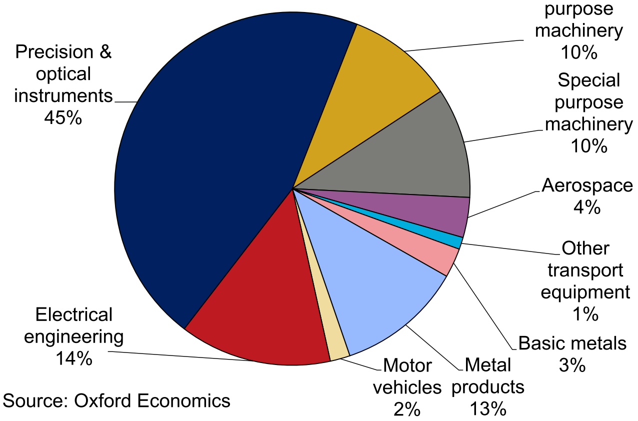
MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 0.99

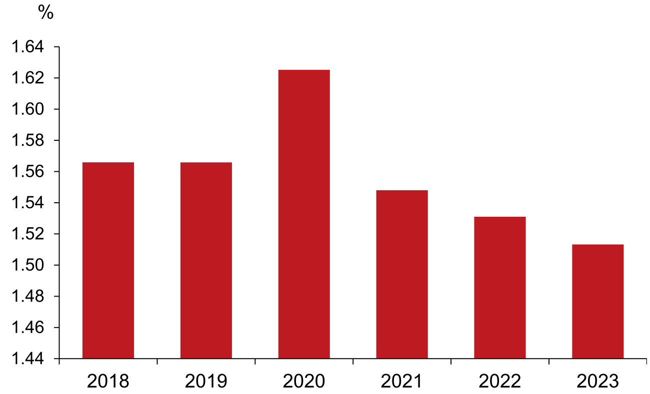
Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Composition of investment - 2018



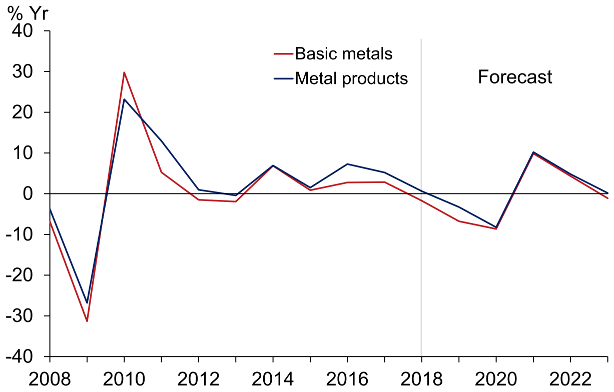
Source: Oxford Economics

Apparent consumption world share



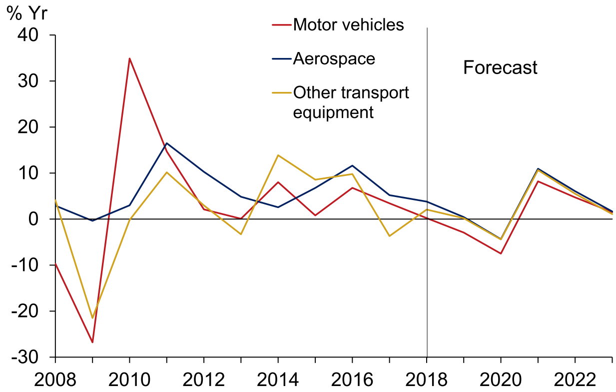
Source: Oxford Economics

Investment



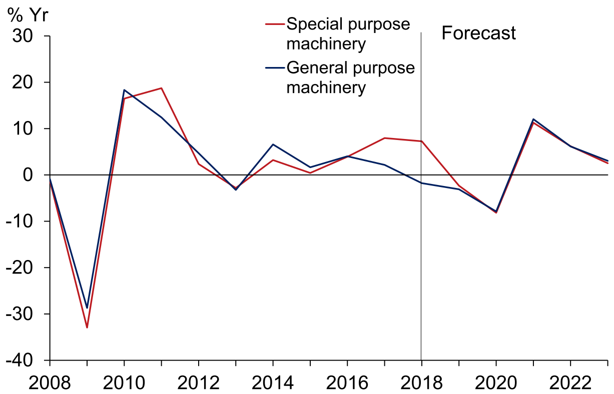
Source: Oxford Economics

Investment



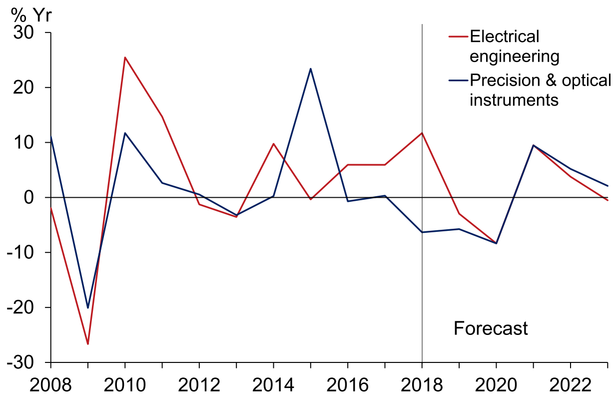
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Taiwan

MT demand set to fall further in 2020

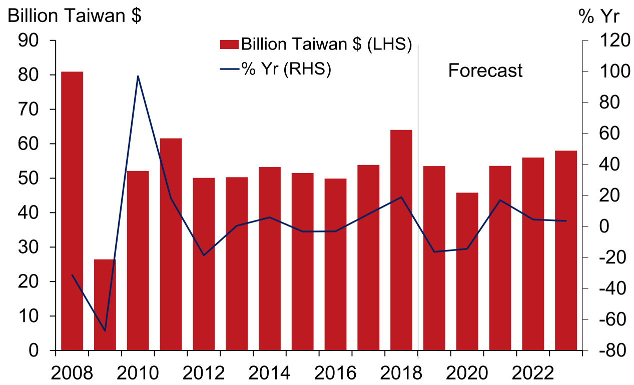
While Taiwan's economy was resilient in 2019 despite US-China trade tensions, we expect growth to slow this year because of the coronavirus outbreak. Supply chain disruption and China's travel ban amidst the virus epidemic will dampen the export and industrial production outlook in H1 2020. As a result, we expect GDP to decline 0.6% in 2020 and rise by 3.6% in 2021.

The sharp worsening in the macroeconomic environment is expected to be seen across the key MT-consuming sectors this year. In particular, the machinery sectors are forecast to see the worst impact with business sentiment for this sector sliding considerably in recent months. We expect general purpose and special purpose machinery to decline by 6.9% and 7%, respectively, this year. Meanwhile, the large electrical engineering sector is expected to see zero growth in 2020, with positive base effects from 2019 preventing a decline. Overall, we expect production by the key MT consuming industries to decline by a further 1.5% in 2020 before rebounding by 4% in 2021.

MT imports momentum weakened in the second half of 2019 at the same time as domestic orders have slumped. Meanwhile, MT-weighted investment is forecast to decline by 0.8% in 2020 and recover by 1.6% in 2021. Consequently, we forecast MT demand will drop a further 14.4% in 2020 before rebounding by 17% in 2021.

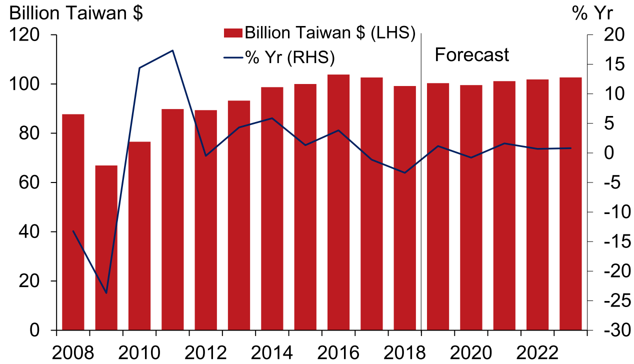
Risks to MT demand are to the downside. A worsening in the coronavirus outbreak and a re-escalation of US-China trade frictions could have a greater impact on the key MT-consuming sectors, which tend to be export-orientated, hence, denting MT consumption prospects.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for Taiwan

% change

	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Taiwan $)	8.0	18.8	-16.4	-14.4	17.0	4.5	3.6
Apparent consumption (US$)	14.6	20.0	-18.5	-14.4	17.0	4.5	3.6
GDP	3.3	2.7	2.7	-0.6	3.6	2.9	2.5
Industrial production	5.0	3.6	-0.3	-0.5	4.2	4.1	2.7
Investment	-1.1	-3.4	1.2	-0.8	1.6	0.7	0.8

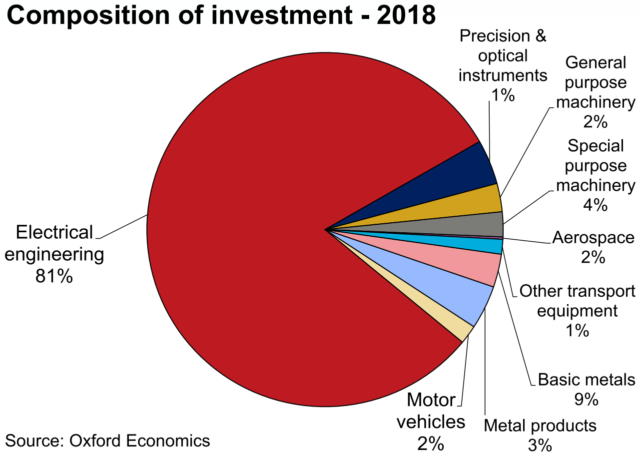
MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 30.93

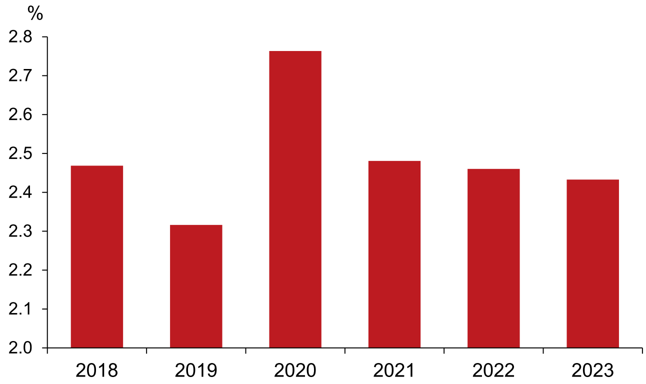
Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Composition of investment - 2018



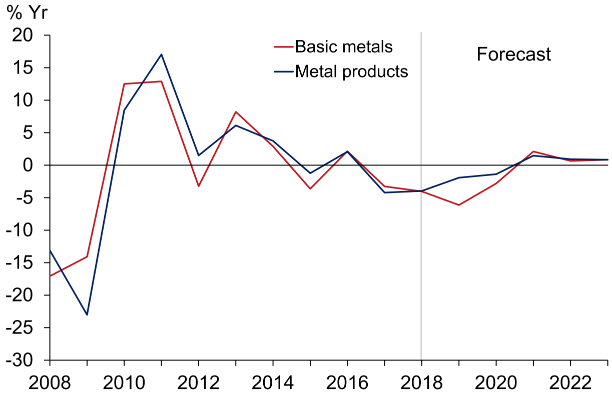
Source: Oxford Economics

Apparent consumption world share



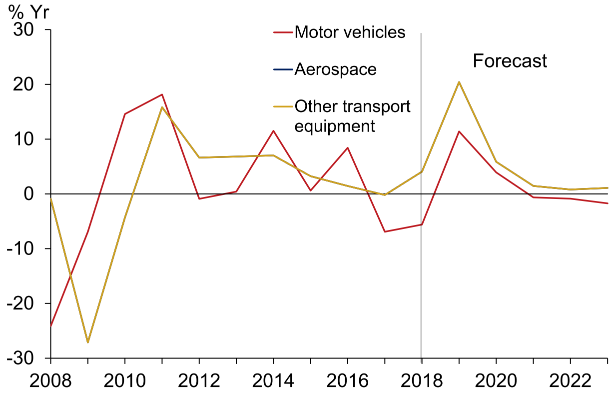
Source: Oxford Economics

Investment



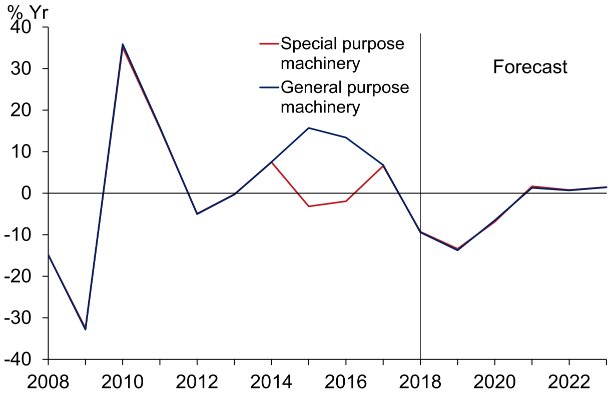
Source: Oxford Economics

Investment



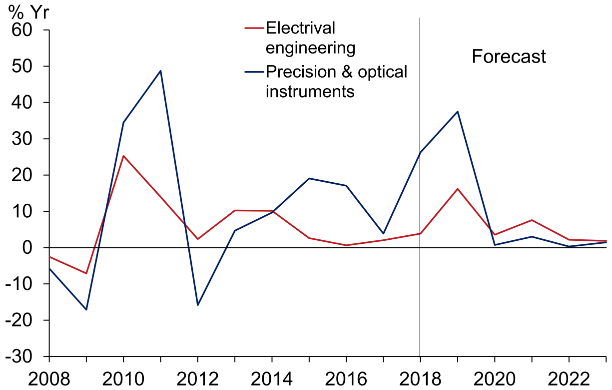
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

OXFORD ECONOMICS

Thailand

MT demand to fall for second straight year

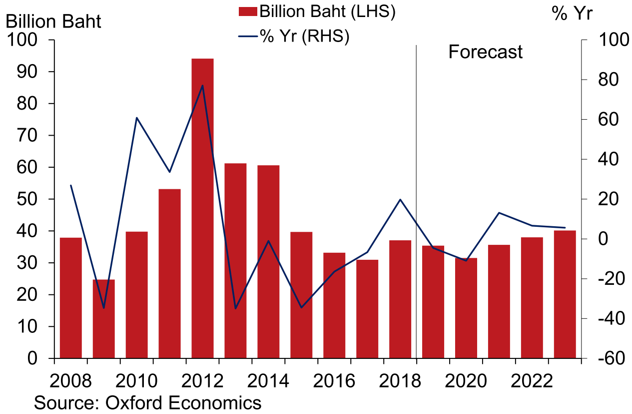
The unprecedented shutdown of international travel, large cuts to our global forecasts, as well as domestic lockdown measures implemented to dampen the spread of the coronavirus mean that we expect GDP to fall by 4.9% in 2020. However, monetary and fiscal policy measures and the hoped-for improvement in global activity in H2 suggests that GDP will rebound by 6.6% in 2021.

Similarly to weaker trends in the wider economy, weighted production of the key MT consuming sectors is estimated to fall by 5.6% in 2020. All of the key MT-buying industries will see a decline in output this year with motor vehicles output expected to see the sharpest decline, down by 7.8%. This will have an additional knock-on effect upon upstream sectors, such as basic metals and metal products, which are also important MT purchasing sectors. However, there is a possibility that the government will frontload some infrastructure projects in order to avoid a deeper downturn, which may provide a floor to sectors like metal products, which supply products to the construction industry. The 'Thailand 4.0' project is a part of these infrastructure plans and the positive benefit from this is likely to be delayed till 2021, when we forecast a 5.2% rebound in MT-weighted production.

Capital spending by the key MT purchasing sectors is forecast to drop by 6.2% in 2020 before recovering by 5.5% in 2021. On balance, we forecast MT consumption will fall by 11% in 2020 and increase by 13.1% in 2021.

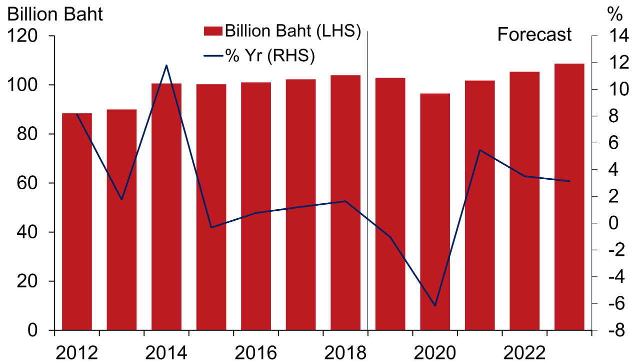
Forecast risks are clearly weighted to the downside. A worsening in global trade conditions or longer lasting lockdowns due the coronavirus impact could have considerable implications for investment by the MT consuming segments and, hence, MT demand.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for Thailand

% change

	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Baht)	-6.7	19.8	-4.5	-11.0	13.1	6.6	5.6
Apparent consumption (US$)	-3.0	25.8	-0.7	-11.0	13.1	6.6	5.6
GDP	4.1	4.2	2.4	-4.9	6.6	4.6	3.6
Industrial production	1.6	4.3	-3.9	-10.5	9.7	4.1	3.4
Investment	1.2	1.6	-1.1	-6.2	5.5	3.5	3.1

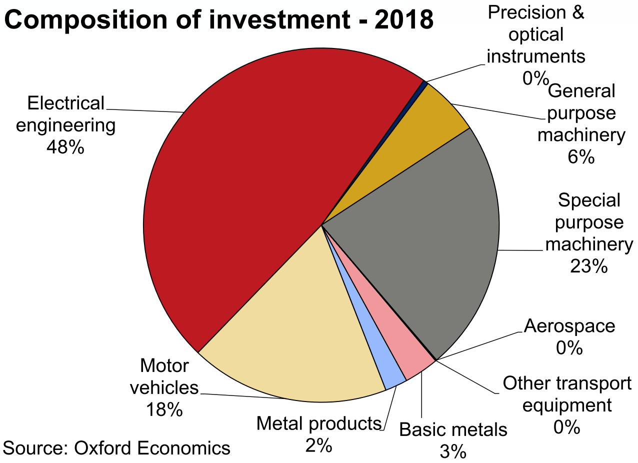
MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 31.05

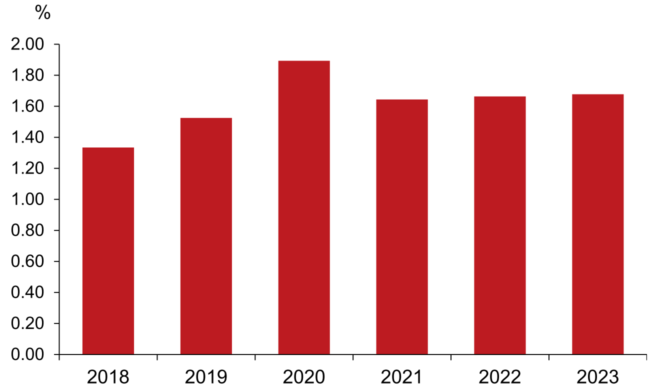
Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Composition of investment - 2018



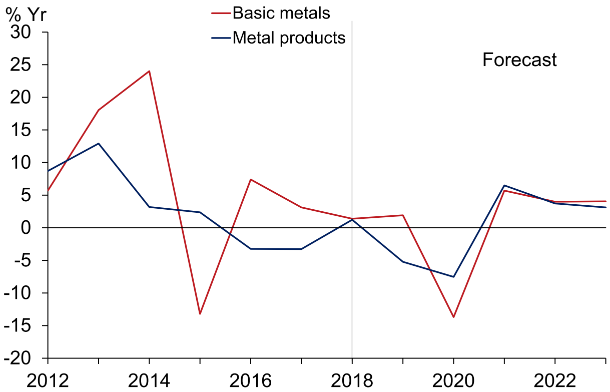
Source: Oxford Economics

Apparent consumption world share



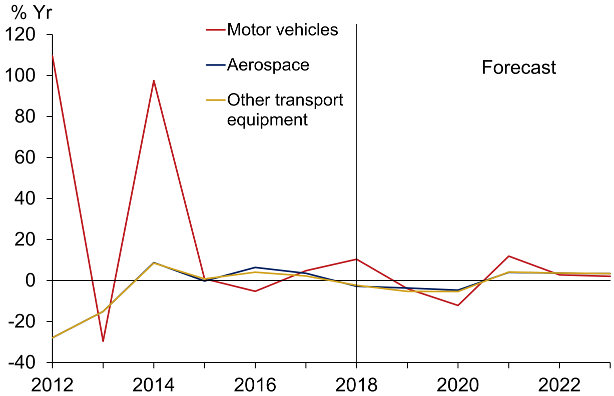
Source: Oxford Economics

Investment



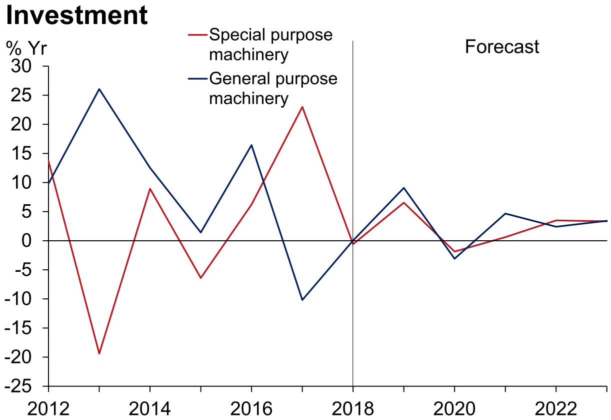
Source: Oxford Economics

Investment



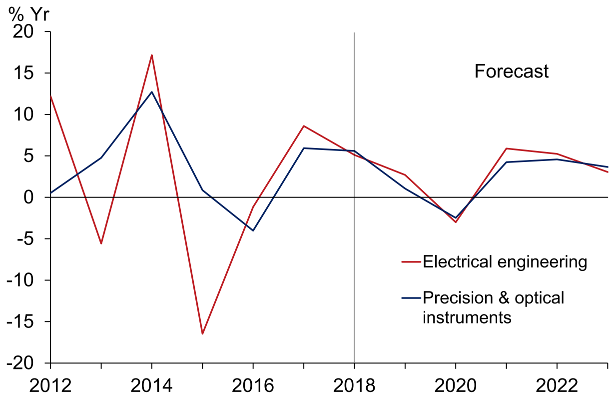
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Turkey

MT demand to sink for second straight year

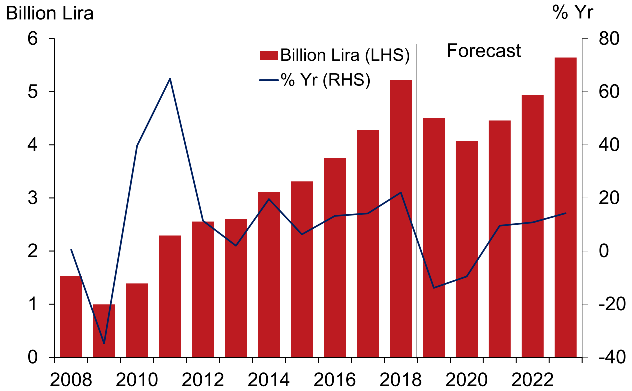
Turkey's unexpectedly strong recovery of 6% in Q4 2019 brought full-year 2019 expansion to 0.9%. The sizeable carry-over and pro-growth policies had pointed to solid growth this year. However, reflecting the global pandemic, the rapid surge in the number of domestic coronavirus cases and the associated restrictions on normal activity, we now see GDP down by 1.4% in 2020. This assumes the authorities succeed in containing the outbreak by H2 2020, but risks are heavily weighted to the downside.

Although we still expect some GDP growth this year, we expect industry to fall as manufacturing supply chains have been disrupted by lockdowns within the country and across Europe. We expect production among the key MT consuming sectors to fall by 2.2% this year, which would make it the third consecutive annual decline, before rebounding by 7.1% in 2021, aided by an additional boost from lower global oil prices. Of the main MT consumers, we expect motor vehicles to see the sharpest contraction in output this year, but aerospace and other transport equipment output will benefit from positive base effects.

At the same time, MT-weighted investment is expected to fall by a further 2.1% in 2020 before recovering strongly by 8.8% in 2021. Although higher frequency imports data suggest that there was an improvement towards the end of 2019, we expect this momentum to have been dashed in H1 2020. As a result, we expect MT demand to drop by 9.6% in 2020 and increase by 9.5% in 2021.

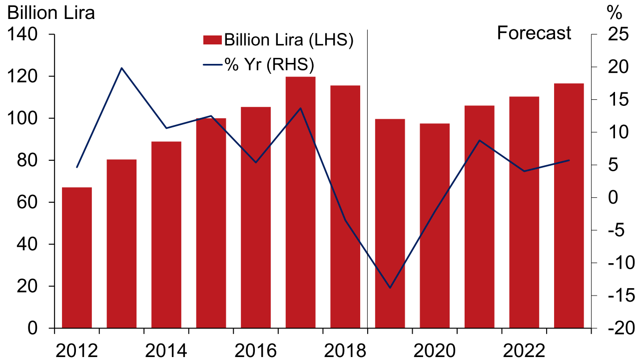
Forecast risks are skewed downward. First, the impact of the coronavirus could be longer-lasting. Also, there are major concerns regarding the banking sector. A slower economy coupled with the relatively weaker Turkish lira has added pressure to the corporate sector's large holdings of US$ denominated debt.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for Turkey

% change

	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (Lira)	14.2	22.0	-13.9	-9.6	9.5	10.8	14.3
Apparent consumption (US$)	-5.4	-7.7	-26.8	-9.6	9.5	10.8	14.3
GDP	7.5	2.8	0.9	-1.4	5.9	4.9	4.2
Industrial production	9.1	1.1	-0.6	-0.2	3.4	2.8	2.9
Investment	13.7	-3.5	-13.8	-2.1	8.8	4.0	5.7

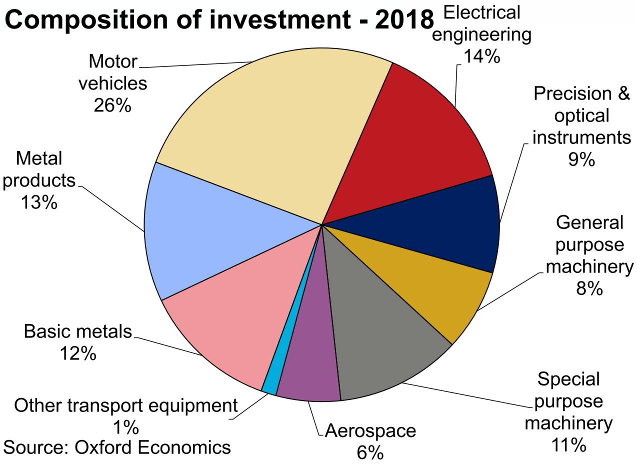
MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 5.68

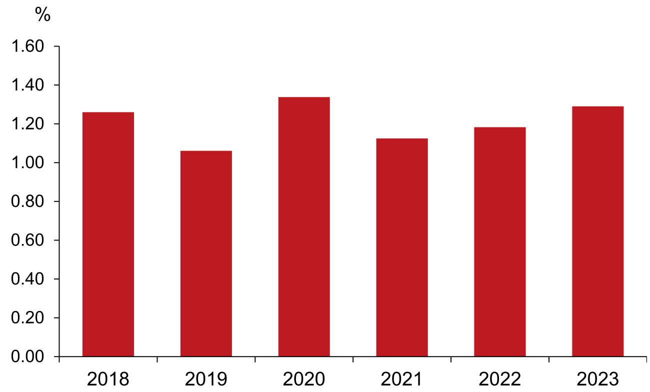
Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Composition of investment - 2018



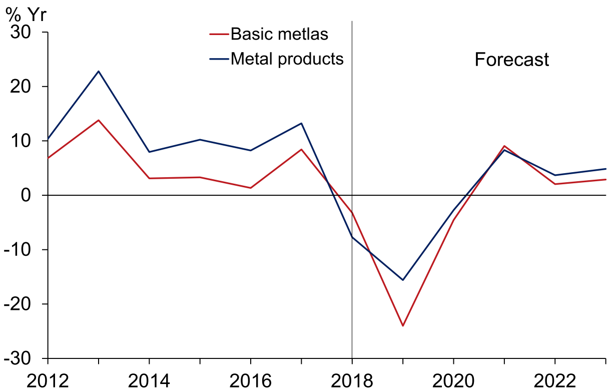
Source: Oxford Economics

Apparent consumption world share



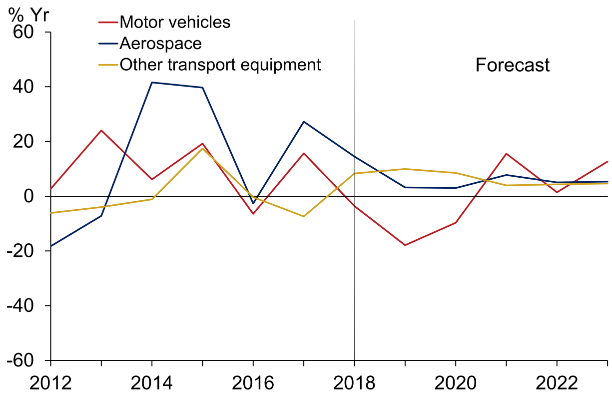
Source: Oxford Economics

Investment



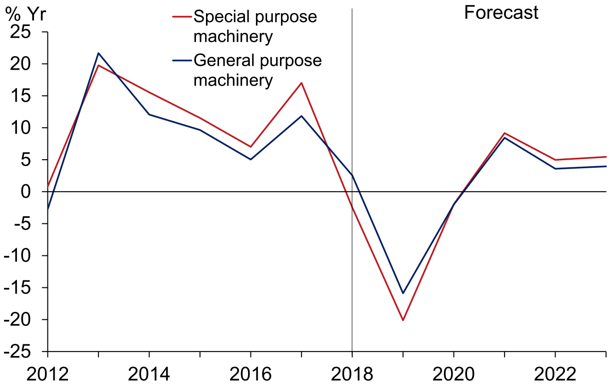
Source: Oxford Economics

Investment



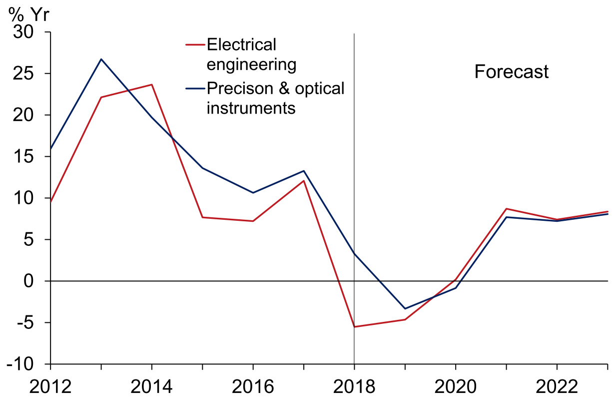
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market
Total investment = weighted sum of investment in the nine key sectors in local currency terms

United Kingdom

Coronavirus disruptions dent MT demand

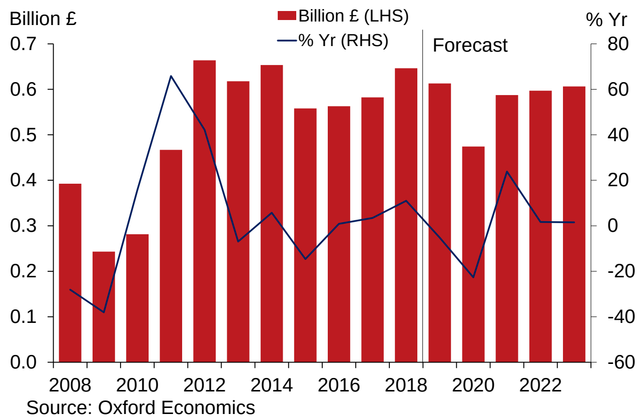
The introduction of social distancing measures to try to slow the spread of coronavirus will cause significant disruption to activity in the short term, leading to a GDP contraction of 5.1% this year. But we expect a strong 6% rebound in 2021 as discretionary spending resumes and is aided by low oil prices and monetary and fiscal stimulus.

Capital spending by the key engineering and motor vehicles sector picked up in Q4 2019, but levels were still down by 5.8% year-on-year, and investment trends are likely to worsen in H1 2020 despite an easing in Brexit concerns. This is corroborated by the weakness in survey data and lower capacity utilisation. Furthermore, the wave of motor vehicle factory shutdowns as a result of the coronavirus outbreak combined with previous announcements, including the closure Ford's Bridgend plant this year, Honda's plant in 2021 and the potential closure of the Ellesmere Port plant, will dent investment ahead. Overall, we expect MT-weighted investment to drop by 7.4% in 2020 before rebounding by 5.1% in 2021.

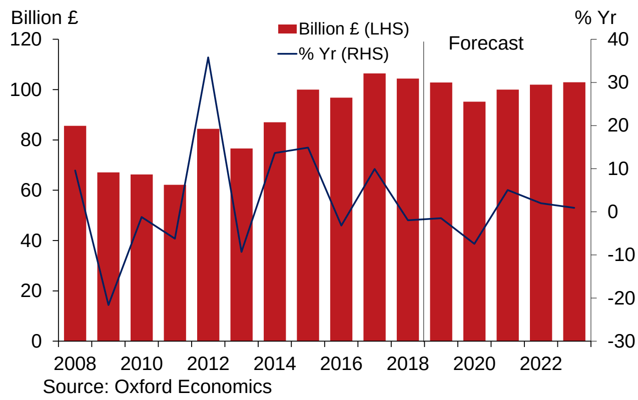
Meanwhile, MT-weighted output is expected to fall by 6.1% in 2020 before increasing by 3.9% in 2021. Motor vehicles production has the worst growth prospects, with production down by a huge 14.3% this year before increasing by 21.1% next year. On balance, we expect MT demand to drop by 22.6% in 2020 and rebound by 23.9% in 2021.

Risks are heavily skewed to the downside. Firstly, coronavirus containment measures could be more longer-lasting than we currently expect. A no-trade-deal Brexit remains a possibility if negotiations with the EU collapse. Both factors would have a significant impact upon MT-weighted investment and, hence, MT consumption over the forecast period.

Apparent consumption



Investment in machine tool purchasing industries



Forecast for UK

% change

	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (£)	3.5	11.0	-5.2	-22.6	23.9	1.7	1.5
Apparent consumption (US$)	-1.6	15.0	-9.3	-22.6	23.9	1.7	1.5
GDP	1.9	1.3	1.4	-5.1	6.0	2.5	1.4
Industrial production	1.7	0.8	-1.4	-8.9	8.0	2.0	-1.0
Investment	9.9	-2.0	-1.5	-7.4	5.1	2.0	0.9

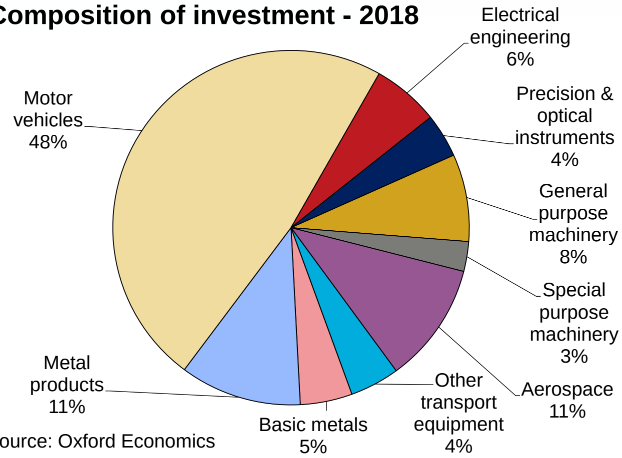
MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

MT growth rates in US$ are calculated using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

2019 exchange rate per US$ = 1.28

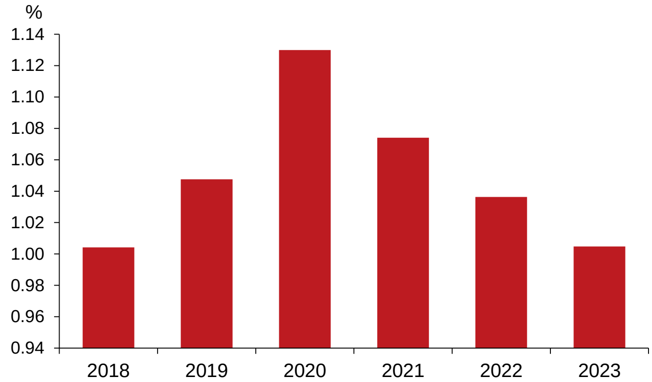
Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Composition of investment - 2018



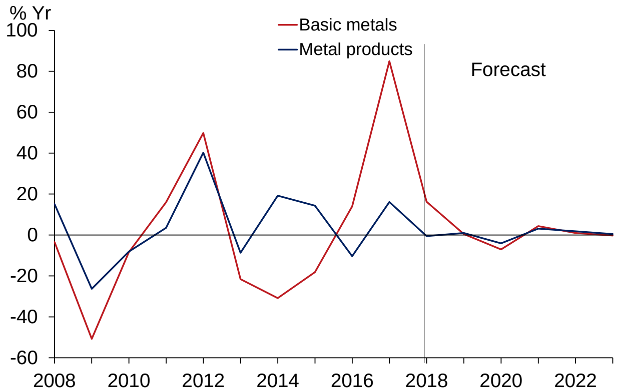
Source: Oxford Economics

Apparent consumption world share



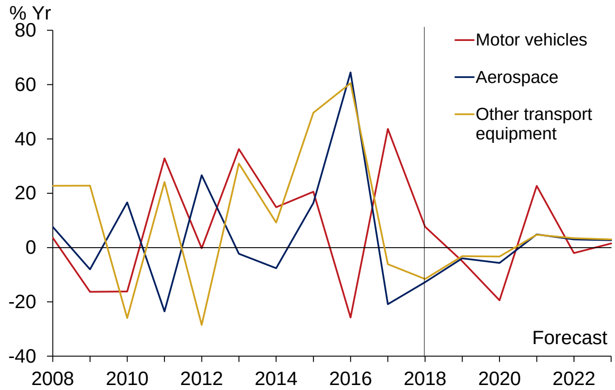
Source: Oxford Economics

Investment



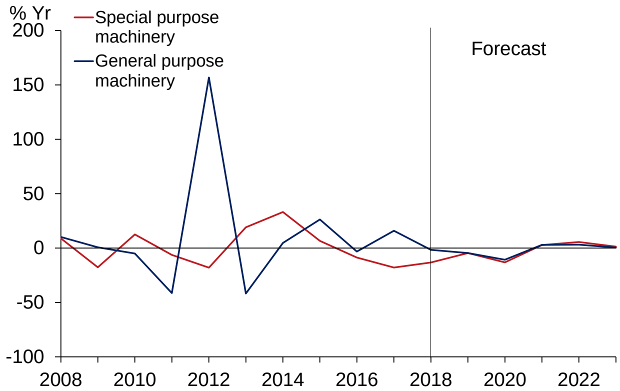
Source: Oxford Economics

Investment



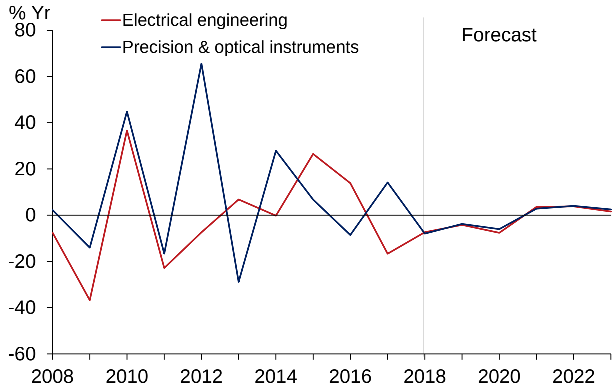
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

OXFORD ECONOMICS

United States

MT demand to drop at double-digit pace

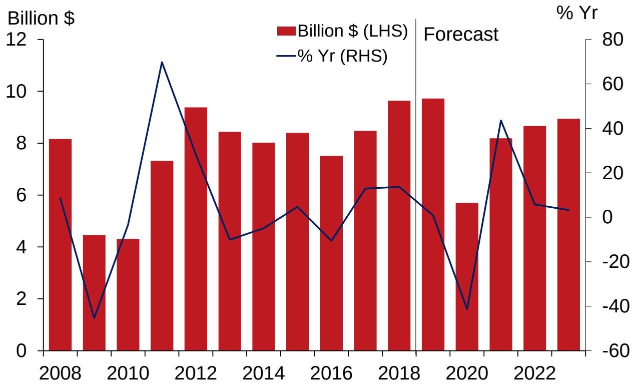
The US economy is in a recession. The coronavirus pandemic will lead to profound, pervasive, and persistent, but not permanent reductions in activity, with widespread cuts in discretionary and social spending, severe disruptions to supply chains, and a major interruption in travel activity. Factoring in the ongoing financial market stress and depressed oil prices, we now expect real GDP will contract 4.1% in 2020 before rebounding by 7.7% in 2021.

Coronavirus-induced supply chain disruptions, weaker energy activity, a strong dollar and Boeing's woes mean that production among the key MT consuming sectors is expected to fall by a considerable 3.8% this year, before recovering by 7.3% in 2021. Of the nine MT purchasing industries, motor vehicles production is expected to see the sharpest contraction this year, as a number of firms, such as GM, Fiat Chrysler and Ford, have shutdown their plants to help contain the virus. Aerospace output is also expected to see a considerable fall while manufacturers in the Boeing supply chain face the ongoing risk that the 737 MAX will not return to production for some time.

US machine tool orders were down by 19% in Q4 2019, while the latest data for January showed that year-on-year growth worsened with orders down 34%. Steep falls are expected during H1 2020 due to the coronavirus-impact. Meanwhile, MT-weighted investment is expected to drop by 2.2% this year before rebounding by 4.6% next year. Overall, we expect MT demand to plunge by 41.3% in 2020 before recovering by 43.6% in 2021 as isolation policies are eased in the second half of this year.

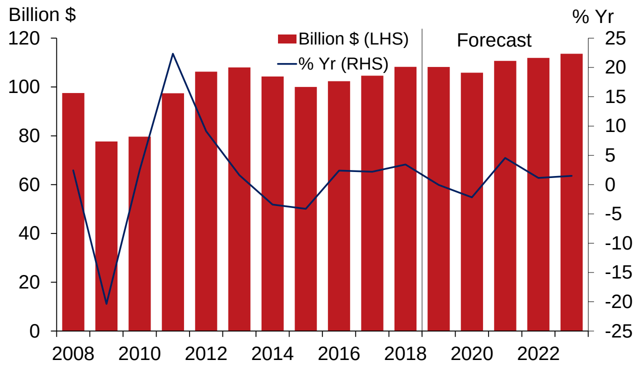
Risks are clearly to the downside. The relationship with China remains fragile as both parties wait to see if the other adheres to the phase-one agreement. There is also a risk of extended supply-chain disruptions if isolation policies remain in place for longer than we expect. Both would have a considerable impact on MT demand.

Apparent consumption



Source: Oxford Economics

Investment in machine tool purchasing industries



Source: Oxford Economics

Forecast for US

% change

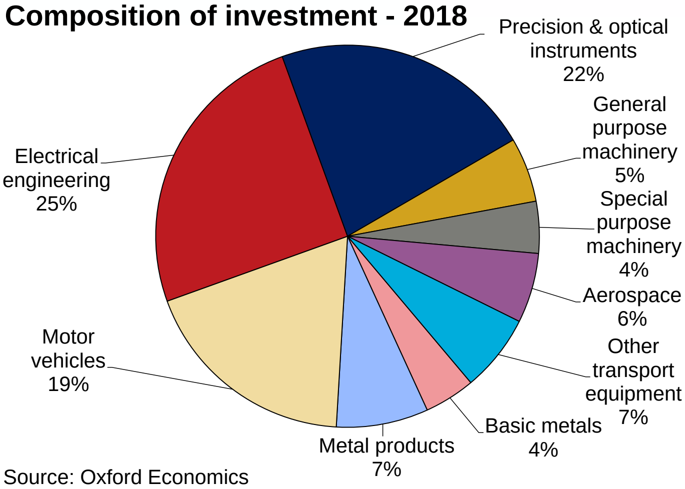
	2017	2018	2019	2020	2021	2022	2023
Apparent consumption (US$)	12.9	13.7	0.9	-41.3	43.6	5.8	3.3
GDP	2.4	2.9	2.3	-4.1	7.7	1.6	1.6
Industrial production	2.3	4.0	0.9	-7.7	8.2	3.5	1.5
Investment	2.2	3.4	0.0	-2.2	4.6	1.1	1.5

MT growth rates in local currency are in current prices. GDP and industrial production growth rates are constant price local currency terms

Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

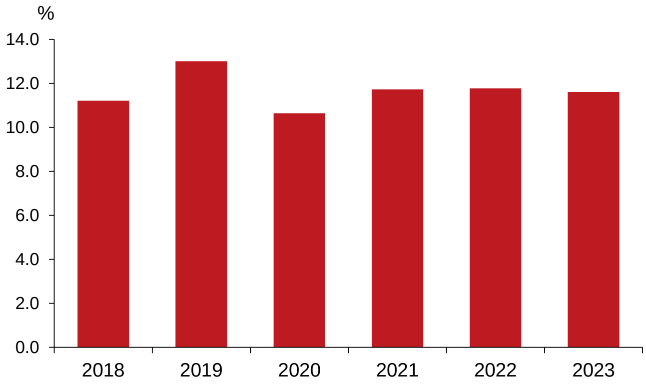
OXFORD ECONOMICS

Composition of investment - 2018



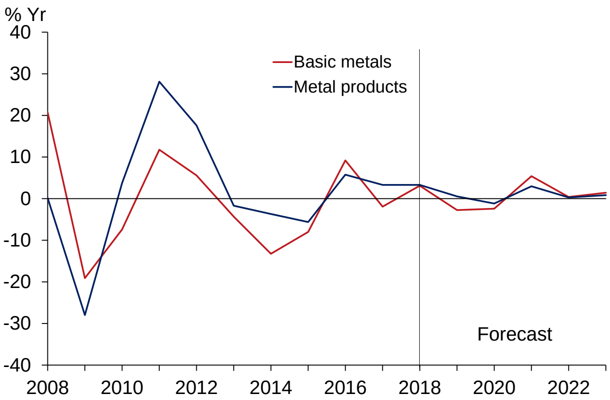
Source: Oxford Economics

Apparent consumption world share



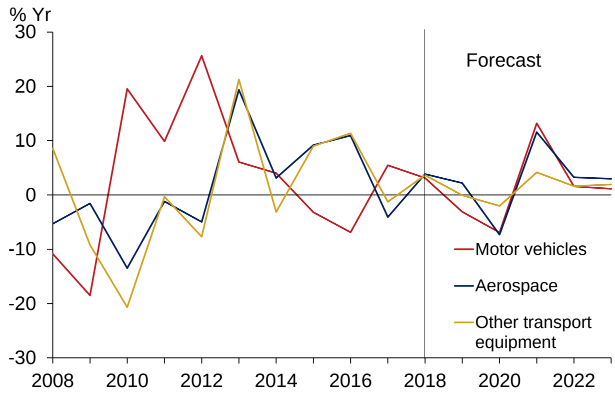
Source: Oxford Economics

Investment



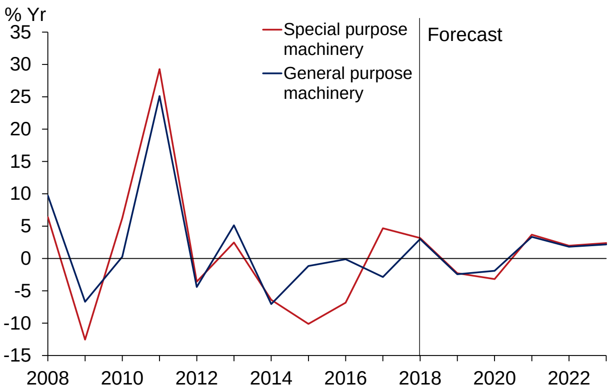
Source: Oxford Economics

Investment



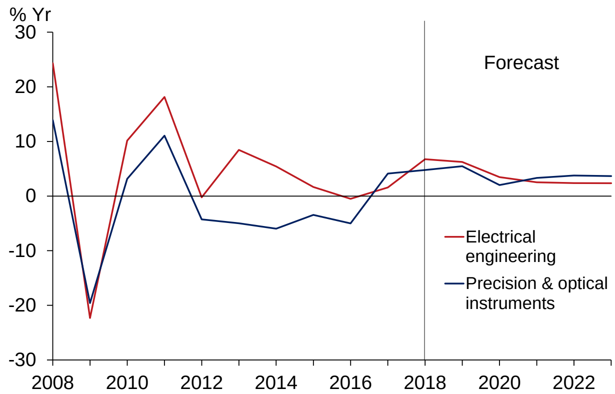
Source: Oxford Economics

Investment



Source: Oxford Economics

Investment



Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = weighted sum of investment in the nine key sectors in local currency terms

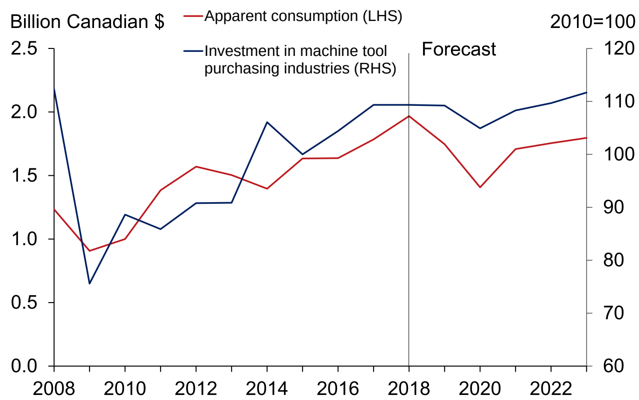
Smaller markets

Canada

Canada is in the midst of a severe recession. The economy has virtually shut down, paralysed by measures to contain the coronavirus pandemic, free-falling financial markets, plunging oil prices and plummeting confidence. We expect GDP to fall by 6.5% in 2020 before recovering by 9.2% in 2021. Furthermore, we are in uncharted and rapidly changing territory, with an unusual degree of uncertainty, so the likelihood of future significant downgrades to our outlook is very high.

Domestic new orders for machine shop products suggest that MT orders growth weakened into 2020. Investment by the MT consuming sectors will decrease by 3.9% in 2020 but it will recover in 2021 by 3.2%. MT consumption is set to fall by 19.4% in 2020 and increase by 21.4% in 2021.

Canada



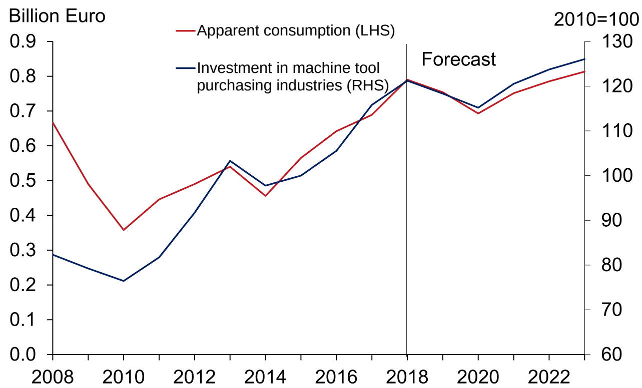
Source: Oxford Economics

Austria

The outlook for the Austrian economy has worsened dramatically as the coronavirus pandemic forces activity to come to a halt. With GDP growth having already shifted down a gear in 2019 to just 1.5%, we now expect a fall in 2020 as social gatherings are banned and borders and schools are closed. But we expect the effect to be temporary, with growth seen recovering later in H2 2020 and into 2021. For 2020, we now see GDP falling 5.6%, but with 6.8% growth forecast for 2021.

MT-weighted investment is expected to fall by 2.7% this year before recovering to 4.6% growth in 2021. Overall, weak orders and downgrades to MT-weighted investment suggest that MT consumption will fall by 8.1% in 2020 before rebounding by 8.4% in 2021.

Austria



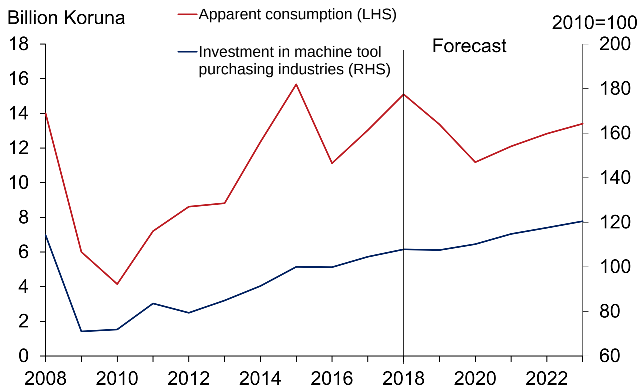
Source: Oxford Economics

Czech Republic

The widespread impact of the coronavirus and associated containment measures across the region has led us to revise down our forecasts and we now expect GDP to fall by 1.7% in 2020. The shock is likely to hit all parts of the economy as some sectors contract sharply. We see the recovery continuing in 2021, with growth now forecast at 5.3% as containment measures are eased once the outbreak is under control.

Weak domestic orders growth at the end of 2019 combined with relatively slow MT-weighted investment growth means that we expect MT consumption to fall by 16.3% in 2020 before increasing by 8.2% in 2021.

Czech



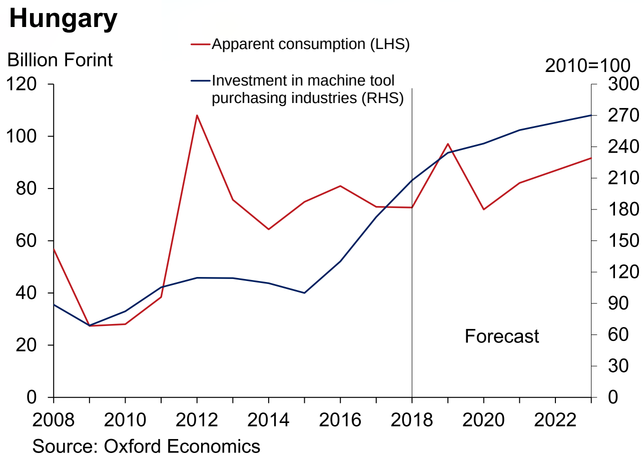
Source: Oxford Economics

Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = spending on all assets by the nine primary machine tool purchasing industries

Hungary

Despite a strong end to 2019, the Hungarian economy is undoubtedly going to be heavily affected by the disruption and travel bans associated with the coronavirus. This is expected to reduce growth sharply this year, although we still anticipate a strong bounce back in activity once social distancing measures are relaxed. We now forecast GDP will fall sharply by 3.1% this year before recovering to grow by 7.5% in 2021.

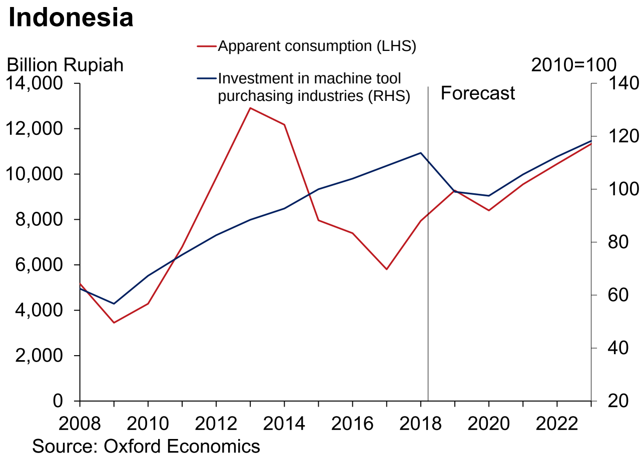
On balance, weak orders and imports momentum towards the end of 2019, alongside headwinds to investment, such as coronavirus-related uncertainty and lower EU funding, point to near-term weakness in MT consumption. We expect MT demand to drop by 25.9% in 2020 before rebounding by 14.1% in 2021.



Indonesia

The coronavirus outbreak will not only reduce external demand but also cause a sharp fall in domestic demand in Q2. Given fiscal stimulus packages and subdued revenue prospects, we expect the fiscal deficit to widen considerably. While the recent steep depreciation in the rupiah raises concerns about the room for further monetary policy support, we still expect a loosening. We expect GDP growth to slow to 0% in 2020 before recovering to 9% in 2021.

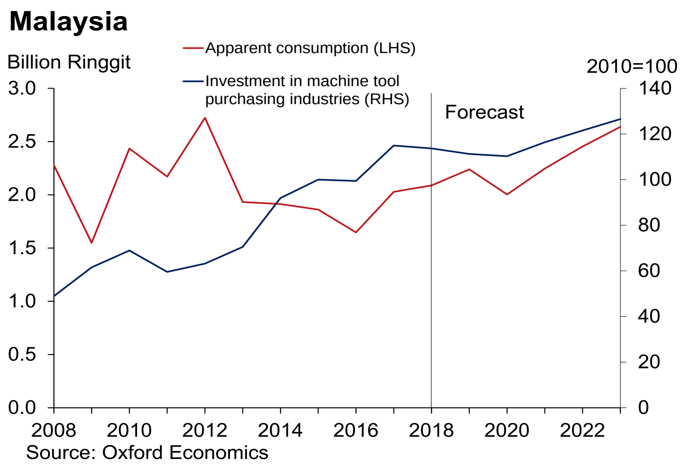
However, weighted investment growth by the main MT consuming sectors is expected to dip by 1.5% in 2020, before picking up to 8.3% growth in 2021. As a result, we expect MT consumption to follow a similar path with MT demand down by 9.5% in 2020, before rising 13.7% in 2021.



Malaysia

The sharp deterioration in the global economy as well as the partial domestic lockdown measures implemented to dampen the transmission of the coronavirus mean that we expect GDP to fall by 2.5% in 2020. We expect containment measures to be eased in H2 2020 while the upturn will be supported by looser monetary and fiscal policy, pointing to a rebound to 7.2% in 2021.

Given the increasingly weak outlook for this year, investment by important MT consuming sectors is set to fall by 0.9% in 2020 before picking up by 5.5% in 2021. As a result, we expect MT demand to fall by 10.5% in 2020 before rebounding by 12.1% in 2021.



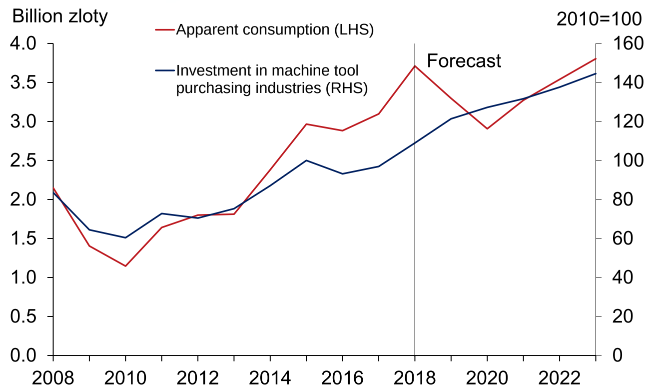
Apparent consumption = total consumption of machine tools in the named market. For consumption levels in $, please see appendix
Total investment = spending on all assets by the nine primary machine tool purchasing industries

Poland

The introduction of severe containment measures to counter the spread of coronavirus will cause a significant disruption to economic activity in H1. We expect the economy to contract sharply in both Q1 and Q2, followed by a strong recovery later in H2. As a result, we expect GDP growth to fall by 1.7% in 2020 before picking back up to 5.2% in 2021.

Weighted investment growth by the main MT consuming sectors is expected to fall to 4.8% in 2020 and grow by 3.5% in 2021, after experiencing double-digit growth for the past two years. As a result of the weak investment trends, we expect MT consumption to fall by a further 11.9% in 2020 before increasing by 12.6% in 2021.

Poland



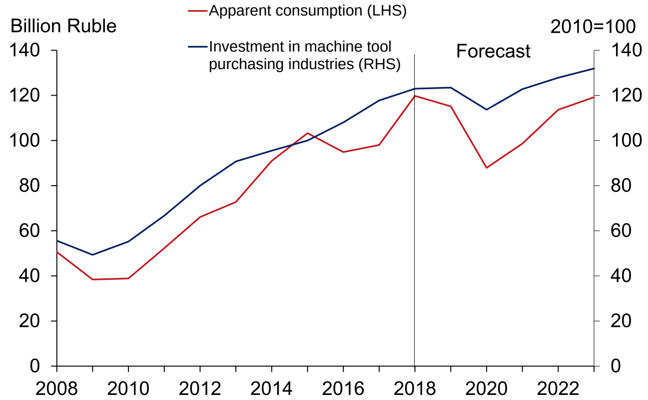
Source: Oxford Economics

Russia

As Russia enters a period of lockdown to curb the spread of coronavirus, albeit later than most other countries in Europe, activity is set to plunge in April-May, before recovering gradually throughout the rest of the year. Social distancing measures will take the heaviest toll on consumption, while investment will suffer from lower oil prices and a deterioration in sentiment, and exports will weaken in the face of lower global demand. We now see GDP contracting by 6.4% in 2020 with a rebound of 6.8% expected in 2021.

Meanwhile, weighted investment by key MT consuming sectors is set to fall by 7.9% in 2020 before increasing by 8% in 2021. MT consumption is expected to fall by a further 23.7% in 2020 before expanding by 12.2% in 2021.

Russia



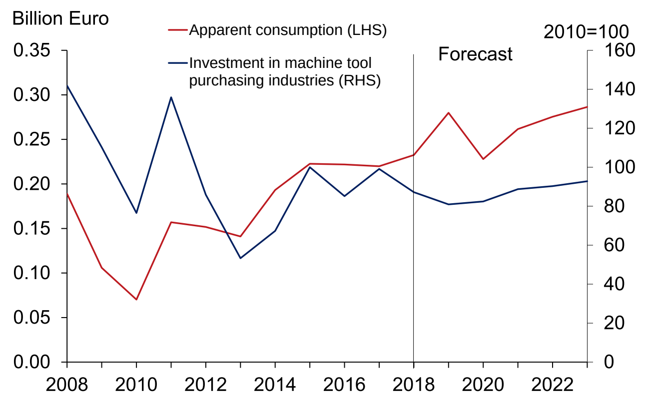
Source: Oxford Economics

Slovakia

We now see GDP declining by 1.9% this year as the coronavirus outbreak in China spreads to the rest of the world and associated isolation policies are put into place to contain the spread in the region. This is expected to have a notable impact upon the manufacturing sector and production among the key MT consuming segments.

At the same time, MT-weighted investment is to expand by a relatively modest 1.8% in 2020 and grow by 7.7% in 2021. On balance, we forecast MT demand will fall by 18.6% in 2020, although this is partly due to an exceptionally strong 2019, before rebounding by 14.8% in 2021.

Slovakia



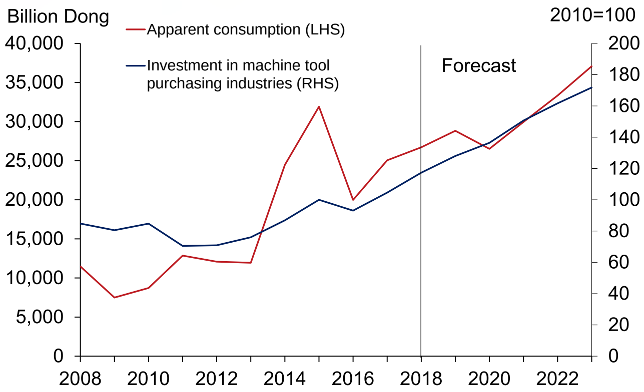
Source: Oxford Economics

Vietnam

We expect GDP growth to expand by just 1.9% in 2020 amid weaker mining and agriculture production, and the coronavirus outbreak depressing growth, particularly in tourism and retail spending. Supply disruptions will also weigh on industrial production and exports. Although it is highly uncertain as to when the coronavirus outbreak will be contained, we expect most of the economic impact to be felt in Q1 2020, with a solid recovery in economic growth in H2, and, as a result, we predict growth of 8.4% in 2021.

Investment by the major MT purchasing sectors is forecast to increase by 6.6% in 2020, slowing from 2019, before accelerating to 10.5% growth in 2021. Overall, MT demand is forecast to fall by 8% in 2020, before returning to double-digit growth in 2021 at the rate of 13%.

Vietnam



Source: Oxford Economics

Apparent consumption (% change unless specified)								
	2017	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**Level in 2018, US$bn**
Canada	9.0	10.3	-11.2	-19.4	21.4	2.7	2.4	1.5
Austria	7.3	14.7	-4.6	-8.1	8.4	4.5	3.6	0.9
Czech Republic	17.2	15.9	-11.5	-16.3	8.2	6.0	4.5	0.7
Hungary	-9.9	-0.4	33.5	-25.9	14.1	5.8	5.5	0.3
Poland	7.4	19.8	-11.2	-11.9	12.6	8.1	7.5	1.0
Russia	3.3	22.2	-3.9	-23.7	12.2	15.2	4.9	1.9
Slovakia	-0.9	5.7	20.4	-18.6	14.8	5.3	4.0	0.3
Indonesia	-21.5	36.8	16.9	-9.5	13.7	9.4	8.5	0.6
Malaysia	23.1	3.0	7.2	-10.5	12.1	9.2	7.5	0.5
Vietnam	25.4	6.6	7.9	-8.0	13.0	11.3	11.2	1.2

MT growth rates in local currency are in current prices

April
2020

Industrial Background

Forecasts finalised on 27th March

OXFORD ECONOMICS

Aerospace

Production can weather coronavirus storm if airlines stay afloat

The aerospace industry is highly concentrated in the developed world—the US, Canada, Western Europe and Japan account for 90% of global production, with China, Brazil and Russia adding just over 5%.

Aerospace output has struggled since the grounding of the 737 MAX fleet, and further delays in testing and certifying mean that Boeing has implanted production cuts. The coronavirus has added to that weakness, and we now expect global aerospace output to fall by more than 4% in 2020.

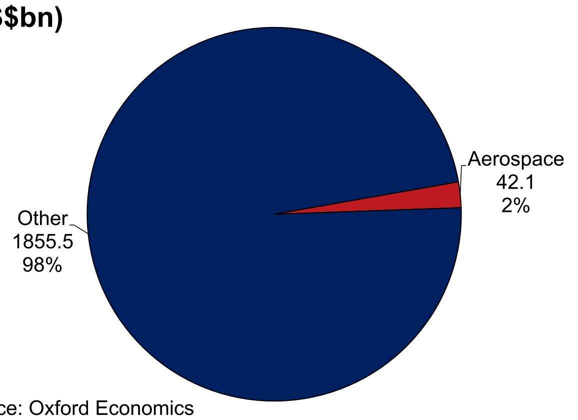
The main reason for the pullback is supply-driven: firms across many sectors, including aerospace, are drastically reducing production as containment measures restrict the ability of employees to work and disrupt supply chains. We expect these containment measures to be lifted by the end of Q2, leading to a resumption of fairly strong growth and a recovery to pre-pandemic levels by early 2021.

Air traffic has plummeted in the wake of coronavirus-related travel restrictions, dramatically increasing the financial stress on the airline industry. It is vitally important that governments step in to provide loans and financial support to help them weather the pandemic so as to minimise order cancellations. Even with some cancellations, the backlog of aircraft orders remains large, so that production will resume in earnest as soon as containment measures are lifted.

The financial pressures in the airline industry mean that near-term aerospace investment is likely to be hit much harder than production in the near term, as cost-cutting measures hit capital budgets hard. We expect this to be concentrated in the US, with an expected 6.4% decline for North America this year – frontloaded into Q2 and Q3.

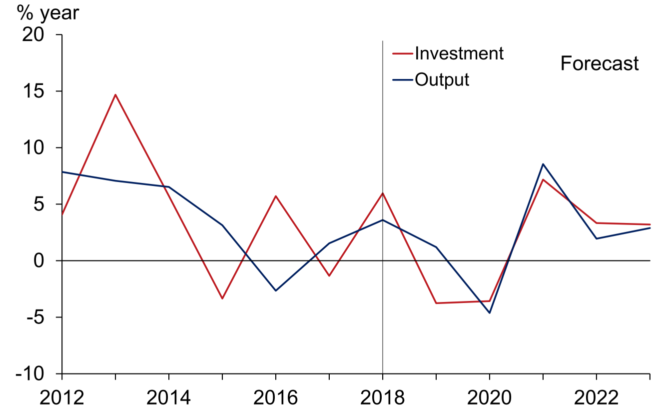
Risks are heavily skewed to the downside. One possibility is that government support of airlines is insufficient to prevent bankruptcies of a number of airlines, which would cascade into aircraft order cancellations numerous enough to reduce future production. An extension of containment measures beyond Q2 2020 could reduce employment and incomes enough to tip the global economy into a protracted recession, which could mean that the bounceback in air travel incorporated into our current forecasts would not materialise until well into 2021. Also, business air travel demand could be reduced in the medium term as firms decide to make greater use of video conferencing, which would impact airline profits and aircraft demand and, hence, MT consumption.

World: Investment by MT-buying sectors, 2018 (US$bn)



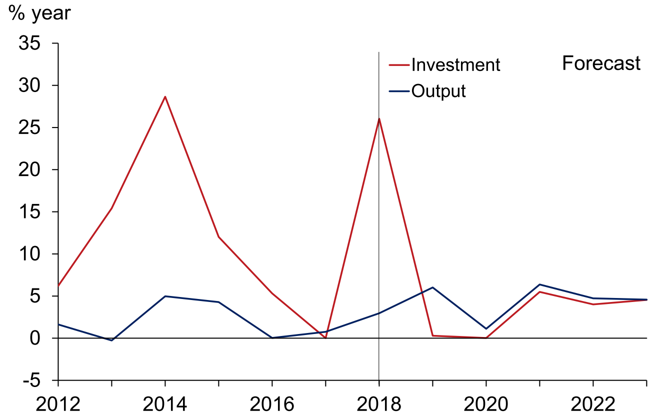
Source: Oxford Economics

World: Aerospace output & investment



Source: Oxford Economics

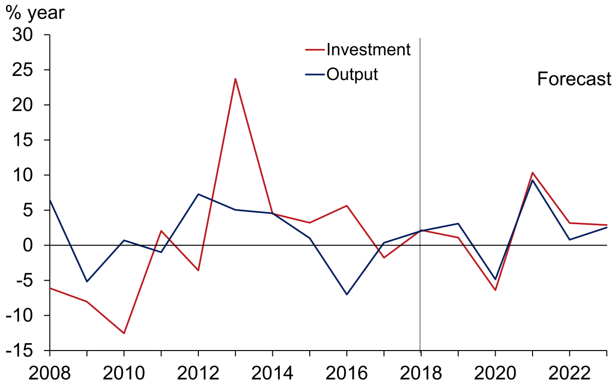
Asia: Aerospace output & investment



Source: Oxford Economics

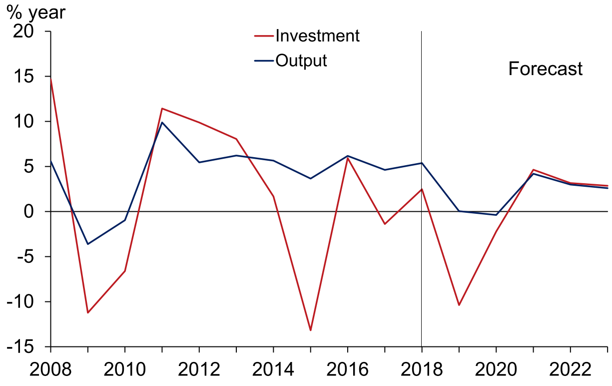
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Americas: Aerospace output & investment



Source: Oxford Economics

Europe: Aerospace output & investment



Source: Oxford Economics

Aerospace investment

(% change unless specified)

	2017	2018	2019	2020	2021	2022	2023	Level in 2018, US$bn
China	0.8	67.5	-9.6	-2.5	9.3	4.3	5.5	3.5
Indonesia	4.8	-4.2	3.8	1.0	6.9	7.3	6.3	0.5
India	16.8	24.4	-10.2	3.4	5.6	6.7	7.2	0.0
Japan	-2.7	5.1	11.2	1.5	2.1	3.0	3.2	3.1
Malaysia	10.2	21.0	-2.9	1.9	3.6	4.1	4.2	0.0
S. Korea	9.3	7.3	-7.4	4.0	6.5	7.3	6.6	0.4
Taiwan	6.0	5.0	17.5	5.9	1.5	0.8	1.1	0.1
Thailand	7.6	2.1	0.2	-4.7	3.9	3.6	3.4	0.0
Vietnam	-46.2	3.9	-5.7	-1.9	7.3	4.6	4.6	0.0
Asia	**0.0**	**26.0**	**0.3**	**0.0**	**5.5**	**4.0**	**4.5**	**7.7**
Brazil	-1.6	-12.7	-14.6	-2.2	3.4	4.5	4.9	0.2
Canada	31.8	-13.3	-13.2	4.5	1.4	1.4	1.2	1.2
Mexico	-2.8	1.3	6.5	-2.9	-1.4	4.1	3.1	0.6
US	-4.1	3.9	2.2	-7.3	11.6	3.2	3.0	15.2
Americas	**-1.8**	**2.2**	**1.1**	**-6.4**	**10.3**	**3.2**	**2.9**	**17.2**
Austria	13.4	7.6	-13.2	4.0	2.7	2.4	1.7	0.2
Czech Republic	-4.7	-2.5	-18.2	2.6	1.3	3.3	3.6	0.1
France	5.6	11.2	-4.7	-0.3	3.3	2.4	2.7	6.5
Germany	-6.6	2.4	3.2	3.2	3.8	3.5	2.9	2.1
Hungary	50.0	40.9	17.0	6.2	5.3	4.7	3.6	0.0
Italy	1.7	13.7	-6.0	-3.2	6.9	3.0	2.1	2.6
Poland	13.9	17.3	14.5	7.8	4.2	6.1	5.4	0.1
Russia	23.1	-14.6	-63.3	-34.6	5.3	5.7	5.2	1.7
Slovakia	70.4	-12.9	-14.8	7.9	0.0	3.9	4.2	0.0
Spain	3.5	8.6	-10.8	5.6	1.9	3.3	3.7	0.1
Switzerland	5.2	4.5	-1.2	-4.4	10.9	6.1	1.7	0.5
Turkey	5.4	-13.4	-12.3	3.0	7.7	5.1	5.3	0.8
UK	-24.7	-9.6	-8.2	-5.7	4.8	3.0	2.7	2.6
Europe	**-1.4**	**2.5**	**-10.4**	**-2.2**	**4.6**	**3.2**	**2.9**	**17.3**
World	**-1.3**	**6.0**	**-3.8**	**-3.6**	**7.2**	**3.3**	**3.2**	**42.1**

All growth rates are calculated based on dollar values using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

Basic Metals

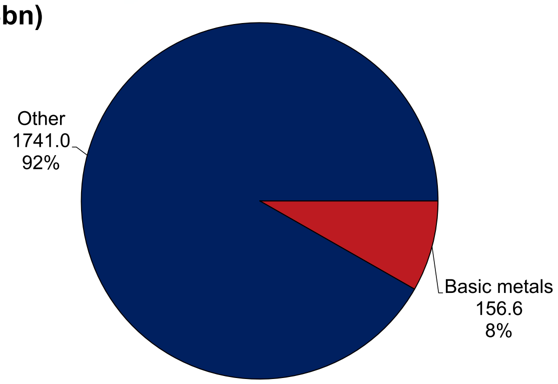
Coronavirus hits downstream demand

Basic metals production is forecast to fall by 2.6% this year. A combination of a turning in the investment cycle, muted global trade, rebalancing in China as well as more recent supply chain disruptions due to the spread of coronavirus are to blame for this dire outlook. While we are expecting a sharp slowdown in China this year, developed world output is also set to decline which will exert a drag on the global number.

Production in the eurozone is set to fall by 6.9% this year as declines in manufacturing sentiment weigh on the end-use demand outlook. Uncertainty related to Brexit and, in particular, the impact of the coronavirus has weighed on buying activity. In the US, we expect production to contract in 2020 for the second consecutive year. This will be largely driven by the impact of the coronavirus compounding slower investment spending and tighter corporate profits. Growth should rebound from 2021 as underlying demand growth picks up. Japanese production is set to decline further this year on the back of the coronavirus-induced impact on supply chains, renewed external weakness, lacklustre domestic demand and high stock levels at the start of the year. Chinese production rose at a solid pace through the end of last year and start of 2020. Indeed, production continued through the Chinese New Year. However, with underlying demand curtailed by coronavirus-related disruptions, we expect basic metals production growth to also slow.

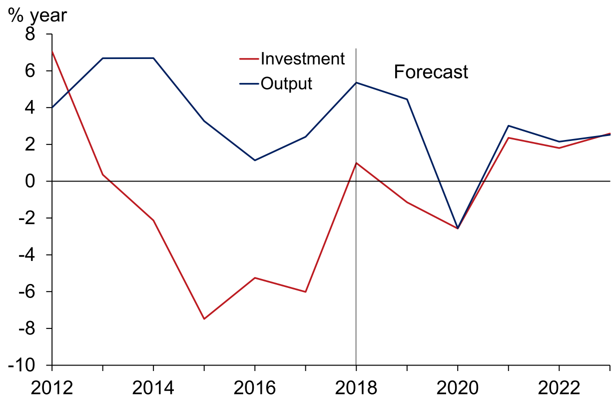
World investment is forecast to decline by 2.6% in 2020, the second consecutive year of annual decline. The steepest decline is expected to be in Europe, where isolation policies have been severe compounding weak output trends and ongoing Brexit-related uncertainty, although this has eased somewhat. Investment in the Americas is also projected to contract this year by 4.5%, also reflecting the coronavirus-impact as well as a turning in the investment cycle, most notably in the US. Asian investment is also expected to decline this year. In China, the lacklustre outlook for production, compounded by the spread of coronavirus in combination along with a muted outlook for investment more generally has resulted in a forecast decline in investment there. Developed countries in the region such as Japan and Korea are also expected to see investment spending contract this year. However, we are expecting investment to grow in other Asian countries, such as India and Vietnam, but at slower rates compared to last year.

World: Investment by MT-buying sectors, 2018 (US$bn)



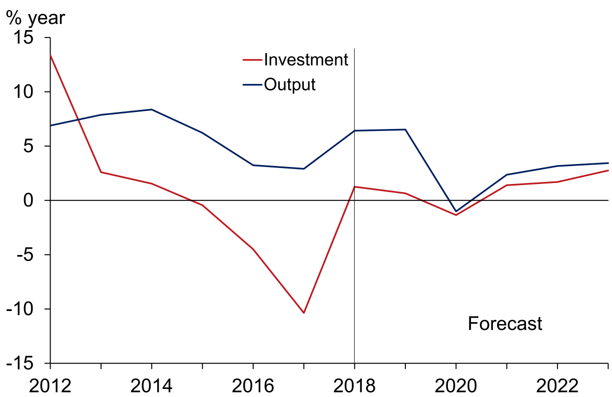
Source: Oxford Economics

World: Basic metal output & investment



Source: Oxford Economics

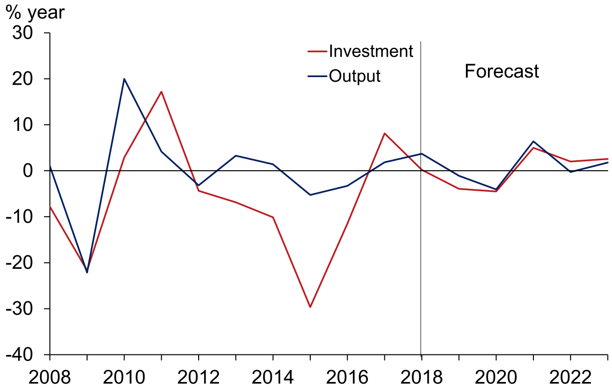
Asia: Basic metal output & investment



Source: Oxford Economics

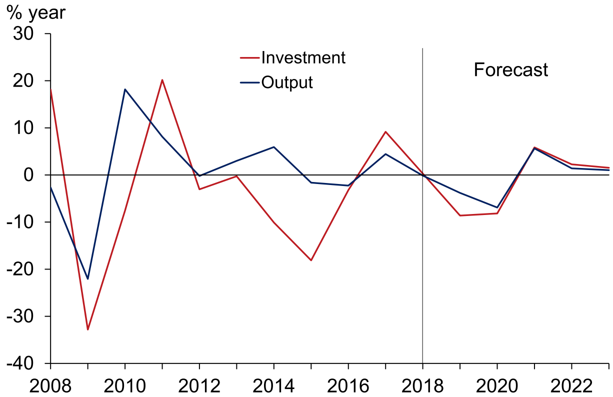
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Americas: Basic metal output & investment



Source: Oxford Economics

Europe: Basic metal output & investment



Source: Oxford Economics

Basic metals investment

(% change unless specified)

	2017	2018	2019	2020	2021	2022	2023	Level in 2018, US$bn
China	-22.0	3.5	3.1	-2.0	-0.8	-0.6	0.6	61.0
Indonesia	5.7	8.7	-4.4	3.7	6.0	5.8	6.4	2.2
India	-6.4	3.9	8.1	7.1	5.9	7.1	8.7	16.1
Japan	17.3	-4.8	-5.0	-7.7	1.7	0.7	1.0	19.2
Malaysia	10.0	2.6	-4.9	-0.5	3.8	3.7	3.5	0.3
S. Korea	7.7	-5.2	-13.0	-2.1	2.8	4.1	4.9	12.5
Taiwan	2.7	-3.1	-8.5	-2.8	2.1	0.7	0.8	1.8
Thailand	7.2	6.5	6.1	-13.7	5.7	4.0	4.0	1.1
Vietnam	48.0	24.0	28.4	14.4	9.6	7.6	6.0	1.3
Asia	**-10.4**	**1.3**	**0.7**	**-1.4**	**1.4**	**1.7**	**2.8**	**115.5**
Brazil	12.5	-8.1	-8.1	-8.1	8.0	6.7	6.3	4.9
Canada	21.2	9.0	-5.5	-3.7	3.6	1.7	2.0	2.9
Mexico	43.6	-4.3	1.1	-8.1	-0.9	0.9	0.9	2.3
US	-1.9	3.1	-2.8	-2.4	5.4	0.4	1.4	11.0
Americas	**8.1**	**0.2**	**-3.9**	**-4.5**	**5.0**	**2.0**	**2.6**	**21.2**
Austria	-3.7	2.9	-10.1	-4.5	3.4	1.9	1.0	1.4
Czech Republic	-13.6	10.0	-8.0	-1.1	1.5	1.7	1.6	0.4
France	2.5	3.8	-7.0	-3.9	3.6	1.3	0.4	1.3
Germany	3.3	8.8	-6.4	-5.4	4.3	0.7	0.0	4.4
Hungary	55.9	15.0	1.3	-3.1	6.2	2.0	2.0	0.4
Italy	-0.1	4.5	-12.3	-9.8	14.1	1.1	0.4	1.9
Poland	23.2	11.6	-4.4	1.1	3.1	2.3	2.5	1.0
Russia	25.3	-6.5	-1.1	-17.3	6.5	5.3	3.9	4.9
Slovakia	23.7	8.8	-14.9	-1.4	4.7	-0.7	1.2	0.5
Spain	6.8	12.6	-16.4	-0.2	1.7	1.5	0.8	0.7
Switzerland	2.9	-1.0	-8.3	-8.7	9.9	4.3	-1.1	0.3
Turkey	-10.2	-26.8	-35.4	-4.6	9.1	2.0	2.9	1.7
UK	75.9	20.5	-3.9	-7.0	4.3	0.9	-0.3	1.1
Europe	**9.2**	**0.3**	**-8.6**	**-8.2**	**5.8**	**2.3**	**1.5**	**19.9**
World	**-6.0**	**1.0**	**-1.1**	**-2.6**	**2.4**	**1.8**	**2.6**	**156.6**

All growth rates are calculated based on dollar values using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

Total investment = weighted sum of investment in the nine key sectors in local currency terms

Electrical Engineering

Activity poised for strong rebound when coronavirus pandemic subsides

This diverse sector accounts for more than one-quarter of total investment by MT-buying sectors and includes manufacturers of a diverse array of products ranging from electronics equipment to generators, electrical wiring and fixtures.

The electronics segment is particularly vulnerable to production disruptions from the coronavirus. China is an important hub in global electronics supply chains, and a reliance on just-in-time manufacturing techniques means that substitutability is limited in the short-term. This was causing production difficulties, especially in Asia, even before the spread of the pandemic worldwide.

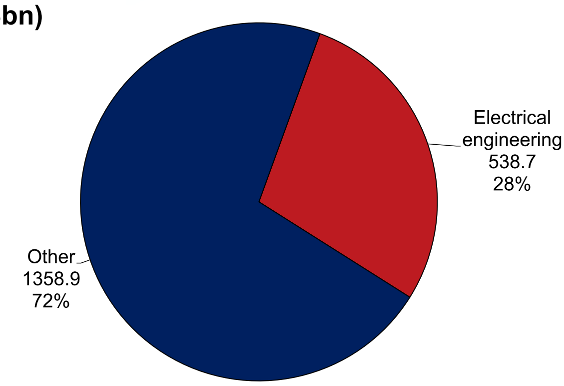
The electrical equipment segment will also see sharp declines in the first half of 2020, but there will be some factors that might mitigate the damage. Construction, which is a heavy user of electrical equipment, has generally not yet been subject to the stringent lockdowns that have curtailed industrial activity in many other sectors. This will provide modest support to demand – but financial stress means that cutbacks to investment spending will be considerable.

On the assumption that lockdowns are fully lifted by the end of 2020 Q2, we expect a robust rebound in sector output, as firms ramp up production lines to meet pent-up demand. It is also important to remember that underlying market conditions in industry were improving prior to the pandemic, so the strong growth is likely to continue well into 2021. This is also supported by a strong cyclical rebound in semiconductor demand driven in part by extensive investment in 5G technology and strong investment in data centres.

Of course, there are heavy downside risks should the lockdowns spread to a larger number of sectors and countries or continue into the second half of the year. This would mean several more quarters of declining output and investment, but would set the stage for an even stronger, albeit delayed, recovery.

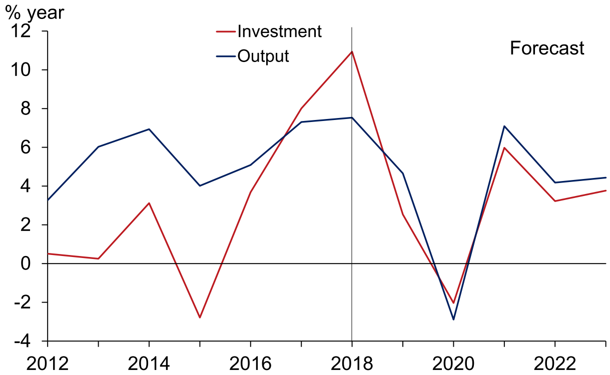
The longer-term global outlook is generally more upbeat than for other machine tool using sectors. A move towards the "internet of things", whereby a growing number of devices and machines are connected to the internet, will require firms to invest in components and sensors, along with upgrades to existing electrical equipment. While this process will be gradual, it will be enough to drive global sector investment growth of above 3% into the medium term.

World: Investment by MT-buying sectors, 2018 (US$bn)



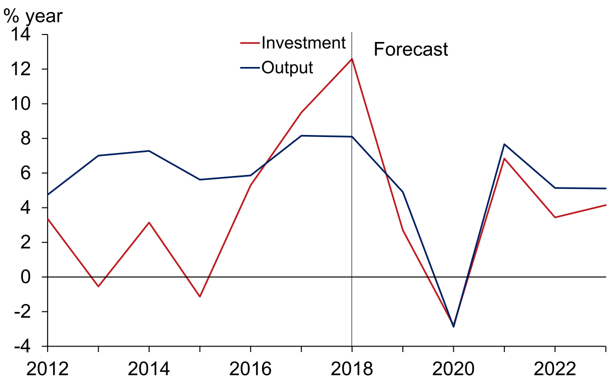
Source: Oxford Economics

World: Electrical engineering output & investment



Source: Oxford Economics

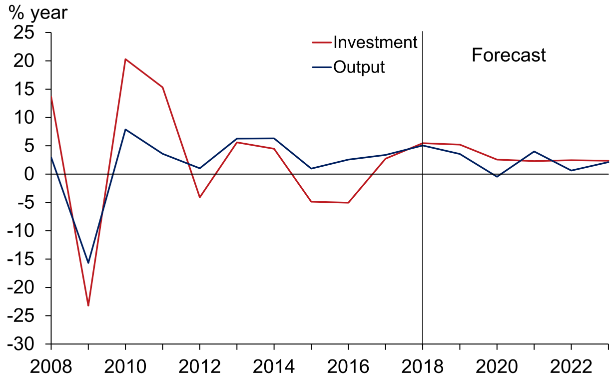
Asia: Electrical engineering output & investment



Source: Oxford Economics

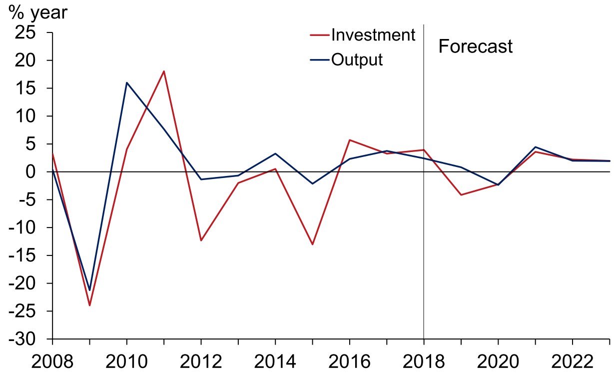
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Americas: Electrical engineering output & investment



Source: Oxford Economics

Europe: Electrical engineering output & investment



Source: Oxford Economics

Electrical engineering investment
(% change unless specified)

	2017	2018	2019	2020	2021	2022	2023	Level in 2018, US$bn
China	15.1	18.6	3.5	-5.2	7.9	3.0	4.6	228.4
Indonesia	-1.8	-23.6	-4.3	-4.6	12.0	9.1	7.0	9.7
India	6.3	14.3	-3.3	-2.1	5.6	7.4	8.4	5.1
Japan	-2.2	9.2	-0.9	-1.3	2.5	2.9	3.0	74.2
Malaysia	16.6	7.0	-5.6	-4.2	10.1	6.7	5.9	3.5
S. Korea	12.3	10.7	-6.9	0.0	6.9	5.5	5.5	39.9
Taiwan	8.3	4.8	13.3	3.6	7.6	2.2	1.9	47.6
Thailand	13.0	10.4	6.9	-3.0	5.9	5.2	3.1	17.0
Vietnam	-11.5	10.3	6.0	7.6	8.1	7.8	8.3	3.8
Asia	**9.5**	**12.6**	**2.7**	**-2.8**	**6.8**	**3.4**	**4.1**	**429.2**
Brazil	12.4	-9.4	-9.3	-2.9	6.6	7.3	5.8	1.5
Canada	0.8	6.8	-6.8	-5.5	0.4	1.0	1.1	0.5
Mexico	16.0	-5.8	-3.6	-9.2	-3.0	2.2	1.2	4.5
US	1.6	6.8	6.2	3.5	2.5	2.4	2.4	64.3
Americas	**2.7**	**5.5**	**5.2**	**2.6**	**2.3**	**2.5**	**2.4**	**70.7**
Austria	5.8	6.8	-7.1	-1.8	2.4	2.5	2.0	2.8
Czech Republic	-2.4	0.9	-4.2	3.8	3.7	4.0	4.0	1.4
France	4.0	5.7	0.4	-2.8	1.0	0.6	1.2	7.4
Germany	3.8	9.0	-3.3	-1.4	2.7	1.5	1.4	13.2
Hungary	25.4	19.6	11.5	7.1	2.6	2.6	2.3	1.0
Italy	2.8	5.7	-11.3	-8.8	8.4	1.8	1.4	4.2
Poland	9.5	18.9	9.9	4.1	4.1	4.8	4.8	1.0
Russia	24.6	-4.2	-3.1	-0.8	3.5	2.6	1.7	1.5
Slovakia	24.1	-28.6	-4.7	-2.2	3.3	4.0	5.6	0.5
Spain	12.2	21.5	-8.4	3.9	2.8	3.0	3.4	0.6
Switzerland	6.0	12.5	-4.5	-8.3	9.5	3.8	-0.5	1.8
Turkey	-7.2	-28.5	-19.0	0.2	8.7	7.4	8.4	1.9
UK	-20.7	-4.0	-8.4	-7.6	3.5	3.8	1.6	1.4
Europe	**3.3**	**3.9**	**-4.1**	**-2.2**	**3.6**	**2.2**	**2.0**	**38.8**
World	**8.0**	**10.9**	**2.5**	**-2.0**	**6.0**	**3.2**	**3.8**	**538.7**

All growth rates are calculated based on dollar values using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

Total investment = weighted sum of investment in the nine key sectors in local currency terms

OXFORD ECONOMICS

General Purpose Machinery

Slowdown in investment cycle and trade-averse policies weigh on capex

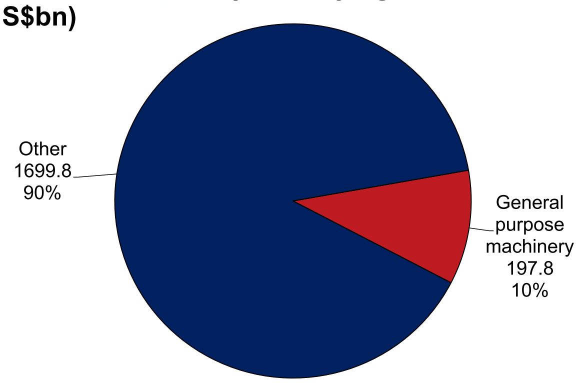
This is a diverse sector incorporating the manufacture of products such as non-vehicle engines and turbines, pumps and compressors, furnaces, as well as material handling and ventilation equipment. Investment by the sector accounted globally for about 10% of investment spending by the nine key machine tool using industries in 2018. China alone accounts for nearly 40% of global sector output and 60% of sector investment.

The capex cycle bottomed out last year with global sector investment falling by 3.1% and it is expected to fall at a faster pace in 2020 due to the impact of the coronavirus, with investment expected to be down by 5.6%. We expect declines across all regions with recoveries penciled in for 2021. In the Americas, we forecast that investment will decline by 4.7% this year. The impact of the coronavirus combined with tighter financial conditions means that Brazil will post just 0.6% growth in 2020, although there are considerable downside risks to this forecast. Mexico is the weak link with investment declining 13.9% as AMLO's leadership fails to lift private sector investment confidence. The outlook in the US has also worsened as shutdowns in end-use sectors is compounded by persistent uncertainty, which will weigh on capex and orders. In all cases the coronavirus is set to weigh further on investor sentiment.

The outlook in Asia is also weak with investment set to fall for the second straight year. Investment in general-purpose machinery was already struggling on the back of weak global trade, China's transition away from heavy industry and as well as more country-specific domestic issues. But the coronavirus outbreak is expected to compound this in the H1 2020 as production is cut in key downstream sectors, such as motor vehicles.

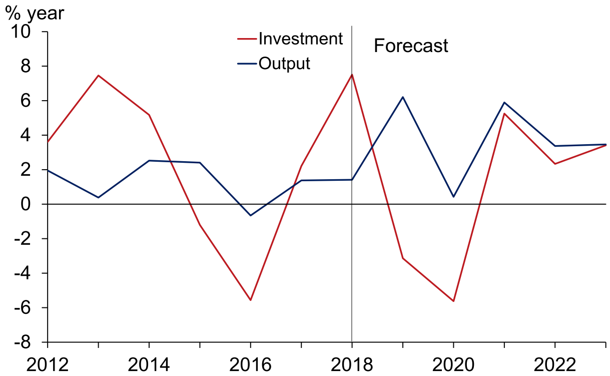
Europe is holding up relatively better although we still predict that investment in the sector will decline by 1.9% in 2020. The UK in particular is expected to see a severe contraction in capital spending as investors remain hesitant about large capital expenditure given the uncertainty over future trade relations with the EU, especially for the automotive sector, a key end-use sector.

World: Investment by MT-buying sectors, 2018 (US$bn)



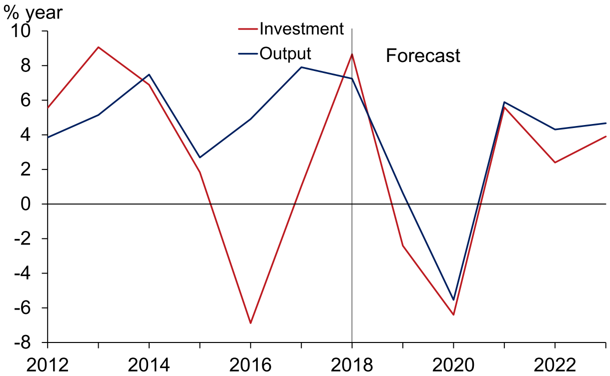
Source: Oxford Economics

World: General purpose machinery output & investment



Source: Oxford Economics

Asia: General purpose machinery output & investment

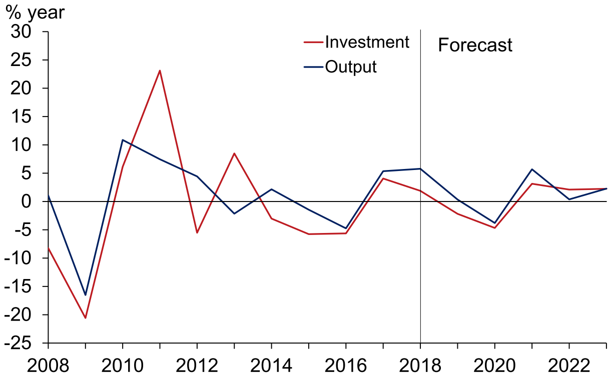


Source: Oxford Economics

Total investment = weighted sum of investment in the nine key sectors in local currency terms

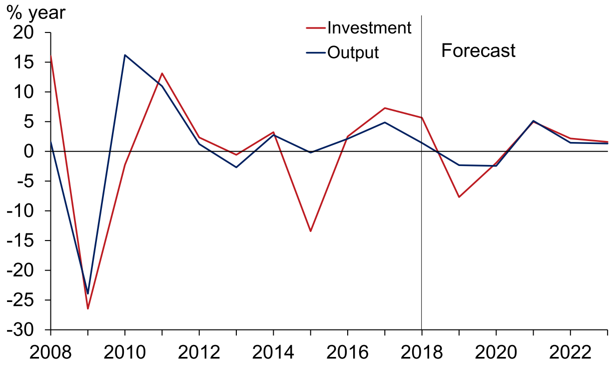
OXFORD ECONOMICS

Americas: General purpose machinery output & investment



Source: Oxford Economics

Europe: General purpose machinery output & investment



Source: Oxford Economics

General purpose machinery investment
(% change unless specified)

	2017	2018	2019	2020	2021	2022	2023	Level in 2018, US$bn
China	1.9	8.6	-2.2	-7.1	5.9	1.9	3.9	115.7
Indonesia	3.7	8.2	-17.9	3.2	3.0	6.3	5.7	0.3
India	16.5	13.1	-14.1	1.5	4.9	5.9	6.1	5.4
Japan	-11.3	13.9	0.2	-6.3	3.6	1.9	2.2	17.9
Malaysia	13.2	6.7	-1.6	0.7	8.7	4.9	4.7	0.2
S. Korea	10.1	-0.5	-4.9	-1.3	6.6	8.6	7.1	6.6
Taiwan	13.4	-8.6	-15.9	-6.5	1.3	0.7	1.4	1.5
Thailand	-6.6	5.1	13.5	-3.1	4.7	2.4	3.4	2.0
Vietnam	11.6	5.0	10.3	5.4	9.6	8.0	6.5	0.2
Asia	**1.0**	**8.7**	**-2.4**	**-6.4**	**5.6**	**2.4**	**3.9**	**149.8**
Brazil	5.1	-12.8	-4.6	0.6	6.6	6.4	5.3	0.7
Canada	0.1	16.2	5.9	-4.5	2.2	1.2	1.3	0.5
Mexico	32.2	0.0	-1.8	-13.9	1.9	2.4	2.0	4.6
US	-2.9	3.0	-2.4	-1.9	3.3	1.8	2.2	14.1
Americas	**4.1**	**1.9**	**-2.2**	**-4.7**	**3.1**	**2.1**	**2.2**	**19.9**
Austria	4.2	7.8	-1.2	2.0	3.8	3.7	2.6	1.1
Czech Republic	-0.4	8.2	-4.9	4.7	2.7	2.6	2.5	0.7
France	5.6	10.1	-1.0	1.0	4.2	1.9	1.5	2.5
Germany	7.4	9.5	-5.5	-1.4	4.6	1.8	1.4	11.3
Hungary	20.5	1.4	3.2	3.0	1.0	1.6	1.0	0.4
Italy	7.2	8.1	-10.9	-3.3	4.8	1.5	1.1	5.5
Poland	5.9	16.5	1.8	6.4	3.0	4.1	3.5	0.4
Russia	30.8	-4.5	-23.0	-4.6	8.9	0.9	2.0	1.5
Slovakia	1.0	-7.6	-6.3	13.2	11.3	0.1	3.6	0.2
Spain	18.7	14.7	-9.2	1.4	3.1	1.8	2.1	0.3
Switzerland	2.2	-1.1	-4.6	-7.9	12.0	6.2	3.0	1.2
Turkey	-7.4	-22.4	-28.5	-2.0	8.4	3.6	4.0	1.0
UK	10.2	1.9	-8.8	-10.7	2.9	3.1	0.5	1.8
Europe	**7.3**	**5.7**	**-7.7**	**-1.9**	**5.0**	**2.2**	**1.6**	**28.1**
World	**2.2**	**7.5**	**-3.1**	**-5.6**	**5.3**	**2.3**	**3.4**	**197.8**

All growth rates are calculated based on dollar values using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

Total investment = weighted sum of investment in the nine key sectors in local currency terms

Metal Products

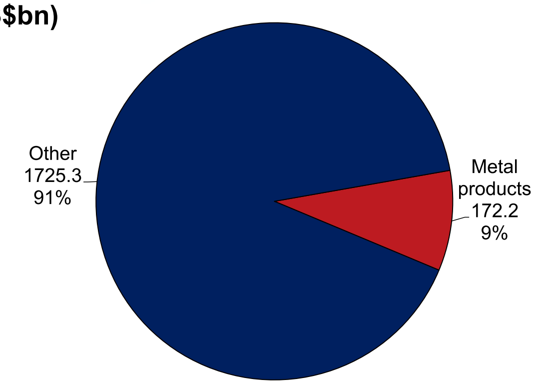
Downside risks to already weak outlook

We have downgraded our outlook for metal products since our last report, successively downgrading our forecast over the past few months. The outlook at the start of the year appeared soft - slower global trade, protectionist policies, a tense relationship between the US and China and persistent Brexit-related uncertainty were all likely to weigh on activity. But these headwinds have now been overtaken by the impact of the coronavirus – initially it affected supply chains on a global scale and more recently has hit economic activity in developed countries more directly as lockdowns were put in place.

As a result, global production is forecast to decline by 3.5% this year before rebounding by 4.4% next year as investment and industrial activity accelerates. Activity in all three key metals-consuming sectors is forecast to decline this year but to varying degrees. We are forecasting a double-digit fall in motor vehicle production, a 4% drop in mechanical engineering but only a modest 0.2% fall in construction as some of the restrictions imposed on manufacturing activity do not yet impact construction. There is significant downside risk attached to this forecast. Some social distancing measures and lockdowns have been announced after the completion of our forecast and therefore have not been fully incorporated into our baseline. In addition, our assumption of a rebound in the second half of this year would be optimistic if such measures were unsuccessful in containing the virus.

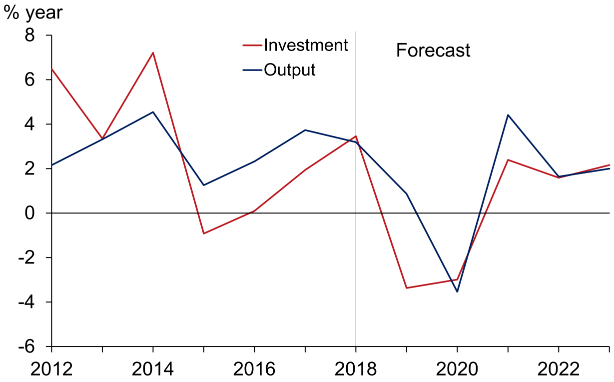
At a country level, US production is forecast to drop 2.9% while eurozone output is expected to contract 5.4%. After slumping in Q1, Chinese output is forecast to bounce back in Q2, registering an annual decline of 3.1%. Given the sharp downturn in activity elsewhere, however, the Chinese rebound in Q2 could be much weaker than our forecast. Japanese production, meanwhile, is forecast to decline by 5.4%. Strong supply chain linkages with China meant much of the weakness in Japan was in Q1. In terms of investment, declining production trends and an uncertain outlook mean that we expect global investment to fall by 3%. Within this, European investment is forecast to decline at the steepest pace, down 4.4%, followed by Asian investment down 2.7%. Investment in the Americas is forecast to drop 2.3%. Next year, global sectoral investment is forecast to rise by 2.4%, but there is considerable uncertainty around this forecast rebound.

World: Investment by MT-buying sectors, 2018 (US$bn)



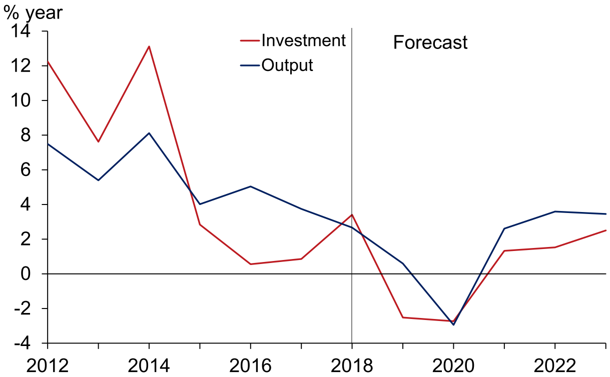
Source: Oxford Economics

World: Metal products output & investment



Source: Oxford Economics

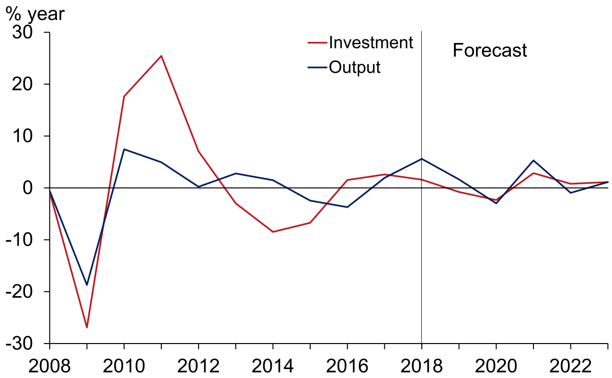
Asia: Metal products output & investment



Source: Oxford Economics

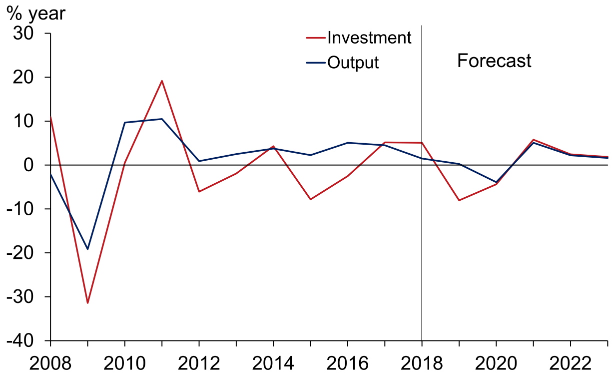
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Americas: Metal products output & investment



Source: Oxford Economics

Europe: Metal products output & investment



Source: Oxford Economics

Metal products investment
(% change unless specified)

	2017	2018	2019	2020	2021	2022	2023	Level in 2018, US$bn
China	-0.7	5.3	-0.7	-2.8	0.7	0.8	2.0	86.2
Indonesia	6.3	-1.5	-19.2	-2.5	9.1	6.3	4.9	1.0
India	3.5	7.5	-17.5	0.0	5.5	6.8	7.5	5.2
Japan	14.4	-1.9	-2.7	-6.1	1.6	2.0	1.3	7.6
Malaysia	5.4	-8.4	-4.1	-0.7	4.3	3.3	3.5	0.6
S. Korea	1.4	-10.0	-11.7	-1.4	2.2	4.5	5.2	7.6
Taiwan	1.7	-3.1	-4.3	-1.4	1.5	0.9	0.8	2.4
Thailand	0.6	6.3	-1.4	-7.5	6.5	3.7	3.1	0.7
Vietnam	18.1	12.1	9.0	10.1	11.8	7.6	6.3	0.9
Asia	**0.9**	**3.4**	**-2.5**	**-2.7**	**1.3**	**1.5**	**2.5**	**112.1**
Brazil	7.1	-7.7	-1.4	-2.1	7.1	5.5	3.7	1.6
Canada	-0.1	-0.3	-0.6	-3.2	3.6	1.7	1.8	1.3
Mexico	-2.8	-3.5	-9.6	-11.1	-1.4	1.8	1.4	2.9
US	3.3	3.3	0.5	-1.2	3.0	0.3	0.8	20.0
Americas	**2.6**	**1.6**	**-0.8**	**-2.3**	**2.8**	**0.8**	**1.1**	**25.6**
Austria	15.4	8.9	-10.9	-3.7	4.7	3.3	1.9	1.5
Czech Republic	17.4	13.1	-4.5	3.2	3.7	2.3	2.0	1.4
France	6.6	8.1	-4.3	-0.6	3.9	2.0	1.6	5.0
Germany	1.8	8.1	-4.2	-4.1	4.0	1.9	1.3	7.8
Hungary	40.3	23.5	-0.5	3.5	5.3	2.2	2.3	0.9
Italy	1.8	6.7	-13.7	-9.3	14.7	3.0	1.5	7.0
Poland	3.7	18.7	3.9	5.3	2.7	3.6	4.9	1.8
Russia	20.1	-4.0	-1.2	-9.8	5.0	4.4	2.3	1.0
Slovakia	6.3	10.7	-14.3	-3.3	7.8	2.3	3.2	0.7
Spain	11.0	12.5	-8.3	3.1	3.1	2.8	2.9	0.9
Switzerland	5.3	1.3	-4.8	-8.2	10.2	4.8	0.1	1.5
Turkey	-4.2	-21.8	-30.5	-18.1	-4.3	-0.7	4.8	2.5
UK	10.5	3.1	-3.5	-4.1	3.1	1.8	0.5	2.6
Europe	**5.1**	**5.1**	**-8.0**	**-4.4**	**5.8**	**2.4**	**1.8**	**34.5**
World	**1.9**	**3.5**	**-3.4**	**-3.0**	**2.4**	**1.6**	**2.2**	**172.2**

All growth rates are calculated based on dollar values using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

Total investment = weighted sum of investment in the nine key sectors in local currency terms

Motor Vehicles

Coronavirus pandemic means significant disruptions and downside risks

The global automotive market looks set to deteriorate significantly from last year's 2% decline in output. The evolution of the coronavirus outbreak into a global pandemic is leading to severe disruptions in ability to work (disrupting complex supply chains) and concomitant declines in income (hitting near-term demand for big-ticket items like cars very hard), dashing hopes for even a modest recovery this year. In China, we saw an 80% decline in car sales during the worst of the outbreak, and sharp declines are now all but certain in other parts of the world, especially Europe and the US.

On the assumption that the containment measures are successful (as they were in China) in flattening and eventually reducing the number of Covid-19 cases over the next few months, we should see a relatively quick recovery starting in H2 – similar to patterns in Japan following the 2011 earthquake and tsunami. Nonetheless, even with the bounceback, global production will remain in deeply negative territory this year, though increasing strength has led to modest upgrades to growth next year.

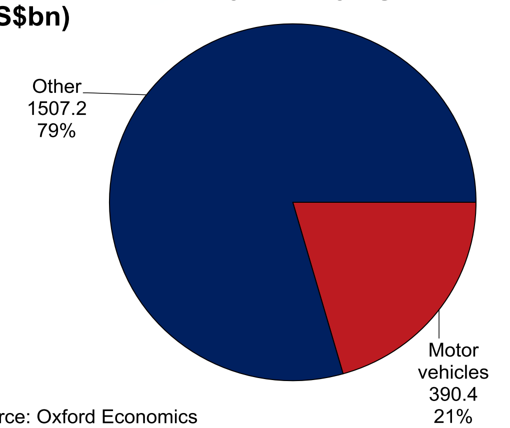
Investment will see similar patterns, but the near-term hit to capex demand will be more dramatic, since this is a typical source of cost cutting when revenues, profits and access to finance suddenly worsen. The weakness will be most pronounced in Europe.

In Europe, the outlook is further clouded by new emissions regulations designed to accelerate the uptake of electric vehicles. While this may increase investment in the production facilities to produce them, the impact of this new investment on machine tool demand is likely to be more muted, especially for non-hybrid electric vehicles without a conventional engine.

Investment in Asia has already been affected by the lockdowns in China (Hubei province is an important automotive manufacturing centre), but the bounceback is likely to begin earlier than in the US and Europe, meaning that the downgrade to investment growth will be less pronounced (though still substantial).

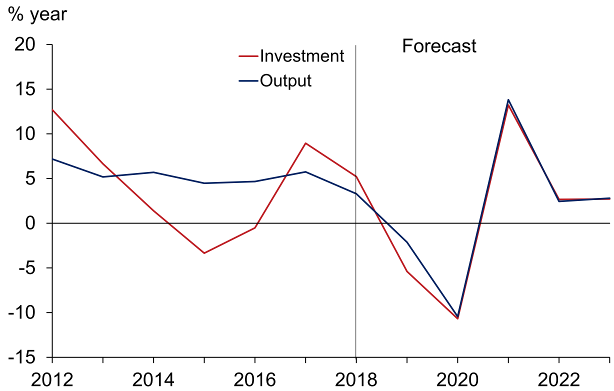
The biggest risk is that the disruptions to income, ability to work, and financial market duress persist for a longer period of time than we assume, snowballing into a protracted global recession lasting into 2021.

World: Investment by MT-buying sectors, 2014 (US$bn)



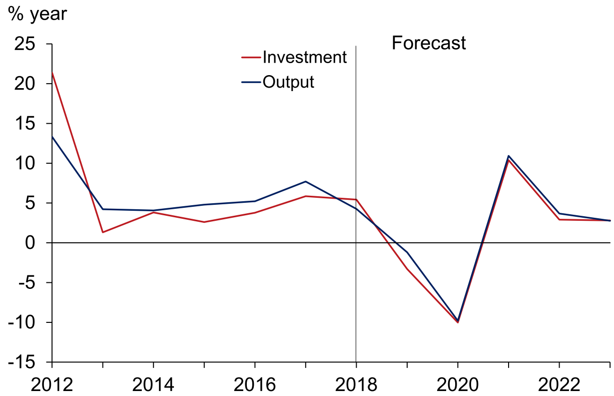
Source: Oxford Economics

World: Motor vehicle output & investment



Source: Oxford Economics

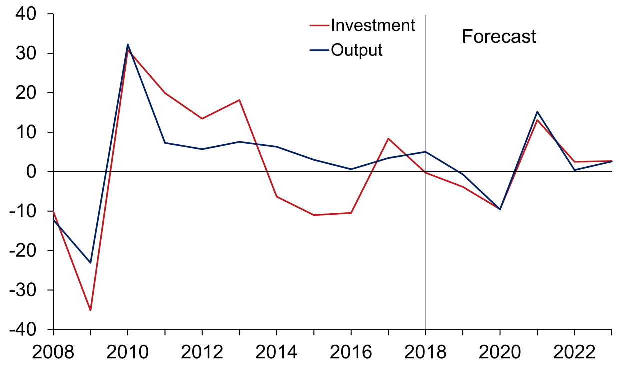
Asia: Motor vehicle output & investment



Source: Oxford Economics

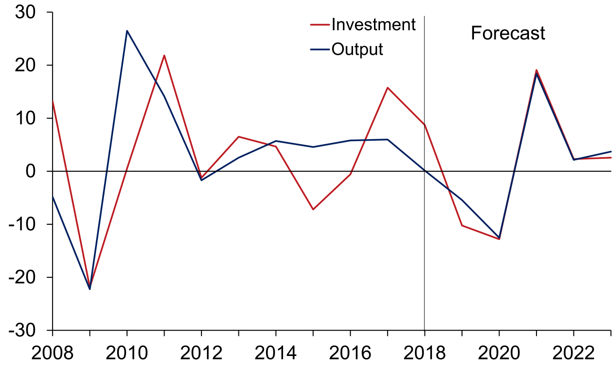
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Americas: Motor vehicle output & investment



Source: Oxford Economics

Europe: Motor vehicle output & investment



Source: Oxford Economics

Motor vehicle investment (% change unless specified)								
	2017	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**Level in 2018, US$bn**
China	10.0	4.4	-3.9	-9.1	7.9	3.9	4.5	113.1
Indonesia	0.1	-1.3	-1.8	-0.6	10.5	5.0	5.1	0.8
India	20.5	21.0	-15.9	-9.1	16.9	5.9	4.6	8.3
Japan	-3.0	7.2	1.4	-13.4	15.4	0.3	-0.5	58.3
Malaysia	12.5	7.3	-2.3	-2.3	7.6	5.1	5.0	1.1
S. Korea	5.4	-3.6	-12.3	-5.0	7.0	4.9	2.6	15.4
Taiwan	-1.2	-4.7	8.7	3.9	-0.6	-0.9	-1.7	1.0
Thailand	9.0	15.9	-0.1	-12.2	11.9	2.7	2.0	6.5
Vietnam	9.9	16.0	7.1	-4.7	10.1	5.3	4.8	0.4
Asia	**5.9**	**5.4**	**-3.3**	**-10.0**	**10.4**	**2.9**	**2.8**	**204.7**
Brazil	17.3	0.0	-4.1	-7.7	16.0	8.7	5.5	8.9
Canada	33.7	-18.1	-22.2	-13.8	8.5	-1.1	6.4	2.5
Mexico	8.5	-7.2	-3.0	-18.6	11.0	2.2	5.8	14.3
US	5.5	3.1	-3.1	-6.9	13.2	1.6	1.1	47.7
Americas	**8.4**	**-0.3**	**-3.8**	**-9.5**	**13.1**	**2.5**	**2.7**	**73.5**
Austria	8.3	12.1	-0.5	-11.8	10.0	-1.7	1.1	2.1
Czech Republic	7.0	14.6	-4.2	-5.8	13.3	2.0	4.4	3.6
France	6.8	7.9	-5.9	-14.0	17.4	5.8	3.5	7.0
Germany	16.1	13.7	-10.6	-13.0	19.5	2.0	1.6	60.7
Hungary	14.9	10.8	11.1	-8.5	20.0	7.5	8.7	2.6
Italy	6.9	2.1	-18.3	-13.9	27.5	2.9	-0.2	8.6
Poland	16.0	11.9	0.5	-4.1	5.5	8.4	9.9	4.0
Russia	38.4	6.5	-11.1	-18.4	29.6	8.1	7.2	3.6
Slovakia	41.5	-18.1	-16.7	-4.9	8.9	0.6	-3.4	2.9
Spain	4.6	8.9	-12.0	-8.1	19.5	-3.2	-0.6	2.2
Switzerland	3.5	0.9	-4.5	-7.5	8.2	4.7	1.5	0.2
Turkey	-4.2	-27.1	-30.2	-9.7	15.5	1.4	12.7	3.5
UK	36.7	11.6	-9.2	-19.4	22.7	-2.0	1.5	11.2
Europe	**15.7**	**8.7**	**-10.2**	**-12.8**	**19.1**	**2.3**	**2.6**	**112.2**
World	**8.9**	**5.2**	**-5.4**	**-10.7**	**13.2**	**2.7**	**2.7**	**390.4**

All growth rates are calculated based on dollar values using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

Total investment = weighted sum of investment in the nine key sectors in local currency terms

OXFORD ECONOMICS

Other transport equipment

Coronavirus outbreak to interrupt, but not stop, strong medium-term prospects

The "other transport equipment" industry (which consists primarily of shipbuilding and railroad locomotives and carriages) had its best year since before the global financial crisis, with global output expanding nearly 7%. Investment, on the other hand, remained weak, reflecting the considerable overcapacity built up since the global financial crisis, particularly in shipbuilding.

The coronavirus pandemic has dramatically reduced seaborne freight flows and idled as much capacity as in the 2008-09 global financial crisis, but the impact on shipbuilding is mainly due to work restrictions and cases of COVID-19 that have drastically reduced shipyard activity. As China, South Korea and Japan account for more than 70% of global shipbuilding, the short-term impact will be substantial. But early indications show a resumption of activity in China.

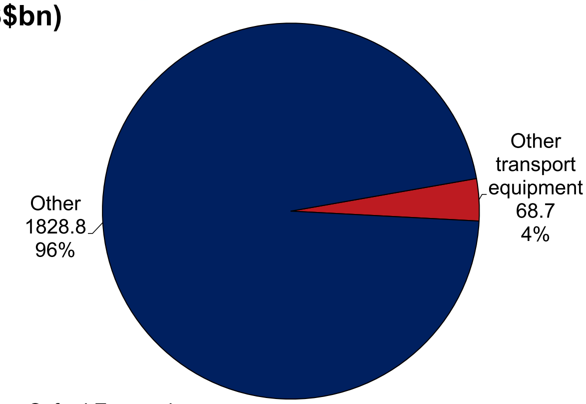
European shipbuilders (who focus nearly exclusively on passenger vessels and account for about 7% of world production) are likely to be hit harder, because the expected reductions in income and increases in job losses brought on by coronavirus-related lockdowns will cause households to cut back on discretionary big-ticket items like pleasure craft and cruise vacations.

Looking beyond the pandemic, shipbuilding will be supported by two main factors. First, we expect a gentle acceleration of global trade in the wake of the phase-one trade deal between the US and China, which started reducing tariffs after 18 months of considerable increases. Second, the IMO20 sulphur emissions regulation has forced shippers to either retrofit their existing fleet with scrubbers or order new compliant vessels. We thus expect a strong pickup in 2021.

Similar dynamics are at play in the rail rolling stock segment. As it is more dependent on passenger traffic than freight, lockdowns are having a much larger impact on short-term rail ridership. But demand is driven by more structural factors that will remain in place well after the pandemic has passed. These include replacing obsolete rolling stock and diesel-electric locomotives, as well as expanding capacity in emerging markets where demand is robust.

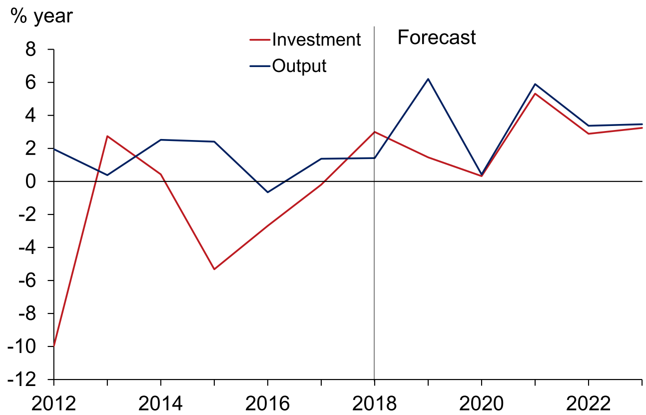
The main downside risk is the possibility that lockdowns due to coronavirus continue longer than the first half of 2020 as we currently assume, which would push out the recovery further into 2021.

World: Investment by MT-buying sectors, 2018 (US$bn)



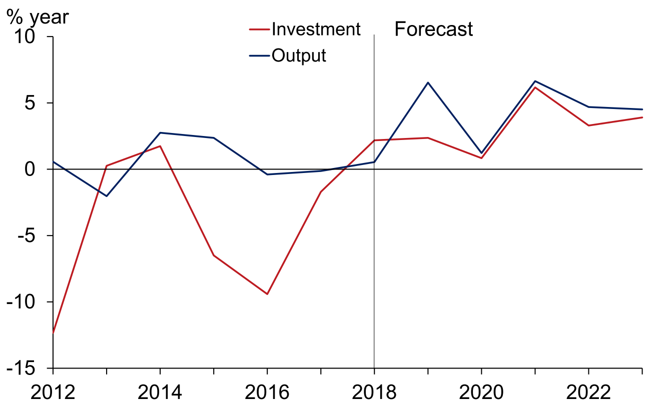
Source: Oxford Economics

World: Other transport equipment



Source: Oxford Economics

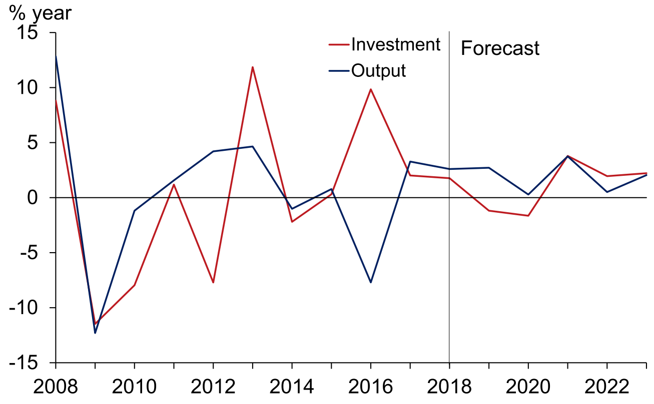
Asia: Other transport equipment



Source: Oxford Economics

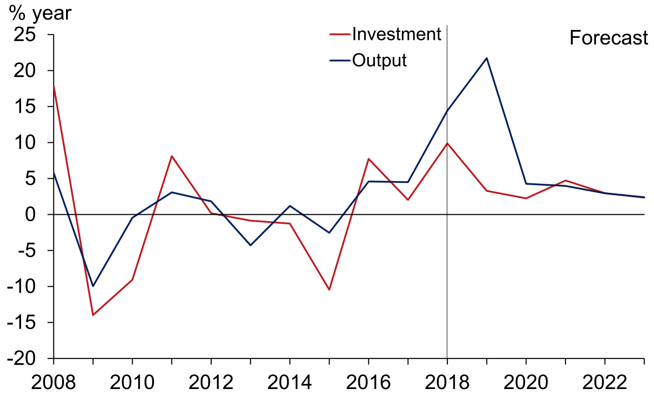
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Americas: Other transport equipment



Source: Oxford Economics

Europe: Other transport equipment



Source: Oxford Economics

Other transport equipment investment

(% change unless specified)

	2017	2018	2019	2020	2021	2022	2023	Level in 2018, US$bn
China	2.7	4.1	2.8	-1.7	7.2	2.4	3.5	23.0
Indonesia	4.8	-4.2	3.9	-2.3	11.6	7.0	6.1	2.2
India	18.3	23.8	-8.9	4.3	5.4	6.6	7.1	4.0
Japan	-8.9	-3.5	4.5	8.3	2.2	1.8	2.0	5.4
Malaysia	11.8	0.4	-4.7	0.2	3.6	3.4	3.1	0.1
S. Korea	-24.0	-12.8	5.6	2.9	5.1	5.8	5.0	4.0
Taiwan	6.0	5.0	17.5	5.9	1.5	0.8	1.1	0.8
Thailand	6.3	2.5	-1.5	-5.4	4.1	3.6	3.4	0.0
Vietnam	17.4	3.9	-5.7	-1.9	7.3	4.6	4.6	0.5
Asia	**-1.7**	**2.2**	**2.4**	**0.8**	**6.2**	**3.3**	**3.9**	**40.0**
Brazil	26.8	-12.7	-14.6	-2.2	3.4	4.5	4.9	1.9
Canada	43.5	-12.4	-23.5	9.6	1.1	1.1	0.9	0.4
Mexico	-2.4	14.3	21.7	2.3	-1.4	4.1	3.1	0.7
US	-1.3	3.7	-0.1	-2.0	4.2	1.6	1.9	16.8
Americas	**2.0**	**1.8**	**-1.2**	**-1.6**	**3.8**	**2.0**	**2.2**	**19.8**
Austria	17.3	13.5	-8.8	4.2	2.4	2.3	1.8	0.2
Czech Republic	-1.5	2.9	-13.6	3.0	3.1	2.5	2.7	0.2
France	5.7	15.1	4.6	6.7	2.6	1.5	1.1	2.5
Germany	-15.2	7.2	1.7	1.8	3.5	2.4	1.3	0.8
Hungary	56.6	49.5	23.4	9.0	4.6	4.0	2.6	0.1
Italy	7.6	8.6	-6.0	-2.8	6.9	2.7	2.0	2.7
Poland	18.8	24.6	20.8	11.1	5.1	5.2	4.6	0.4
Russia	51.7	37.9	97.9	4.1	7.0	6.3	5.2	0.4
Slovakia	70.4	-12.9	-14.8	4.7	4.1	3.7	3.4	0.0
Spain	4.4	36.9	-16.3	0.5	3.4	2.8	3.1	0.4
Switzerland	-3.6	2.8	-1.4	-4.4	10.7	5.5	1.1	0.1
Turkey	-23.3	-18.1	-6.6	8.5	4.0	4.3	4.6	0.2
UK	-10.7	-8.4	-7.4	-3.3	4.7	3.4	3.0	1.0
Europe	**2.0**	**9.9**	**3.3**	**2.2**	**4.7**	**3.0**	**2.4**	**8.9**
World	**-0.2**	**3.0**	**1.5**	**0.3**	**5.3**	**2.9**	**3.2**	**68.7**

All growth rates are calculated based on dollar values using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

Total investment = weighted sum of investment in the nine key sectors in local currency terms

Precision and Optical Instruments

Sector weakness persisting through 2020

Sector dynamics in the precision and optical instruments industry tend to track developed-world investment trends. Strong investment spending pushed global production growth above 8% in 2017, but this slowed back to 3% in 2018 and 1.2% in 2019 as investment spending slowed.

Uncertainty surrounding the trajectory of COVID-19 is likely to hit consumer and business confidence in 2020, with declines in capital spending penciled into our baseline forecast. As such, we expect a fall in global precision and optical equipment production. There could be some offset in the medical precision instruments sub-segment, but most goods covered in this sector are high-value capital goods (like MRI equipment) rather than commoditised medical supplies.

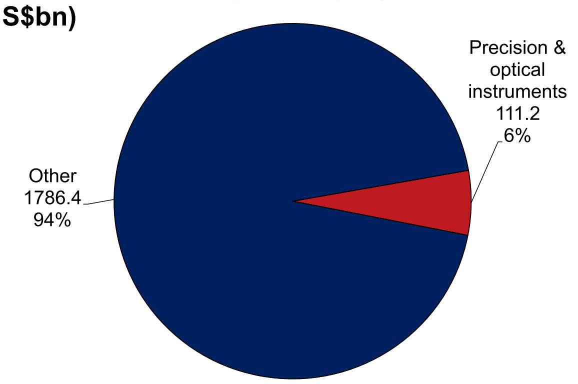
In the US, which, accounts for 32% of global output, strength in the sector in 2017-19 has resulted from companies pulling forward investment in response to the corporate tax cut and expensing provision included in the US Jobs and Tax Act. However, growth is expected to weaken markedly through the course of 2020, as uncertainty surrounding the coronavirus will compound the impact on business investment from fading fiscal stimulus.

In Europe, which accounts for 42% of global production, a weaker investment outlook combined with the coronavirus impact will lead to a fall in in precision instrument production in 2020. Similarly, uncertainty is also weighing on production in Japan (6% of production), compounding weak momentum already apparent after a sales tax increase in October.

Investment trends are expected to broadly track developments in sector output. Investment by firms operating in the sector is expected to decline by 0.5% in 2020, before picking up by 3.6% growth in 2021.

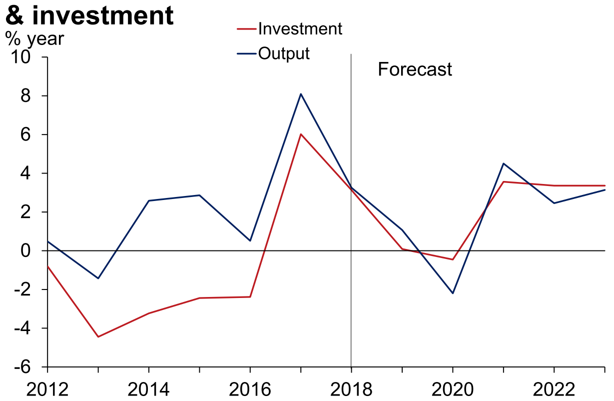
However, the coronavirus situation is rapidly evolving, so risks to investment-driven sectors are skewed to the downside. There could, however, be some boost in the medical instruments segment if the crisis spurs medical systems to upgrade capital equipment.

World: Investment by MT-buying sectors, 2018 (US$bn)



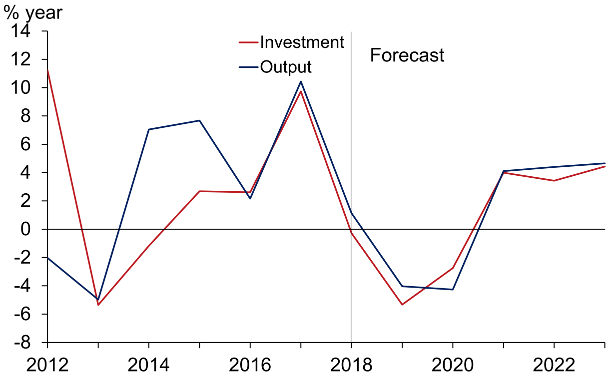
Source: Oxford Economics

World: Precision and optical instruments output & investment



Source: Oxford Economics

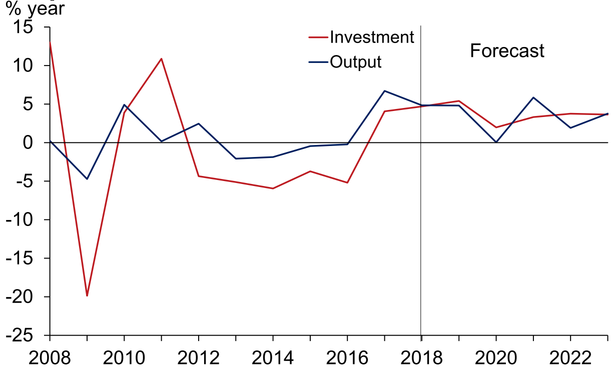
Asia: Precision and optical instruments output & investment



Source: Oxford Economics

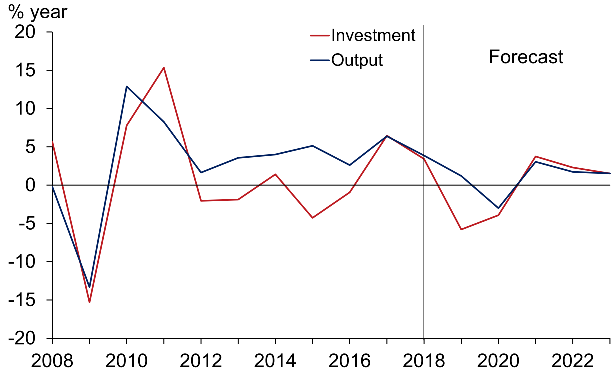
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Americas: Precision and optical instruments output & investment



Source: Oxford Economics

Europe: Precision and optical instruments output & investment



Source: Oxford Economics

Precision and optical equipment investment

(% change unless specified)

	2017	2018	2019	2020	2021	2022	2023	Level in 2018, US$bn
China	15.5	-12.2	-9.9	-2.2	4.1	3.6	5.1	14.2
Indonesia	-2.0	-27.0	-5.5	-2.1	9.6	8.7	6.6	0.0
India	20.0	26.0	-9.0	-13.7	6.4	7.7	9.0	1.2
Japan	-12.8	15.8	0.3	-6.3	1.7	2.5	2.9	4.9
Malaysia	12.0	7.4	-10.7	-3.1	7.2	4.9	5.1	0.3
S. Korea	28.9	13.1	-25.6	-0.9	6.3	4.1	4.3	3.1
Taiwan	10.3	27.4	34.1	0.7	3.0	0.3	1.5	2.4
Thailand	10.2	10.9	5.2	-2.5	4.2	4.6	3.7	0.2
Vietnam	-14.7	11.3	5.2	5.9	8.3	8.7	7.6	0.8
Asia	**9.7**	**-0.3**	**-5.3**	**-2.7**	**4.0**	**3.4**	**4.4**	**27.1**
Brazil	11.1	-15.0	-5.3	-7.5	5.2	7.6	5.8	0.1
Canada	23.9	-2.8	-1.0	-2.9	-0.2	0.5	0.7	0.1
Mexico	-33.6	-1.9	-3.5	-9.0	-2.3	2.4	1.7	0.1
US	4.1	4.8	5.5	2.0	3.3	3.8	3.7	56.9
Americas	**4.1**	**4.7**	**5.4**	**2.0**	**3.3**	**3.8**	**3.6**	**57.3**
Austria	15.1	8.1	-8.2	-2.3	3.0	2.1	1.3	0.5
Czech Republic	2.8	3.1	-9.7	6.0	1.1	3.2	3.7	1.2
France	13.5	10.7	-2.4	-5.8	1.6	0.6	0.5	6.4
Germany	7.7	11.1	-5.8	-3.1	1.4	0.7	0.5	7.8
Hungary	37.0	28.2	7.9	10.1	3.7	4.0	3.4	0.1
Italy	7.5	12.7	-2.0	4.0	4.7	1.2	0.8	1.9
Poland	8.9	13.4	3.7	8.7	6.2	5.7	4.9	0.1
Russia	18.9	-9.2	-4.9	-6.0	3.4	2.6	1.8	0.9
Slovakia	13.9	-33.5	-21.1	-5.9	-0.9	6.6	7.7	0.0
Spain	-2.4	18.1	-7.5	10.2	1.6	3.6	4.4	0.1
Switzerland	0.4	-5.7	-7.3	-8.4	9.5	5.2	2.1	5.8
Turkey	-6.2	-21.9	-17.9	-0.8	7.7	7.2	8.1	1.2
UK	8.6	-4.6	-8.0	-6.0	2.8	4.0	2.5	0.9
Europe	**6.5**	**3.4**	**-5.8**	**-3.9**	**3.7**	**2.3**	**1.5**	**26.8**
World	**6.0**	**3.1**	**0.1**	**-0.5**	**3.6**	**3.4**	**3.4**	**111.2**

All growth rates are calculated based on dollar values using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

Total investment = weighted sum of investment in the nine key sectors in local currency terms

OXFORD ECONOMICS

Special Purpose Machinery

Coronavirus adds to existing weak trade prospects and uncertainty in 2020

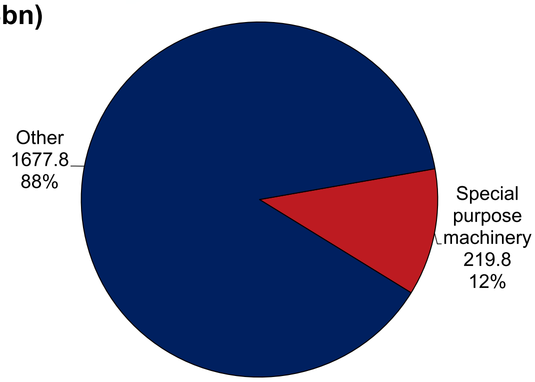
Special purpose machinery covers equipment used in a wide range of industries, including mining, construction, packaging, electronics, textiles, food and agriculture as well as residential applications. This sector's share of global investment by the nine key machine tool using industries has been growing gradually, reaching 12% in 2018. However, the widespread coronavirus-induced disruption means that sector investment is set to fall by 3% this year.

Investment in special-purpose machinery in the Americas is set to weaken further on last year, contracting by 4.3%. This weakness is spread across the region as some purchasers of machinery are impacted by coronavirus-related supply-chain disruptions. The outlook for the US is like that of last year as the coronavirus is causing businesses to defer capital expenditure. Within the special-purpose machinery complex, machine tools are struggling given the sharp fall in orders, which were well below year-ago levels prior to the coronavirus outbreak. Demand for agricultural machinery remains poor due to falling shipments, reduced government aid and uncertainty over future exports, in particular to China given the coronavirus outbreak. We expect some of the this to feed through to Mexico as well given regional supply chain linkages.

The outlook in Asia is also bleak with sector investment expected to fall by 2.9% in 2020. Demand for machinery in Q1 was affected more by the coronavirus in this region than other regions given the spread of the initial outbreak. As a result, we expect a recovery to materialise sooner than other regions. On a country basis, most are expected to see a decline in sector investment this year, including China. Only India and Vietnam will see modest albeit relatively slow growth.

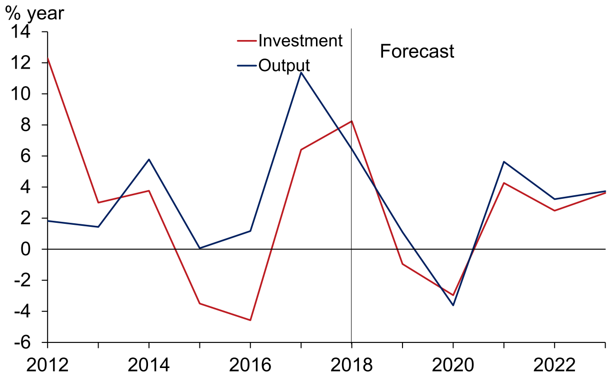
Similarly, investment prospects in Europe are also weak with sector investment expected to fall for the second consecutive year. A cyclical slowdown in overall investment spending and weak output across end-use manufacturing sectors due to coronavirus-induced shutdowns is expected to weigh on overall investment on special-purpose machinery. However other factors such as Brexit-related uncertainty remain important.

World: Investment by MT-buying sectors, 2018 (US$bn)



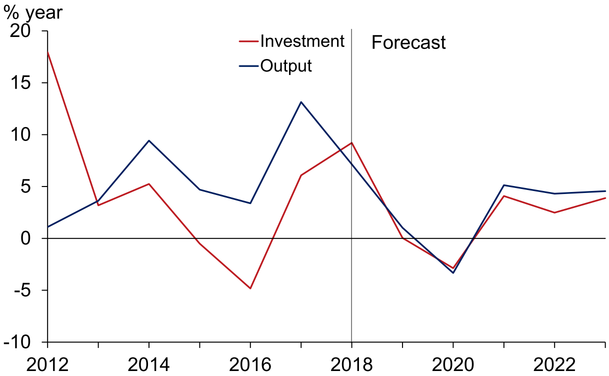
Source: Oxford Economics

World: Special purpose machinery output & investment



Source: Oxford Economics

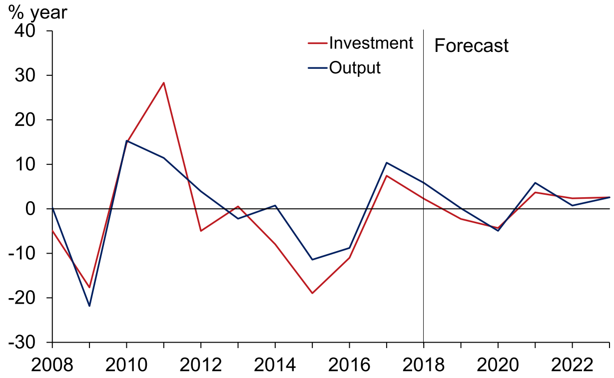
Asia: Special purpose machinery output & investment



Source: Oxford Economics

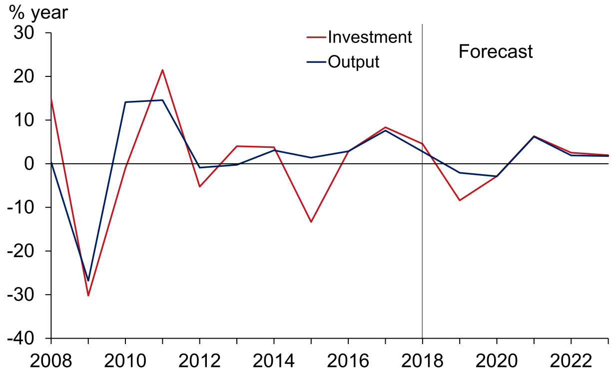
Total investment = weighted sum of investment in the nine key sectors in local currency terms

Americas: Special purpose machinery output & investment



Source: Oxford Economics

Europe: Special purpose machinery output & investment



Source: Oxford Economics

Special purpose machinery investment

(% change unless specified)

	2017	2018	2019	2020	2021	2022	2023	Level in 2018, US$bn
China	4.9	10.8	1.3	-2.5	4.0	2.1	4.0	138.1
Indonesia	0.3	-0.5	-0.1	-3.6	5.9	6.4	5.0	2.8
India	14.9	11.3	-11.6	2.6	5.6	6.9	7.2	2.6
Japan	-2.8	11.3	-1.4	-6.6	4.7	1.9	1.9	21.3
Malaysia	14.4	6.7	-5.9	-1.7	9.4	4.9	4.8	0.3
S. Korea	29.4	-7.1	-20.8	-0.8	7.3	8.4	7.0	8.4
Taiwan	13.2	-8.4	-15.5	-6.9	1.7	0.8	1.5	1.3
Thailand	27.9	4.4	10.9	-1.9	0.6	3.5	3.3	8.2
Vietnam	-5.6	5.0	10.3	3.0	8.8	7.3	5.9	0.0
Asia	**6.1**	**9.2**	**0.0**	**-2.9**	**4.1**	**2.5**	**3.9**	**183.2**
Brazil	2.1	-4.0	-3.9	-4.9	8.9	6.6	5.8	1.3
Canada	9.9	8.4	1.5	-5.4	2.9	0.9	1.3	0.5
Mexico	38.0	-0.3	-2.1	-11.6	-0.6	1.9	1.4	1.6
US	4.7	3.2	-2.3	-3.2	3.7	2.0	2.4	11.3
Americas	**7.4**	**2.3**	**-2.3**	**-4.3**	**3.7**	**2.4**	**2.6**	**14.7**
Austria	8.4	10.5	-1.9	1.2	3.4	3.3	2.3	1.4
Czech Republic	3.6	11.2	-5.6	3.1	2.4	2.6	2.5	0.5
France	12.9	7.8	-6.4	2.7	2.9	2.0	1.4	1.1
Germany	12.7	12.9	-4.7	-1.9	5.3	2.2	1.5	7.9
Hungary	21.9	12.3	9.2	6.0	1.2	1.1	1.1	0.1
Italy	7.2	8.7	-13.8	-8.9	9.3	1.5	1.0	4.5
Poland	12.2	19.3	3.4	5.5	3.0	3.8	3.2	0.8
Russia	27.5	-9.2	-8.2	-4.7	7.9	0.6	2.5	1.4
Slovakia	9.4	-13.5	-3.2	9.2	10.7	0.4	3.5	0.5
Spain	9.6	11.3	-15.4	6.8	2.6	2.0	2.4	0.2
Switzerland	8.0	8.0	-3.9	-8.2	11.3	6.2	2.5	1.3
Turkey	-3.1	-26.2	-32.1	-2.0	9.2	5.0	5.4	1.5
UK	-22.0	-10.2	-8.8	-13.2	2.8	5.5	1.3	0.6
Europe	**8.3**	**4.5**	**-8.4**	**-2.9**	**6.3**	**2.5**	**1.9**	**21.9**
World	**6.4**	**8.2**	**-1.0**	**-3.0**	**4.3**	**2.5**	**3.6**	**219.8**

All growth rates are calculated based on dollar values using actual exchange rates to 2019 and then fixed at 2019 exchange rates beyond that date

Total investment = weighted sum of investment in the nine key sectors in local currency terms

April
2020

Economic Background

Forecasts finalised on 8th April

OXFORD ECONOMICS

World Economic Prospects

Overview: World GDP seen falling 2.8% in 2020

- With much of the global economy now in some form of lockdown due to the coronavirus pandemic, we expect world GDP to contract by about 7% in H1 2020. Activity is expected to rebound sharply in H2, but even so the severity of the shock is likely to lead to a permanent GDP loss for the global economy.

- While Chinese activity picked up in late-Q1 as lockdown restrictions were unwound, we expect Q1 GDP to have fallen 12% q/q before rebounding sharply in Q2. But this Q2 boost looks set to be swamped by the collapse in activity caused by the rest of the world going into lockdown.

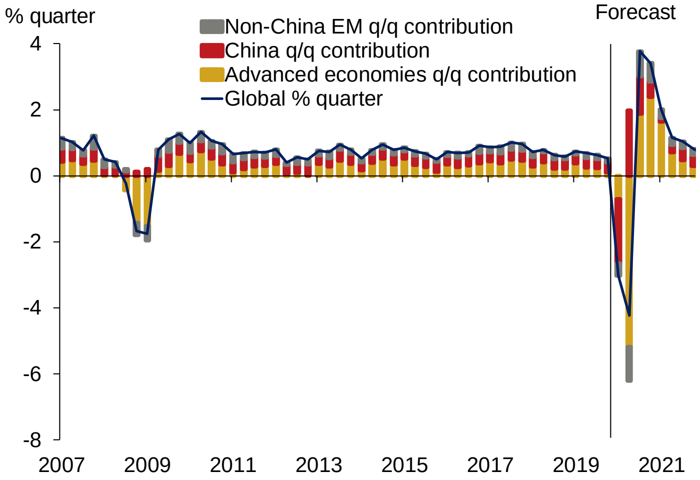
- Although shutdown restrictions elsewhere are less severe than those imposed in China, business survey and labour market data still point to sharp falls in activity in most countries in Q2. Quarterly GDP declines of 8% or more in the US and eurozone seem likely. Overall, world GDP could fall by about 7% in H1, roughly double the size of the contraction seen in H1 2009 during the global financial crisis.

- In those economies subject to some form of lockdown, we expect restrictions to begin to be lifted during Q2. As a result, growth should resume in Q3 as sectors that have been forced to shut down see some pick-up. But despite this rebound, world GDP is now seen shrinking 2.8% in 2020 overall – in 2009, the global GDP fall was 1.1%.

- The H2 pick-up, followed by a return to more normal conditions next year, will result in world GDP growth rising to almost 6% in 2021, helped also by the recent collapse in oil prices to about $30pb. But the scale of the disruption means that we expect a permanent loss of output from the shock. We expect global GDP in the medium term to be some 1.5% below the level we had anticipated before the coronavirus outbreak.

- The risks around this forecast are large and broadly balanced. But were stringent lockdowns or widespread disruption, perhaps due to renewed outbreaks of the virus, to extend into Q3, global GDP could fall by as much as 8% this year.

World: GDP



Source : Oxford Economics/Haver Analytics

OXFORD ECONOMICS

Alternative GDP growth forecasts

	2017	2018	2019	2020	2021	2022	2023
Oxford Baseline Forecast (40%)							
US	2.4	2.9	2.3	-4.1	7.7	1.6	1.6
Eurozone	2.7	1.9	1.2	-5.1	4.6	2.3	1.6
China	6.9	6.7	6.1	-0.2	9.0	5.8	5.6
World	3.3	3.2	2.6	-2.8	5.9	3.4	3.0
Coronavirus pandemic							
US	2.4	2.9	2.3	-10.8	4.5	5.6	2.7
Eurozone	2.7	1.9	1.2	-12.4	1.0	8.0	4.0
China	6.9	6.7	6.1	-5.9	5.2	9.8	8.4
World	3.3	3.2	2.6	-8.3	2.1	6.9	5.1
US recession (20%)							
US	2.4	2.9	2.3	-4.9	5.8	1.8	2.8
Eurozone	2.7	1.9	1.2	-5.6	3.9	2.4	1.9
China	6.9	6.7	6.1	-0.6	8.3	5.2	5.5
World	3.3	3.2	2.6	-3.2	5.0	3.2	3.3
Global trade war (5%)							
US	2.4	2.9	2.3	-4.9	6.3	1.3	1.3
Eurozone	2.7	1.9	1.2	-5.3	3.0	1.7	1.6
China	6.9	6.7	6.1	-1.3	6.7	3.7	4.8
World	3.3	3.2	2.6	-3.3	4.4	2.6	2.7
Global recession (25%)							
US	2.4	2.9	2.3	-5.2	5.1	0.4	1.1
Eurozone	2.7	1.9	1.2	-6.2	2.9	2.0	1.9
China	6.9	6.7	6.1	-1.0	7.7	5.4	5.7
World	3.3	3.2	2.6	-3.6	4.2	2.9	2.9
EM growth falters (10%)							
US	2.4	2.9	2.3	-4.3	7.2	1.7	1.8
Eurozone	2.7	1.9	1.2	-5.3	4.3	2.4	1.7
China	6.9	6.7	6.1	-1.1	8.4	6.2	5.9
World	3.3	3.2	2.6	-3.1	5.5	3.6	3.1
EM upturn as trade war fears fade (15%)							
US	2.4	2.9	2.3	-3.7	8.3	1.6	1.6
Eurozone	2.7	1.9	1.2	-4.8	5.4	2.6	1.6
China	6.9	6.7	6.1	0.6	10.1	6.1	5.6
World	3.3	3.2	2.6	-2.4	6.7	3.6	3.0

World GDP growth at 2010 prices and market exchange rates

Summary of International Forecasts

	2018	2019	2020	2021	2022	2023
Real GDP						
North America						
United States	2.9	2.3	-4.1	7.7	1.6	1.6
Canada	2.0	1.6	-6.5	9.2	2.0	1.6
Europe						
Eurozone	1.9	1.2	-5.1	4.6	2.3	1.6
Germany	1.5	0.6	-3.9	4.7	1.4	1.1
France	1.7	1.3	-5.3	4.4	2.5	2.1
Italy	0.7	0.3	-7.6	3.8	2.8	1.4
UK	1.3	1.4	-5.1	6.0	2.5	1.4
EU27	2.0	1.4	-4.8	4.9	2.4	1.6
Asia						
Japan	0.3	0.7	-4.8	3.9	2.1	1.2
Emerging Asia	6.0	5.3	-0.5	8.3	5.6	5.4
China	6.7	6.1	-0.2	9.0	5.8	5.6
India	6.8	5.3	-1.0	8.9	6.8	7.1
World	3.2	2.6	-2.8	5.9	3.4	3.0
World 2000 PPPs	3.5	2.9	-2.4	6.6	3.8	3.6
World trade	4.6	0.2	-6.4	7.9	4.6	3.7
Inflation (CPI)						
North America						
United States	2.4	1.8	0.7	1.6	2.0	2.0
Canada	2.2	2.0	0.8	1.8	2.3	2.1
Europe						
Eurozone	1.8	1.2	0.2	1.5	1.6	1.7
Germany	1.7	1.5	0.9	1.4	1.6	1.8
France	1.9	1.1	0.3	1.5	1.6	1.7
Italy	1.1	0.6	-0.5	1.3	1.3	1.4
UK	2.5	1.8	0.8	1.5	2.1	2.0
EU27	1.9	1.5	0.6	1.6	1.8	1.8
Asia						
Japan	1.0	0.5	-0.5	0.1	0.3	0.6
Emerging Asia	3.1	2.4	2.1	2.1	2.8	2.8
China	2.1	2.9	3.1	1.6	2.8	2.8
India	3.9	3.7	3.9	3.3	4.2	4.4
World	3.2	3.2	2.5	2.5	2.8	2.8
Exchange Rates						
US$ Effective	89.0	92.0	95.7	96.3	93.5	90.6
$/€	1.18	1.12	1.09	1.09	1.13	1.17
¥/$	110.4	109.0	106.9	106.0	105.5	104.4
Commodity Prices						
Brent Oil ($/bl)	71.1	64.4	29.9	35.2	44.9	49.7

OXFORD ECONOMICS

Brazil

Highlights

- The economic cost of the coronavirus grows each day. Only a month ago, we thought that Brazil would be relatively insulated from this shock. But as the virus has continued to spread quickly in Europe and the US, Brazil will now clearly be significantly affected. We currently assume that the economy will fall by 2.7% this year but prolonged lockdowns could lead to greater disruption.
- Although lockdowns are essential to contain the spread of the virus, they have a devastating effect on the economy. Our bottom-up estimates for household consumption suggest that the total consumer market in Brazil shrinks by 1% for each additional week of lockdown, assuming 50% of people adhere to it.
- Our GDP estimates include both the disruption caused by the lockdowns and the net impact of the combination of oil price collapse, financial meltdown and sharp currency devaluation on households and businesses' decision to consume or invest. By changing the number of days and % of compliance with lockdowns we can run a number of scenarios for consumer spending and GDP growth. If we assume two weeks of strict social distancing followed by four weeks of factory closures and partial social distancing, as could easily happen, Brazil's GDP might contract by more than 2.7% this year. We will update our forecasts twice a month from now on so we can stay up to date with the most recent announcements.
- Brazil's central bank cut the policy rate by 50bp to 3.75% in mid-March and continues to provide liquidity in FX markets. We now see the BRL at 5.00/$1 at year-end.

Forecast for Brazil
(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	2.0	1.7	-3.2	5.5	3.2	2.8
Private Consumption	2.1	1.8	-4.7	6.7	2.7	2.5
Fixed Investment	3.9	2.3	-5.0	7.3	6.3	4.8
Stockbuilding (% of GDP)	-1.0	-0.8	0.0	-0.2	0.2	0.5
Government Consumption	0.4	-0.4	0.5	0.0	0.0	0.0
Exports of Goods and Services	3.3	-2.5	-6.7	4.7	4.3	4.2
Imports of Goods and Services	7.4	1.1	-8.7	12.1	7.8	5.9
GDP	1.3	1.1	-2.7	4.3	2.5	2.4
Industrial Production	0.8	-1.1	-3.5	3.3	3.4	3.0
Consumer Prices	3.7	3.7	3.6	3.1	3.3	3.5
Government Budget (% of GDP)	-7.1	-5.9	-10.2	-6.8	-5.2	-4.1
Trade Balance ($bn)	53.0	40.8	26.5	23.0	29.5	34.7
Current Account ($bn)	-41.54	-49.45	-46.14	-56.47	-60.85	-63.50
Current Balance (% of GDP)	-2.19	-2.69	-3.01	-3.36	-3.10	-2.90
Short-Term Interest Rates (%)	6.48	5.95	3.50	3.18	4.40	5.40
Exchange Rate (Per US$)	3.65	3.94	4.95	4.66	4.26	4.04

All growth rates are calculated based on values in local currency

We are in the middle of a global recession

Brazil will not escape the current global recession unscratched. Episodes of sharp currency depreciations and falling terms of trade have coincided with recessions in Latin America for at least twenty years now. And if we add to this the drag from lockdowns, it is extremely likely that our 2020 growth forecast will be revised frequently, with the first revision to the downside. As a ballpark calculation, we estimate that each extra week of partial social distancing can lop at least 0.7pp off GDP, with the impact potentially being bigger if unemployment reaches 15 million people, from 12.5 million now.

In summary, our GDP growth forecast of -2.7% for 2020 is a result of the following factors:

- **Hit from social distancing:** the breakdown of consumer spending by category reveals that about half of the consumption basket will be affected by social distancing. We assume that each extra week of partial social distancing subtracts 1% off household consumption, and at least 0.7% off GDP, with the indirect impacts on the wider economy depending on behaviour of NPLs and the labour market.

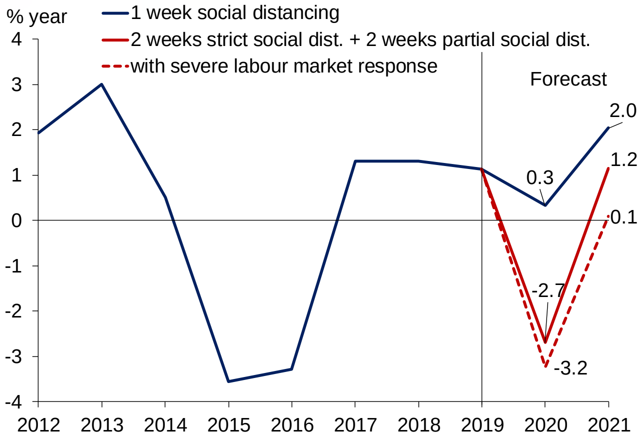
- **Hit from oil price and financial market meltdown:** although lockdowns exert a clear and immediate drag on growth, their recessionary effects are amplified by the tightening in Brazilian financial conditions resulting from the 20% devaluation of the BRL, 50% fall in equity prices and the increase in borrowing costs across the board. We estimate that the financial and oil price crash combo has by itself lopped 1% off GDP this year.

- **Policy response to crisis:** the disorderly depreciation of the BRL has compromised the BCB's ability to act decisively when it comes to monetary easing. The 50bp cut in the Selic rate this month was in line with our expectations but is certainly insufficient. The BCB hasn't yet intervened in either corporate debt or credit markets, but may do in the future. The continued interventions in the FX market have failed to halt the BRL's plunge, but we don't think it will raise rates to defend the currency. The fiscal policy response has been timid but targeted – the room to increase expenditure is very limited. The measures already announced on the fiscal and monetary fronts will do little to minimize the economic cost of the crisis, but we expect bolder moves in the coming weeks.

COVID-19 crisis exposes Brazil's fragilities

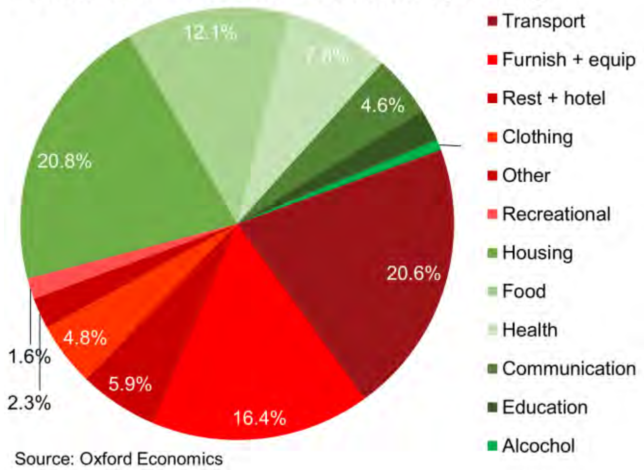
As we have been repeatedly saying for a few years now, Brazil has failed to open up the economy to foreign trade (and migration) and to boost domestic savings substantially, leaving the country unprepared for its next growth cycle. Once the coronavirus shock fades and societies go back to normal, Brazil will be left with a heavier debt burden for the public and private

Brazil: GDP growth in lockdown scenarios



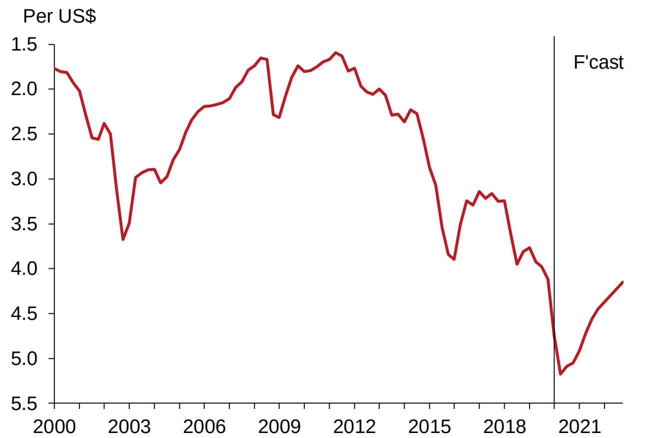
Source : Oxford Economics/Haver Analytics

Brazil: Breakdown of consumer spending



Source: Oxford Economics

Brazil: Exchange rate



Source: Oxford Economics

sectors to pay and higher unemployment, which will compromise its ability to grow faster than its peers and close the income gap with richer economies.

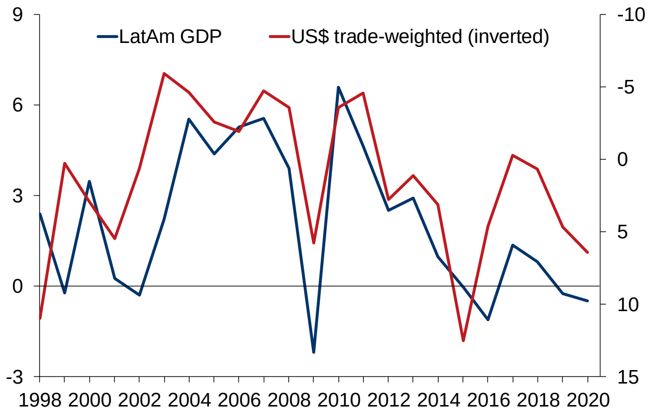
- **Reform momentum needs to continue:** with the all-important pension reform now behind us, the authorities seemed to have shifted gears to tax reform and measures to reduce the share of ring-fenced expenditure. Meanwhile, the government bought some time by boosting revenues via asset sales. Aside from abolishing tariffs on imported capital goods, the government should seek a faster ratification of the trade deal with the EU and improve rules to attract migrants. However, we expect all legislative effort in the short term to be devoted to approving measures to improve healthcare infrastructure and financially assist the jobless and most vulnerable.

- **Drag from external sector:** even when the COVID-19 shock fades away, most economies will be left with scars. We think the pace of recovery in some of Brazil's trade partners, like Argentina and to a lesser extent Europe, may remain slow for years.

- **Debt hangover:** the 2015-16 slump was caused by firms, households and the government all over-borrowing at the same time and history shows that recoveries from balance sheet-induced recessions tend to be slow. Even though the bulk of public and private debt is mainly of a short-term nature, servicing costs are among the highest in the world (and getting higher) while the recovery in the labour market and in firms' profit margins has been postponed by the coronavirus and its spill over effects.

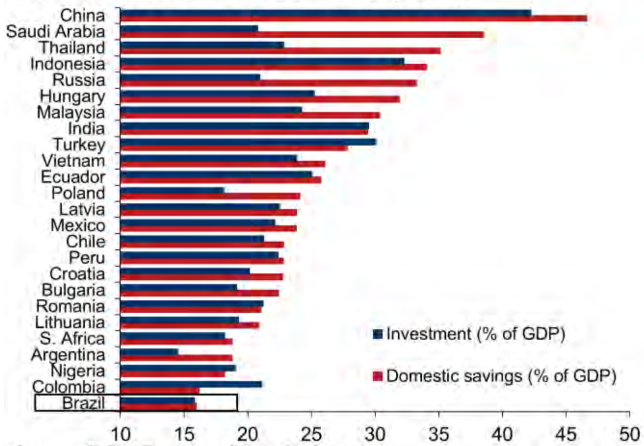
- **A broken growth model:** as we wrote back in 2015, the 2015-16 slump marked the exhaustion of a consumer-led growth model and finding a new one would be difficult. More than four years later, Brazil's economy remains dependent on households' dissaving to continue growing, while the current account deficit has already started to widen. We continue to think that unless Brazil saves more to fund investment, the recovery will remain fragile.

LatAm's economy highly exposed to US$ moves



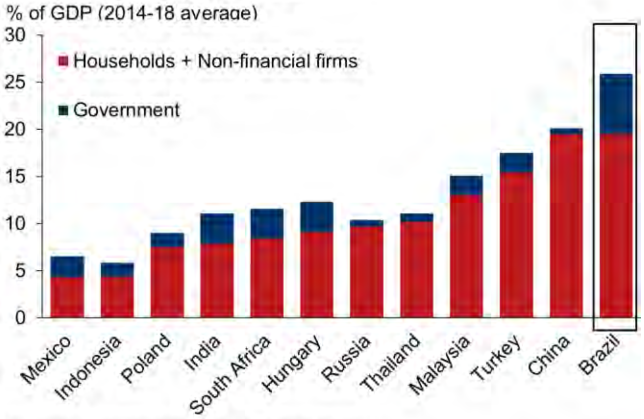
Source : Oxford Economics/Haver Analytics

EM: Savings and investment (2018)



Source : Oxford Economics/Haver Analytics

EM: Debt service costs



Source : Oxford Economics/Haver Analytics/BIS

China

Highlights

- We have slashed our 2020 GDP forecast as the impact of the coronavirus in Q1 was larger than we expected previously. We estimate Q1 GDP to have plunged 8.5% y/y. But while the coronavirus outbreak is accelerating globally, it has now been contained in China, allowing the government to lift most remaining restrictions on people's movements. We look for a significant recovery from Q2 onwards as economic life returns to normal. However, the sequential recovery will be weighed down by weak domestic demand due to reluctant consumers and plunging foreign demand as many key trade partners fall into recession. We forecast GDP to contract by 0.2% in 2020.
- Industrial value added, investment, retail sales and exports all contracted sharply in January-February. While daily indicators on economic activity clearly showed a pick-up in March, the speed of resumption was disappointing, and the economy was still operating substantially below normal levels at the end of March. That said, a sequential recovery is in the making. The PMIs in March point to a sequential pick-up from the extraordinarily low level of output in February.
- The government has implemented a range of fiscal and monetary measures. But so far the measures have been targeted and modest in size. While we expect more policy support in the coming months, we think it will remain limited given concerns about leverage and financial instability.
- In this context, we expect a slower recovery than many other forecasters and see basically no growth in 2020. Despite their earlier lofty growth ambitions, we think policymakers will eventually accept such a sluggish outturn this year, given that major stimulus remains unpopular in Beijing. Growth could be higher if major stimulus was announced, but a deeper global contraction is a downside risk.

Forecast for China
(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	7.3	5.7	0.6	8.4	5.4	5.8
Private Consumption	8.1	6.9	-2.5	12.2	7.9	6.7
Fixed Investment	6.6	4.4	0.3	6.2	2.8	4.5
Government Consumption	7.7	5.9	10.0	4.2	5.6	5.3
Exports of Goods and Services	4.3	2.5	-11.7	11.6	4.8	4.5
Imports of Goods and Services	6.5	-0.4	-8.7	11.9	8.4	5.6
GDP	6.7	6.1	-0.2	9.0	5.8	5.6
Manufacturing (value-added)	5.8	5.7	-3.3	7.4	4.9	5.5
Consumer Prices	2.1	2.9	3.1	1.6	2.8	2.8
Current Balance (% of GDP)	0.1	1.0	0.8	1.1	0.5	0.4
Government Budget (% of GDP)	-3.8	-4.7	-6.5	-4.3	-3.7	-3.4
Current Account ($bn)	25.5	141.3	132.2	174.9	101.9	83.6
Total Trade Balance ($bn)	103.0	164.1	181.2	206.1	124.8	99.9
Short-Term Interest Rates (%)	1.50	1.50	1.31	1.46	1.50	1.50
Exchange Rate (Per US$)	6.61	6.91	7.01	6.95	6.82	6.65

All growth rates are calculated based on values in local currency

Virus outbreak will lead to no growth this year

The novel coronavirus outbreak was a huge drag on Q1 growth. Amid production and transport disruptions, industrial value added plunged 13.5% y/y in January-February combined. Fixed asset investment plummeted by 24.5% y/y, while retail sales tumbled 20.5%. We also estimate that export volumes contracted 16.5% y/y.

Economic activity clearly picked up in March, as suggested by daily indicators on coal consumption of power plants, road congestion and property sales. Moreover, the PMIs have bounced back, while labour resumption reached 80%-90% in large firms and 75%-80% in small firms at end-March. Nonetheless, the economy was still operating substantially below normal levels at that time.

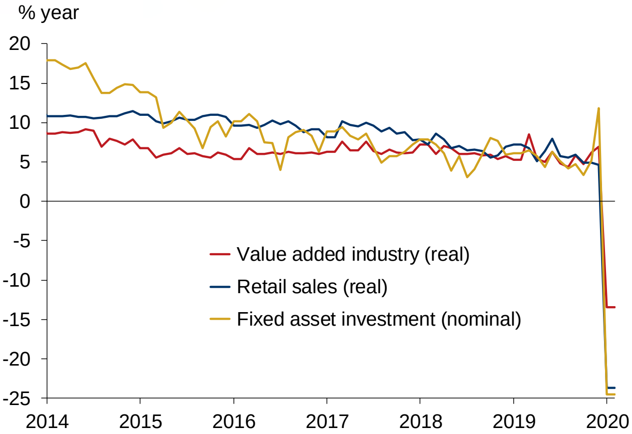
After a plunge in Q1 GDP, we expect a sequential recovery from Q2 onwards as economic life returns to normal within China. We also expect policies already rolled out to support the economic recovery, and more easing will come. However, lingering fear of the virus and uncertainty over the business outlook and job losses mean domestic demand will remain weak, while sliding external demand as much of the rest of the world falls into recession will be a major drag.

We now forecast GDP to plunge 8.5% y/y in Q1, and contract 0.2% in 2020 as a whole. We see the risks to this forecast as balanced. The key downside risk is that the economic impact of the coronavirus outbreak internationally could be deeper and longer lasting. The main upside risk is a larger stimulus than we anticipate. The main factors affecting our short-term outlook are:

- **External demand to fall sharply:** global demand is plunging as many key trade partners fall into recession. New export orders dropped and will decline much further in the coming months. Reflecting weak domestic demand and exports, import volumes will likely fall sharply, with services imports down much more than those of goods due to the virtual halt of outbound tourism and travel.

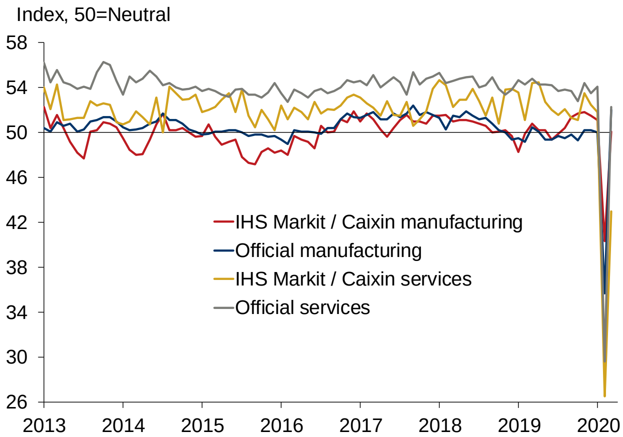
- **Domestic demand affected by coronavirus outbreak:** we expect household consumption to be negatively affected for many months to come and see only gradual recovery from Q2 onwards, especially for "social consumption" such as spending in restaurants and hotels. We think investment will do better, especially in new industries, infrastructure and real

China: Key cyclical indicators



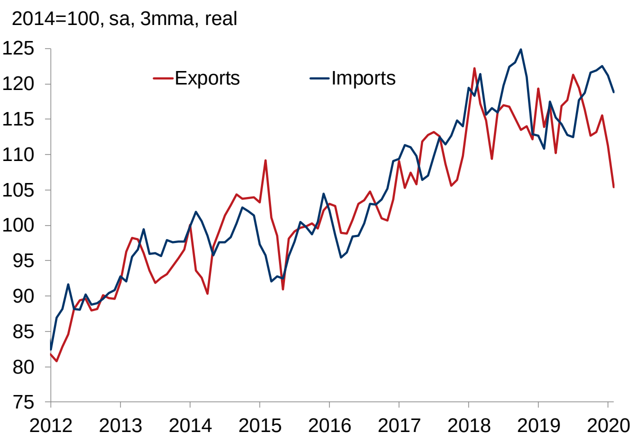
Source : Oxford Economics/CEIC

China: PMIs



Source: Oxford Economics, CEIC Data, IHS Markit/Caixin

China: Exports and imports, sequential



Source : Oxford Economics/CEIC

estate.

- That said, as the country returns to normal, renewed outbreaks and lockdowns will add to people's caution and will weigh on the recovery. Meanwhile, many SMEs have been hammered by the economic stand-still and may go bankrupt. Even many financially solid companies will remain more reluctant to invest for some time.

- **Policy easing to support recovery:** policies already rolled out include cuts in interest rates and reserve requirement ratios, lending support for struggling borrowers, infrastructure investment, tax relief, and employment and consumption subsidies. So far, policy easing has remained modest and we don't expect that stance to change significantly given concerns about adding to leverage and financial instability. Although the key fiscal policy parameters have not yet been announced, we expect the fiscal deficit to increase from 5.5% of GDP to around 8% or so this year (including local government bond issuance and usage of carry over and surplus funds). This is a significant rise, but implies a much smaller stimulus than in 2008-09 and those announced by many developed countries.

Policymakers to accept a low growth rate

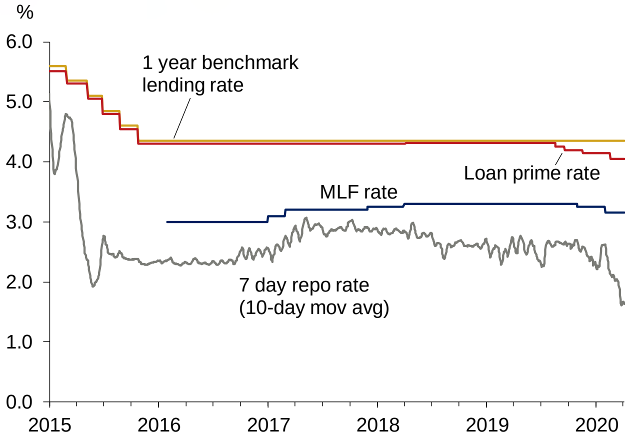
We basically expect no growth in 2020. We also expect policymakers to acknowledge that, in the absence of huge stimulus, it won't be possible to achieve 3%-4% GDP growth, let alone the 5.6% that would be necessary to achieve the policy target of doubling GDP compared to 2010. Indeed, we forecast GDP to contract 0.2% in 2020. However, we do expect a return to significant year-on-year growth in H2 and a full-year rebound to 9% growth in 2021.

Long-term prospects

Medium-term challenges persist beyond the coronavirus shock, including the ongoing trade and tech tensions with the US, an overall slower real estate activity trend, and still-significant excess capacity in heavy industry. In addition, the reform agenda remains large, notably as regards SOEs, the financial sector and ensuring high-quality urbanisation. Indeed, continued implementation of supply side reforms is vital to enable robust organic growth over the medium term.

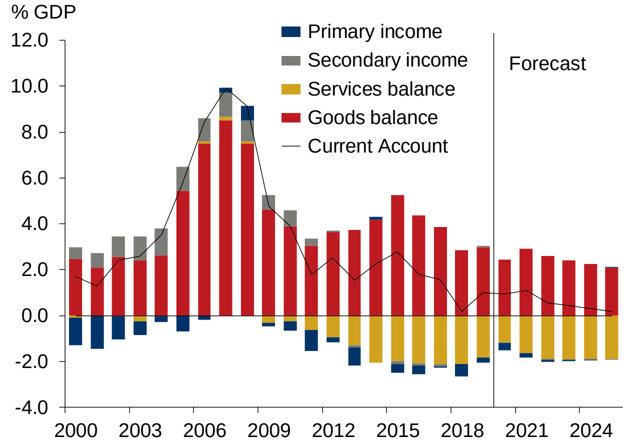
The next decade will see much slower growth in China. We expect slower capital accumulation. We also think total factor productivity (TFP) growth will be slower, in part because gains from further integration into the global economy will be more modest than in the past, especially given the backdrop of US-China tech tensions.

China: Interest rates



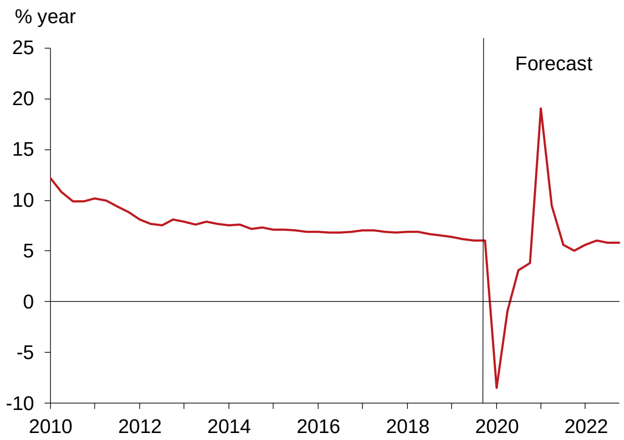
Source : Oxford Economics/Haver Analytics

China: Current account composition



Source : Oxford Economics/Haver Analytics

China: Real GDP growth



Source : Oxford Economics/Haver Analytics

Eurozone

Highlights

- With the number of infected people rising across the continent and partial or full lockdown measures in place in most European countries, the economic impact from the health crisis is going to be massive, with the eurozone heading for an historically deep recession in H1. Given the extension and escalation of containment measures in many countries, we have slashed our 2020 GDP forecast to a fall of 5.1% (from 0.6% growth seen last month), before a strong pick-up to 4.6% growth in 2021. The unprecedented nature of the crisis means that volatility around our forecasts is extremely high.
- PMI figures for March showed the initial impact from the coronavirus outbreak and the containment measures put in place in many countries. The eurozone PMI collapsed to a new historic low of just 31.4 in March from 51.6 in February. Following the pattern shown earlier by China, the decline in services activity was much deeper than in manufacturing, although we expect the April figures could be even worse as they will reflect the implementation of harsher lockdowns in most countries.
- The unprecedented nature of the crisis is leading to extraordinary volatility around our forecasts. Our baseline assumes the brunt of the impact will be centred around March and April, with a gradual recovery afterwards, which should speed up later in H2 as lockdowns are lifted and monetary and fiscal stimulus feeds through.
- But the evolution of the disease continues to be key in determining the final economic damage. The main risk to the forecast is that health conditions force a delay in the return to normal activity, leading to a much shallower recovery than currently anticipated. An insufficient fiscal response would also mean a weaker recovery and a larger permanent loss in output.

Forecast for Eurozone

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	1.6	1.8	-5.3	4.6	2.5	1.6
Private Consumption	1.4	1.3	-5.4	5.0	2.6	1.6
Fixed Investment	2.3	5.5	-7.6	5.8	2.6	1.8
Government Consumption	1.1	1.6	2.0	0.3	1.1	1.2
Net exports (% of GDP)	4.7	4.2	4.4	4.4	4.2	4.2
GDP	1.9	1.2	-5.1	4.6	2.3	1.6
Industrial Production	0.7	-1.6	-7.3	7.5	2.2	1.5
Consumer Prices	1.8	1.2	0.2	1.5	1.6	1.7
Current Account (% of GDP)	3.1	3.0	3.1	3.1	2.9	2.8
Government Budget (% of GDP)	-0.5	-0.7	-5.8	-2.7	-1.4	-1.2
Short-Term Interest rate (%)	-0.3	-0.4	-0.4	-0.4	-0.3	0.0
Long-Term Interest Rates (%)	1.2	0.4	0.3	0.6	1.0	1.4
Exchange rate (US$ per Euro)	1.2	1.1	1.1	1.1	1.1	1.2
Exchange rate (YEN per Euro)	130.4	122.1	116.6	115.2	118.9	122.3

All growth rates are calculated based on values in local currency

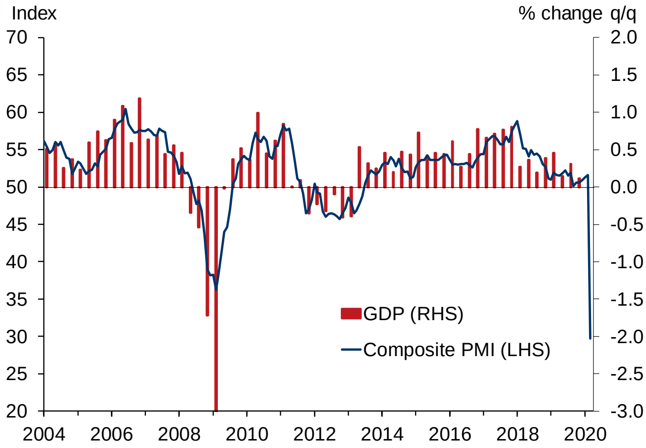
Euro area headed for historic recession

As most European countries are implementing partial or full lockdowns to prevent the spread of the coronavirus, the eurozone economy faces a collapse in economic activity in the short term.

As expected, the March PMIs showed the initial impact from the health crisis, with indices falling to new record lows. Similar to what was seen earlier in China, the decline in services was much more acute, as the initial trade and supply-side shock morphed into a massive domestic demand shock. With lockdowns being put in place and in some cases extended to all non-essential activities, the effects on consumption and retail trade will be devastating. Combined with the impact that travel bans are having on the tourism sector and related activities, we expect the euro area economy will suffer an historically large fall in GDP in Q2. As a result, we now expect GDP to contract 5.1% in 2020 as a whole (compared with our forecast of a 0.6% expansion last month). This would represent the largest fall in GDP in a single year in the history of the euro area.

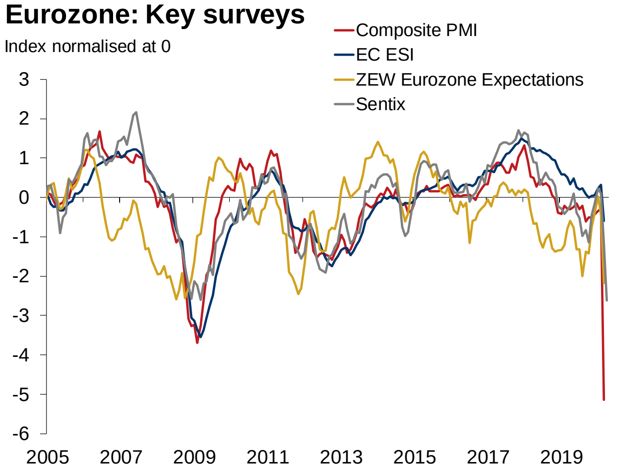
The unprecedented nature of the crisis adds an extreme degree of volatility to our forecasts. The final economic damage will largely depend on the evolution of the disease and the severity and length of containing measures that governments put in place, as well the size of the policy response. Our baseline assumes the brunt of the hit will be in March and April, with a gradual recovery thereafter in H2. However, there is a high level of uncertainty around the speed of the recovery, and activity in some sectors is likely to remain depressed for a longer period.

Eurozone Composite PMI & GDP



Source: Oxford Economics/Haver Analytics/IHS Markit

Eurozone: Key surveys



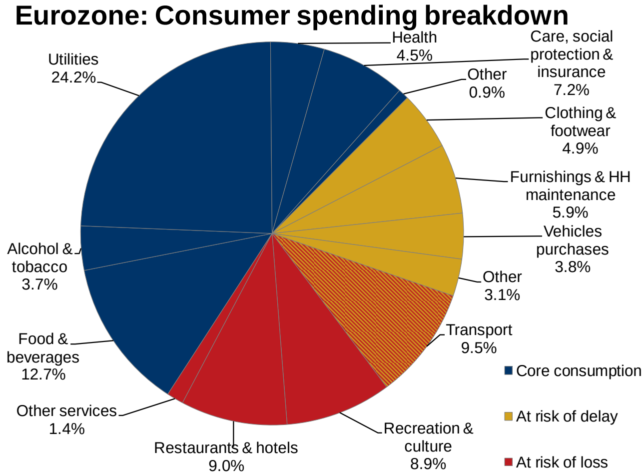
Source: Oxford Economics/Haver Analytics

Massive recession but a recovery afterwards

The coronavirus outbreak and the severe containing measures will lead to a short-term economic collapse, but we still anticipate a strong rebound in 2021 as containing measures are lifted, daily activities are resumed and the impact from monetary and fiscal policy stimulus starts to feed through. These factors underpin our forecast:

- **A collapse in consumer spending:** lockdowns and social distancing measures will cause consumer spending to collapse in H1, with around half of total spending at risk of delay or loss. We still expect a rebound when containing measures are lifted, but one of the critical channels to watch will be the potential damage to the labour market. Although most countries are putting policies in place to protect jobs, a surge in unemployment would cause lasting damage and slow the subsequent recovery. We see consumer spending

Eurozone: Consumer spending breakdown



Source : Oxford Economics/Haver Analytics

declining 5.4% in 2020 but rebounding 5.0% in 2021.

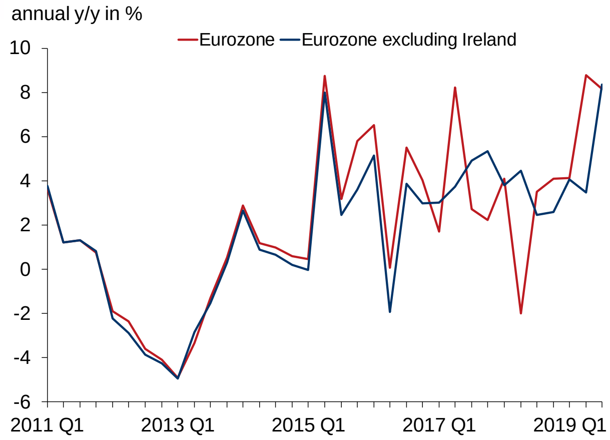
- **Investment to contract in 2020:** investment was stronger than expected in 2019, but this partly reflected huge swings in investment data in Ireland that caused volatility in the overall eurozone figures. But the sharp deterioration in economic activity and sentiment and the surge in uncertainty this year will have a big impact on capital spending as well. With the crisis perhaps risking permanent damage to large parts of the corporate sector, the outlook for business spending could be permanently affected unless strong public intervention takes place to cushion the impact. We now see fixed investment falling 7.6% in 2020.

- **Exports will be severely hit as well:** the combined impact that travel bans will have on tourism and exports of services, and the decline in global merchandise trade owing to the collapse in activity, means that total exports will contract sharply in H1 this year. But the collapse in domestic demand will also cause imports to fall sharply, so the contribution from net trade to growth should be broadly neutral this year. We expect exports to decline 6.4% this year, the worst outcome since the global financial crisis, before rebounding by 6.8% in 2021 as travel restrictions and global trade return to normality.

ECB to deliver further stimulus

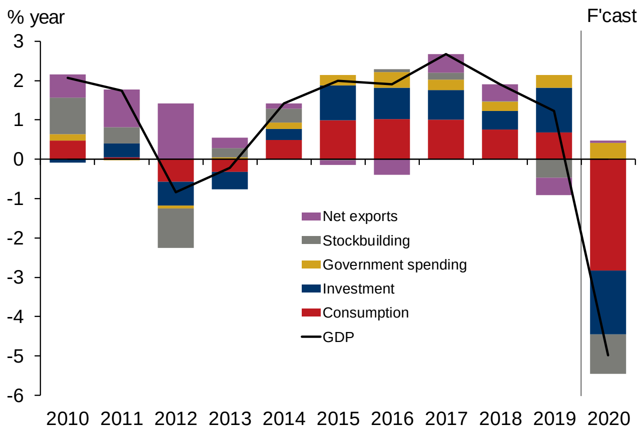
The sharp and rapid deterioration in economic and financial conditions due to the coronavirus outbreak has forced the ECB to act, following the example of other central banks across the world. After the announcement of a broad stimulus package at its 12 March meeting, which included an increase in asset purchases and changes to the TLTRO programme to improve liquidity conditions, the ECB announced a further scaling up of its QE programme at an emergency meeting only days later. The central bank will now purchase €1.1tr of bonds in 2020, a move that has calmed bond markets and which allows governments the space to increase their debt issuance substantially. On a longer-term horizon, the weak growth and inflation outlooks mean that we still expect monetary conditions to remain ultra-loose for an extended period; we do not expect interest rates to start to rise until 2023.

Eurozone fixed investment



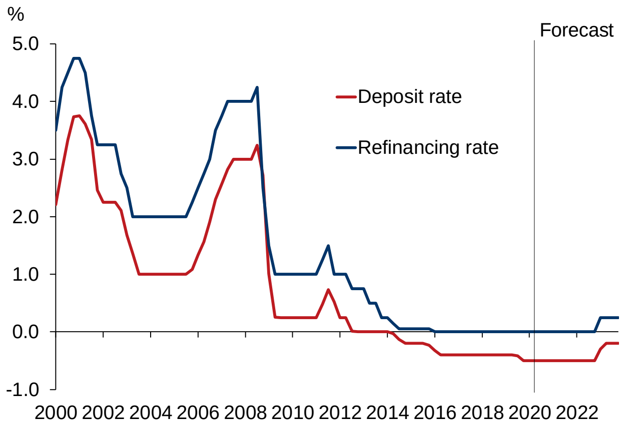
Source: Oxford Economics/Haver Analytics

Eurozone: Contributions to GDP growth



Source: Oxford Economics

Eurozone: ECB refinancing and deposit rate



Source: Oxford Economics

France

Highlights

- The drastic containment measures put in place by the government to limit the spread of coronavirus will bring the economy to standstill in H1. As a result, we have slashed our GDP growth forecasts and now expect output to contract 5.3% this year, sharply weaker than the mild 0.6% expansion expected a few weeks ago. We think the hit will be sharp, but short, and we see output starting to recover from H2 and lead to a marked rebound of 4.4% in 2021. However, risks are on the downside as the economic damage depends on the length of the crisis and the toughness of containment measures both in France and abroad.
- The country has been in lockdown since 17 March. Personal mobility is strongly restrained; schools, bars, restaurants, open-markets and non-essential shops have been closed; all gatherings are forbidden; and international and intra-regional travel has been heavily reduced. We think the lockdown is likely to last two months, although the authorities have not communicated on a precise end-date.
- With no hard economic data released since the coronavirus outbreak, estimating the economic impact remains extremely challenging. However, the plunge in the manufacturing PMI flash estimate in March to 30.0, the lowest level ever, shows that the activity collapse may be horrendous.
- The government has announced a €45bn (around 2% of GDP) emergency package including deferral of tax payments for companies and an extended partial unemployment scheme aiming to prevent massive business insolvencies and to preserve jobs. Moreover, a €300bn envelope of public guarantees on corporate credits aims to help companies face liquidity issues. However, given the potential economic loss, we think the final bill may be higher.

Forecast for France

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	1.0	1.4	-5.3	4.5	2.5	1.9
Private Consumption	0.9	1.2	-5.4	4.3	2.3	1.8
Fixed Investment	2.8	3.6	-4.0	4.6	2.6	2.2
Stockbuilding (% of GDP)	0.7	0.2	-1.9	-0.2	0.2	0.2
Government Consumption	0.8	1.3	2.2	-2.0	1.2	1.9
Exports of Goods and Services	3.5	1.9	-4.6	4.5	3.0	3.6
Imports of Goods and Services	1.2	2.2	-4.5	4.8	3.2	3.2
GDP	1.7	1.3	-5.3	4.4	2.5	2.1
Industrial Production	0.4	0.3	-5.0	4.2	2.1	1.5
Consumer Prices	1.9	1.1	0.3	1.5	1.6	1.7
Current Balance (% of GDP)	-0.7	-0.7	-0.4	-0.6	-0.3	-0.2
Government Budget (% of GDP)	-2.5	-3.0	-6.6	-3.9	-2.8	-2.0
Short-Term Interest Rates (%)	-0.3	-0.4	-0.4	-0.4	-0.3	0.0
Long-Term Interest Rates (%)	0.8	0.1	0.1	0.4	0.7	1.1
Exchange Rate (US$ per Euro)	1.18	1.12	1.09	1.09	1.13	1.17

All growth rates are calculated based on values in local currency

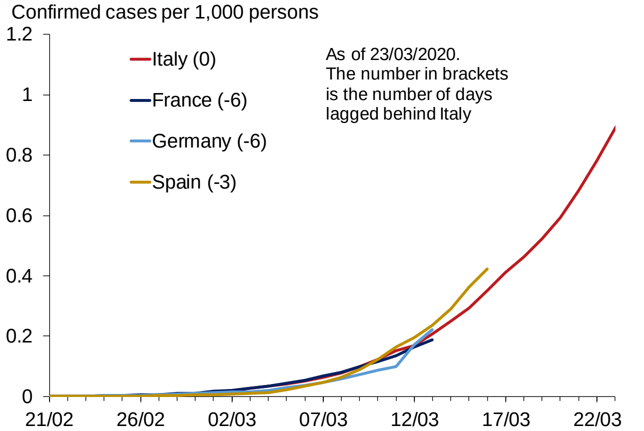
Pandemic recession

A sharp economic recession will result from the coronavirus pandemic and the tough containment measures put in place by the government to limit the spread of the virus. France has been in lockdown since 17 March. Personal mobility is heavily restricted; schools, bars, restaurants, open-markets and non-essential shops have been closed; all gatherings are forbidden; and international and intra-regional travel has been strongly reduced. Curfews have also been imposed by some regions. For now, no factory closures or suspension of non-essential activities – as to Italy – are imposed, and there are no restrictions on the exchange of goods and services in order to prevent goods shortages. But some industries have suspended activities or closed factories. Initially set for 15 days, the lockdown has been extended "indefinitely" as the number of coronavirus cases and deaths continue to rise rapidly – following a similar path than seen in Italy – and we think it is likely to last two months until around mid-May.

With no economic hard data covering the coronavirus period available yet, estimating the economic impact is challenging. But the plunge in the flash manufacturing PMI in March to 30.0, the lowest level ever and far below the average of the 2008-09 global financial crisis, shows that the activity collapse will be horrendous. As such, we have slashed our GDP growth forecasts and now expect output to contract by 5.3% this year, from a mild 0.6% expansion expected some weeks ago. We think the hit will be sharp but short, and see output starting to recover swiftly later in H2 as containing measures are lifted, daily activity resumes and monetary and fiscal policy stimulus start to feed through, leading to a marked rebound to 4.4% growth in 2021. But risks are on the downside as the economic damage depends on the length of the crisis and the containment measures, in France and abroad. The main drivers of our forecast are:

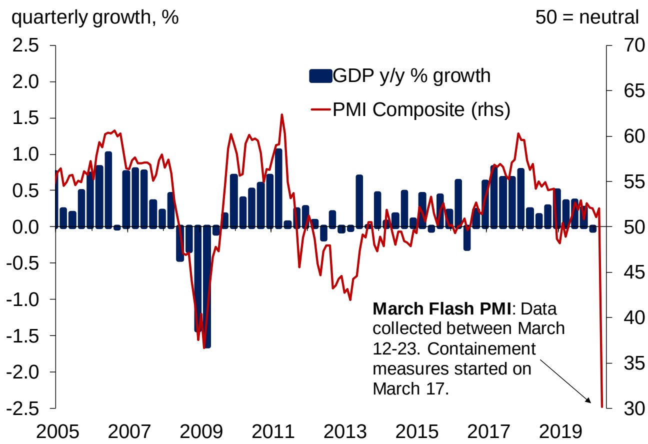
- **Economy already weak before coronavirus:** the economy was in feeble shape before coronavirus crisis, as the prolonged strikes against the pension reform saw Q4 2019 GDP post the first contraction since 2016. Surveys in January and February suggested a post-strike recovery was on the cards. Admittedly, household consumption of goods fell by a hefty 1.1% m/m in January, but this was mainly attributable to lower car purchases as new regulations on the most-polluting cars came into force at the start of the year, while the widespread strikes over pension reform weighed on broader consumer spending. But consumer confidence in February hit a 4-month high (and the second-

Eurozone: Evolution of confirmed COVID-19 cases



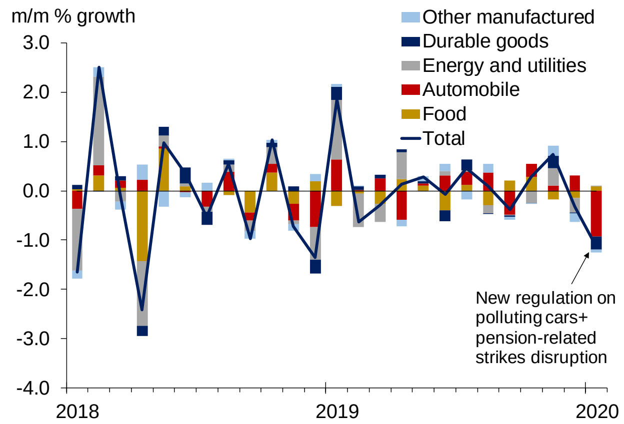
Source: Oxford Economics/Eurostat/WHO/Haver Analytics

France: Composite PMI and GDP growth



Source : Oxford Economics/Markit/Haver Analytics/INSEE

France: Household consumption of goods



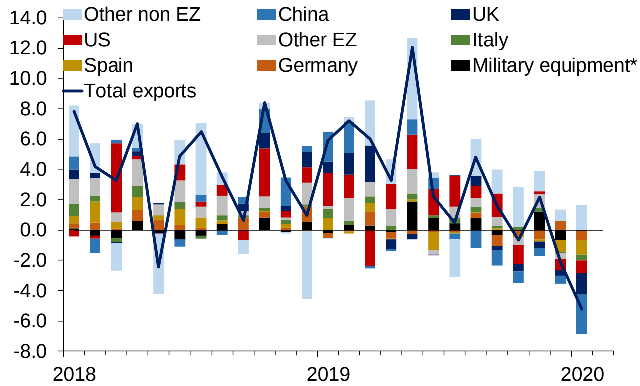
Source : Oxford Economics/Haver Analytics

highest in two years), suggesting the slump was only temporary. On the supply side, industrial production rebounded by 1.6% m/m in January, after it slumped markedly in December (down 1% m/m) as the strikes prompted companies to use their stocks rather than raise production. But the rebound was not enough to offset December's losses, and output remained below November's levels.

- **Consumption will be particularly hit:** social distancing and containment measures will cause consumption to collapse in H1, with almost half of total spending at risk of loss or delay. We expect it to rebound in a similar impressive way once the containment measures are lifted. However, this will depend on the ability of the government to avoid massive layoffs and preserve households' incomes. In this sense, the extended and simplified partial unemployment scheme put in place by the government is suited to preserve jobs and ensure a rapid rebound in consumer confidence once the health crisis is over. Overall, we expect private consumption to drop by 5.4% this year, before rebounding 4.3% in 2021.
- **Investment and exports will also nosedive:** Exports, which already suffered from lower Chinese demand in January, will plummet in H1 as the health situation has also deteriorated in key trading partners, while travel bans will crush the tourism sector. Similarly, the unprecedent level of uncertainty will slash investment plans and massive public intervention (potentially even nationalisation) could be needed to cushion the impact of the crisis in the most vulnerable sectors (eg airlines).
- **President Macron asserted will preserve the economy "whatever the cost":** the government announced an emergency economic plan to preserve the economy until the storm passes. Notably, the partial unemployment scheme was widened and simplified, companies can request the suspension of taxes and social contributions, a solidarity fund to help SMEs has been put in place as well as a €300bn envelope of public guarantees to back corporate credit lines. The government estimates these measures will cost €45bn (2% of GDP), but we think the bill will be much larger. Especially, more fiscal stimulus will be needed to jump start the recovery once containment measures are lifted.

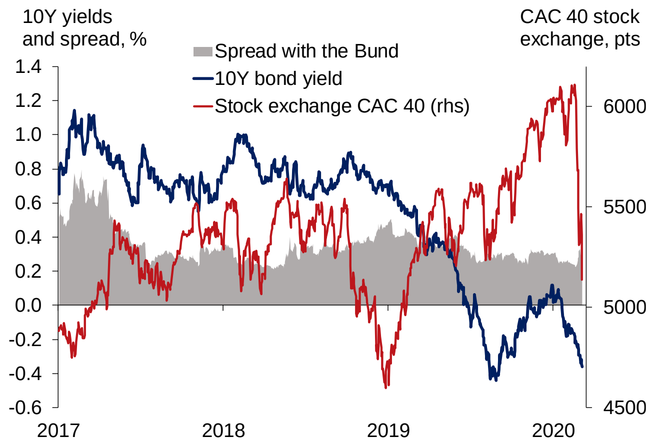
France: Exports of goods by destination

y/y % growth and pps contribution



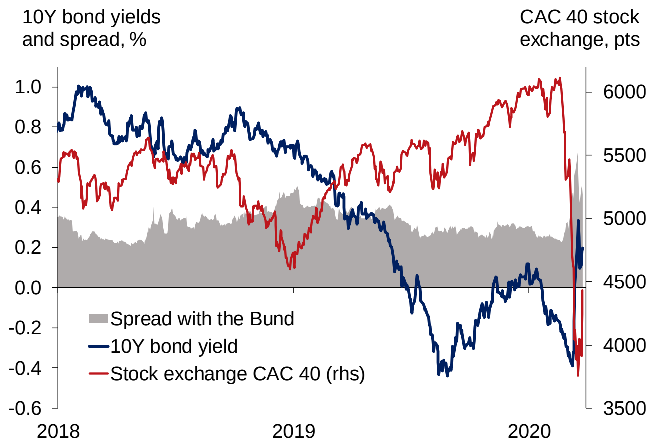
*Military equipment does not have a regional breakdown
Source : Oxford Economics/Haver Analytics

France: Long-term bond yields and stocks



Source : Oxford Economics/Haver Analytics

France: Bond yields and stock market



Source : Oxford Economics/Haver Analytics

Germany

Highlights

- A further ratcheting-up of virus containment measures has brought much of the German economy to a standstill and will trigger a deep recession. GDP could contract by 5% or more in Q2, a new record fall. The unprecedented nature of the shock and the unknown length of the lockdown mean that there is huge uncertainty over the forecast. But even assuming that these restrictions are partially lifted towards the end of Q2 and despite the massive fiscal response, we have cut our 2020 GDP call to a fall of 3.9% (from 0.3% growth seen last month). Risks are clearly to the downside for 2020, but we expect a rebound to growth of 4.7% in 2021.
- Business surveys nosedived in March and indicate that Germany has already entered a deep recession. The composite PMI fell to the lowest since February 2009, with the services index hitting an all-time low, and the ifo index recorded the largest one-month fall in its history. With restrictions only having been in place for part of March, surveys are likely to fall further in April/May. Industry is nominally not affected by restrictions, but supply-chain disruptions and a drop in domestic and foreign demand are likely to see 2020 industrial output plunge by about 5.7% for a second year running.
- The government's massive fiscal response should help to limit the economic fallout. It is focused on keeping firms alive by injecting ample liquidity through loan guarantees and tax deferrals. Household incomes and employment should benefit from a subsidy of reduced working hours. The government plans a budget deficit of 5.1% of GDP. Loan guarantees and potential nationalisations could boost the effect on public debt but, given ample monetary policy support and low debt levels, that is not a concern.
- Inflation is bound to slow sharply in the coming months. The sharp drop in oil prices will weigh on energy prices and the recession is likely to reduce underlying price pressures. We expect CPI inflation to slow to 0.9% this year from 1.4% in 2019.

Forecast for Germany
(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	2.1	1.0	-2.8	4.7	2.0	1.4
Private Consumption	1.2	1.6	-4.3	6.2	2.2	1.5
Fixed Investment	3.5	2.7	-3.3	5.2	1.7	1.2
Stockbuilding (% of GDP)	0.9	0.0	-0.2	-0.2	-0.1	0.0
Government Consumption	1.4	2.6	2.1	0.4	1.3	1.0
Exports of Goods and Services	2.3	0.9	-7.5	9.8	2.4	2.0
Imports of Goods and Services	3.8	1.9	-5.7	10.3	3.7	2.8
GDP	1.5	0.6	-3.9	4.7	1.4	1.1
Industrial Production	1.0	-4.6	-5.7	6.6	0.8	0.9
Consumer Prices	1.7	1.5	0.9	1.4	1.6	1.8
Current Balance (% of GDP)	7.5	7.3	6.3	6.7	6.0	5.6
Government Budget (% of GDP)	1.9	1.4	-5.1	-0.8	0.1	0.0
Short-Term Interest Rates (%)	-0.3	-0.4	-0.4	-0.4	-0.3	0.0
Long-Term Interest Rates (%)	0.5	-0.2	-0.4	-0.1	0.2	0.6
Exchange Rate (US$ per Euro)	1.18	1.12	1.09	1.09	1.13	1.17
Exchange Rate (£ per Euro)	1.13	1.14	1.15	1.18	1.18	1.17

All growth rates are calculated based on values in local currency

Massive increase in containment measures…

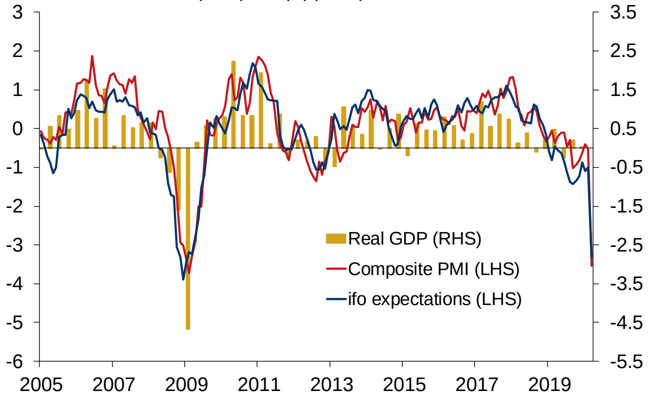
The near-term outlook for the economy has taken a massive turn for the worse. The government has ratcheted up action to contain the coronavirus spread to prevent healthcare systems collapsing. Public life in Germany has by and large come to a halt. Schools, cinemas, bars, restaurants and other non-essential client-facing businesses are shut. Workers are allowed to go to work but are encouraged to work from home if possible. Public gatherings are severely constrained. The flow of goods is not legally limited, but border checks spell trouble for just-in-time manufacturing processes. These measures are going to be reviewed every two weeks, but we assume that they will last for 4-6 weeks.

…stops economy in its track

This will push Germany into a deep recession. GDP could contract 0.5% in Q1 as containment was ratcheted up in March and Q2 could see a devastating plunge of about 5%. There is extreme uncertainty around these estimates due to the unknown length of the shutdowns as well as their impact. Food retailers may benefit, but nearly half of consumer spending faces restrictions. Industry and construction firms are allowed to operate, but lack of workers, supply-chain issues or a demand slump may still curtail activity. We have cut our forecast for 2020 sharply. GDP could drop by 3.9% this year after 0.6% growth in 2019, before recovering to 4.7% growth in 2021, but risks are decisively on the downside. The main factors behind our forecast are:

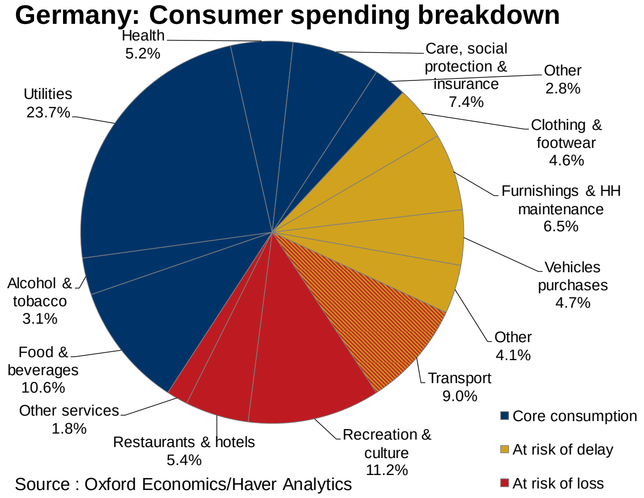
- **Another horrible year for industry:** data had pointed to a modest industrial recovery earlier this year, but containment actions, supply-chain disruptions and a global recession in H1 2020 are bound to deliver another year of deep production cuts. Temporary closures of European carmakers' factories are a big drag. We expect a 5.7% plunge in industrial output in 2020 after a similar fall last year. Signs of recovery should emerge later in H2, setting the stage for a over 6% rise in 2021. But low confidence could lead to prolonged investment weakness extending the suffering.
- **'Kurzarbeit' is about to surge:** the outstanding labour market performance of recent years is about to end. The improved government scheme to subsidise reduced working hours to keep workers employed will thankfully limit the impact of recession on employment. But we still expect a modest 0.3% decline in 2020 before a 1.1% rise in 2021. Wage growth could slow to 1.7% this year from 3% in 2019 as unemployment sees a spike to about 6% in Q2 before

Germany: GDP growth & sentiment



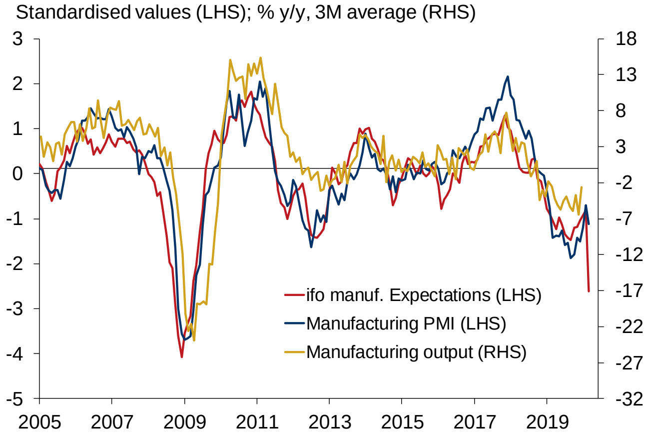
Source : Oxford Economics/Haver Analytics/IHS

Germany: Consumer spending breakdown



Source : Oxford Economics/Haver Analytics

Germany: Sentiment vs. production



Source : Oxford Economics/Haver Analytics

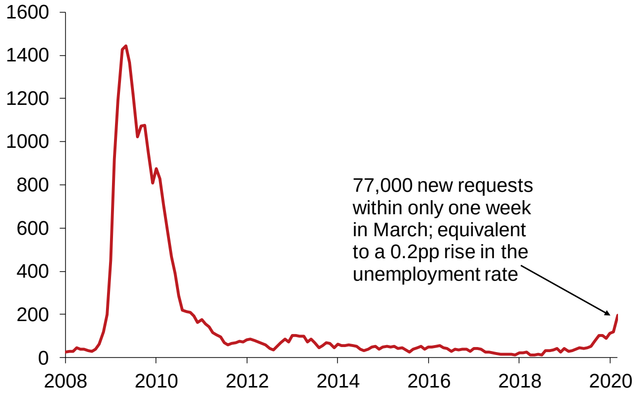
falling back to about 5% in 2021.

- **Inflation dives on tumbling oil prices:** inflation (on the national measure) could drop to around 1% in March from 1.7% in February on the back of sharply lower energy prices. Weak oil prices are expected to remain a drag until early-2021. The coronavirus has an uncertain effect on underlying inflation. For now, we expect core inflation to be somewhat more muted than previously forecast, but to remain robust. We now expect inflation of 0.9% this year and 1.4% in 2021 after 1.5% in 2019.
- **Consumption to take a lasting hit:** half of consumer spending faces temporary restrictions in H1. Consumer discretionaries such as cars should benefit from pent-up demand in H2 2020, but other consumer categories such as restaurant visits and lodging could feel the pinch from a lasting cut this year. Sharply lower inflation should be a boost to real incomes and consumption later this year. All told, consumption could drop 4.3% in 2020 before rebounding by over 6% next year.
- **Resilient construction, weak equipment investment:** construction demand could see a soft-patch, but we think that underlying demand will remain robust. Combined with massive order backlogs, we expect only a short-lived slump in activity as some workers temporarily stay at home. In contrast, further contraction in industrial activity, weaker global demand and a hit to firms' confidence will weigh on equipment investment. Total investment is seen shrinking 3.3% this year before rising 5.2% in 2021.
- **Strong fiscal policy response:** the government has unveiled a broad fiscal package of over 30% of GDP to fight the downturn. A massive rise in loan guarantees is meant to provide a liquidity bridge for a difficult few months. For very small firms, there is a fixed cost subsidy and critical firms may be temporary nationalized using a €100bn fund. Higher public spending and lower revenues could lift the federal deficit to over 4% of GDP in 2020. Further stimulus is likely to prop up the H2 recovery, once the containment measures are being lifted.

Based on patterns during other pandemics, we think a swift economic rebound is likely. However, more prolonged containment measures could easily trigger a deeper downturn and leave more lasting scars. Over the medium term, adverse demographics will also weigh on the economy so, although GDP growth may jump to 4.7% in 2021 after the 3.9% fall now seen in 2020, the pace is then seen slowing to below 1% by the middle of the decade.

Germany: Kurzarbeiter / short-term worker

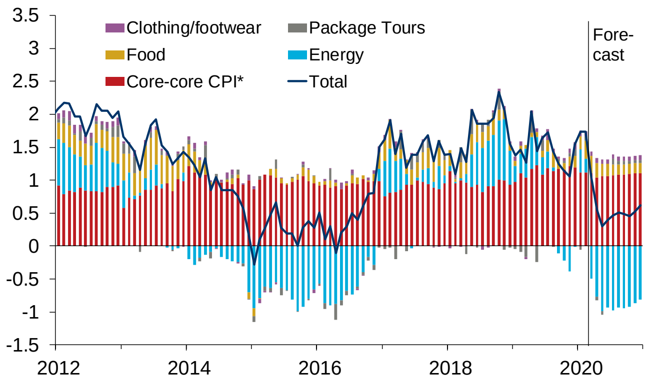
Beneficiaries of reduced hours compensation benefit, for cyclical reasons, '000



Source: Oxford Economics/Haver Analytics/Federal Employment Agency

Germany: CPI composition

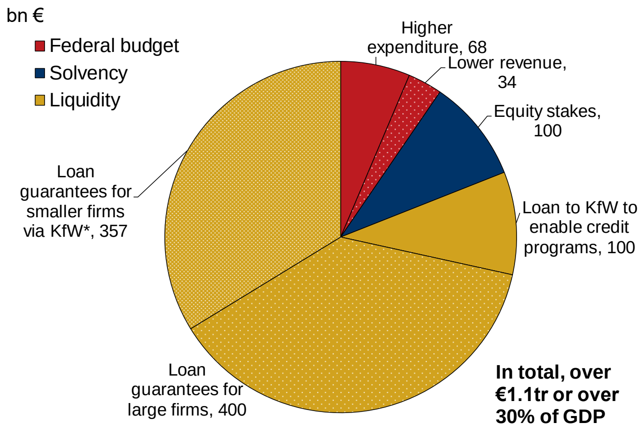
CPI, % y/y, ppts contribution



*excl. energy, food, package holidays, clothing & footwear
Source: Oxford Economics/Haver Analytics

Germany: Fiscal response to Coronavirus

bn €



Source: Oxford Economics/Handelsblatt/FAZ (*can easily be scaled up further)

OXFORD ECONOMICS

India

Highlights

- We have slashed our 2020 growth forecast as we perceive little probability of India fully emerging out of the lockdown on 14 April. We now forecast a full-year contraction of 1% as opposed to expansion of 4.4% a month ago. This not only reflects the substantial hit to the economy from the containment measures that are likely to extend until the end of the second quarter but also India's inherent economic fragilities and limited policy arsenal, that will likely hinder a quick and decisive rebound in growth.
- From 25 March, all of India went into a lockdown for a period of 21 days. On the face of it, the measures seem drastic given India's low count of coronavirus cases – just 4.3 per mn of population. Having said that, it is highly probable that the small numbers are, in part, due to the low testing rate. Along with a steepening of India's coronavirus curve, this probably explains the government's heightened efforts to contain the virus.
- In addition, India's underfunded health facilities are already under strain and quite ill-equipped to handle an exponential rise in cases, were they to occur. Hence, we expect the lockdown to be extended. The more infected states are likely to be in partial lockdown till about the middle of Q2 with stringent social distancing measures remaining in place for longer across the country, pushing Q2 growth to -5.5% y/y.
- Recovery should begin in Q3 as containment measures are eased. But India's persistent balance sheet stresses are a headwind to a strong recovery. In fact, a worsening of these stresses cannot be ruled out if an adequate policy response is not in place to prevent the current short-term fallout from cascading into a longer-term cycle of debt and default. The economy needs swift policy intervention, especially fiscal, to position for a post-coronavirus pick-up. Currently we do not have that.

Forecast for India *

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	7.6	3.7	-0.9	9.3	6.9	7.1
Private Consumption	7.7	5.7	0.1	10.5	7.1	6.9
Fixed Investment	12.3	-0.2	-5.6	9.5	7.9	7.2
Stockbuilding (% of GDP)	4.6	3.9	3.4	2.9	2.6	2.8
Government Consumption	8.8	11.9	11.0	7.8	6.3	6.3
Exports of Goods and Services	10.7	1.6	-9.0	9.4	7.5	6.9
Imports of Goods and Services	14.2	-4.6	-8.0	11.4	8.0	7.1
GDP	6.8	5.3	-1.0	8.9	6.8	7.1
Industrial Production	5.2	0.6	-2.9	7.7	6.5	6.7
Consumer Prices	3.9	3.7	3.9	3.3	4.2	4.4
Current Balance (% of GDP)	-2.4	-1.0	-0.4	-0.4	-0.2	-0.2
Government Budget (% of GDP)	-3.6	-4.4	-5.7	-4.7	-3.6	-3.4
Current Account ($bn)	-65.60	-26.89	-11.58	-13.39	-7.70	-10.08
Trade Balance ($bn)	-186.69	-154.11	-121.65	-133.38	-140.51	-151.34
Short-Term Interest Rate (%)	7.30	6.68	5.24	4.93	5.33	5.71
Exchange Rate (per US$)	68.40	70.42	74.96	71.26	70.35	71.13

*** Refers to Calendar year**

All growth rates are calculated based on values in local currency

Economy to contract 1% in 2020

We expect India's decision to impose a stringent lockdown to head off the coronavirus outbreak will push the economy into contraction in 2020.The key drivers of our forecast are:

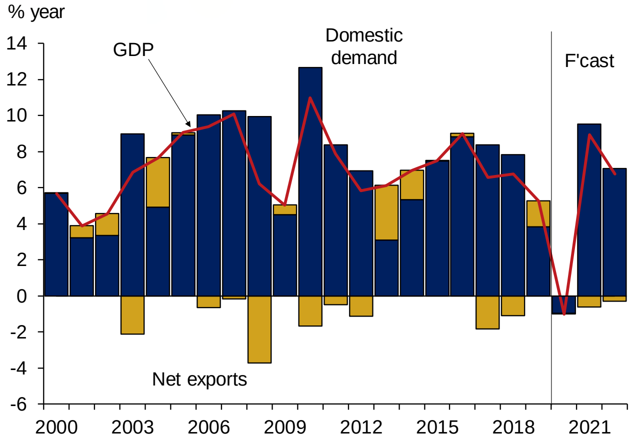
- **Another sharp slowdown in consumption**: early reports indicate that auto sales plummeted in March, with large companies reporting a drop of 50% y/y or more. The IHS Markit India Services PMI also plunged to 49.3 in March from 57.5 in February, primarily due to a sharp deterioration in foreign demand. While the looming 1 April deadline for switching to BS-VI vehicles has compounded problems for the auto industry and the PMI survey conducted between 12-27 March doesn't fully capture the domestic impact of the lockdown, other indicators show that that the travel bans, and increasingly stringent social distancing measures (even prior to the lockdown) did take a heavy toll on employment and consumption in March in line with our expectations. According to the Centre of Monitoring Indian Economy's (CMIE) survey, the unemployment rate climbed to 8.7% in March from 7.7% in February and the labour participation rate fell to 41.9% from 42.6%. Provisional data for March for petrol and diesel sales show that demand contracted 15.5% y/y and 24.2% y/y respectively. We forecast consumption growth to slow to 2.9% y/y in Q1 2020 from 5.9% in Q4 2019 and contract 5.5% in Q2.

- **Investment growth to slip deeper into red**: the IHS Markit manufacturing PMI was 51.8 in March, down from 54.5 in February, but still in expansionary territory as domestic orders held up. Industrial production growth jumped to 4.5% y/y in February from 2% prior, in line with the strong pick-up in core industries output. However, these trends will not continue going forward. We estimate that the current lockdown (until April 14) alone would lead to a loss of 4-5% in annual industrial output from our pre-lockdown baseline. Extended containment measures, which are assumed in our latest baseline and are in line with reports of the government hinting at the extension of the lockdown, would more than double this loss. Accordingly, we expect both manufacturing and investment growth to contract sharply in H1 this year. Moreover, continued balance sheet stresses, which are likely to keep credit conditions tight, could hinder the recovery as containment measures are eased. We now forecast investment to contract 5.6% in 2020.

- **A limited fiscal package, more in pipeline**: on 26 March, the government announced a fiscal relief package worth 0.8% of GDP, targeting frontline workers and the most

India: Contributions to GDP

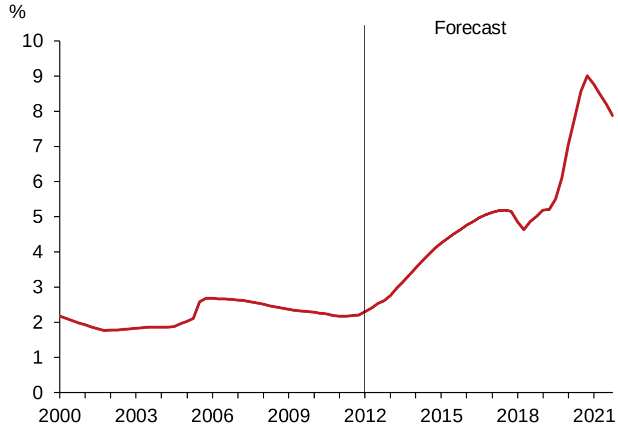
% year



Source: Oxford Economics

India: Unemployment

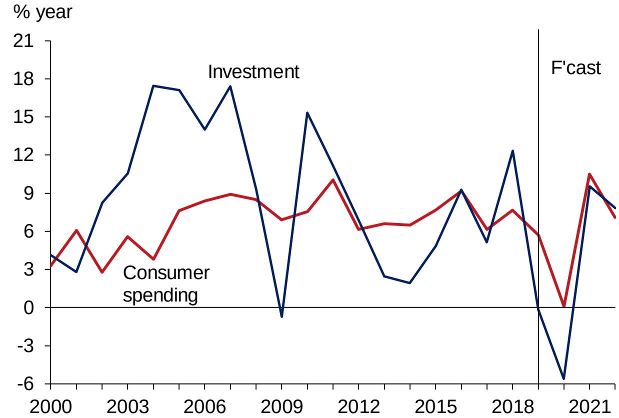
%



Source: Oxford Economics

India: Consumer spending and investment

% year



Source: Oxford Economics

vulnerable sections of the society. However, it is becoming increasingly obvious that the stringent lockdown requires a much bigger fiscal response. Newswires report that a second package is in the works, which may be more broad-based and have stimulus measures for businesses as well. As such, after accounting for the potential shortfall in government revenues, we forecast the fiscal deficit to widen to 6% of GDP in FY21 (ending March 2021) from 4% in FY20. While this may lead to a negative sovereign rating outlook for India, we think a rating downgrade can be avoided, as long as the government can assure the rating agencies that this is a temporary development and will not derail the medium-term fiscal consolidation objective.

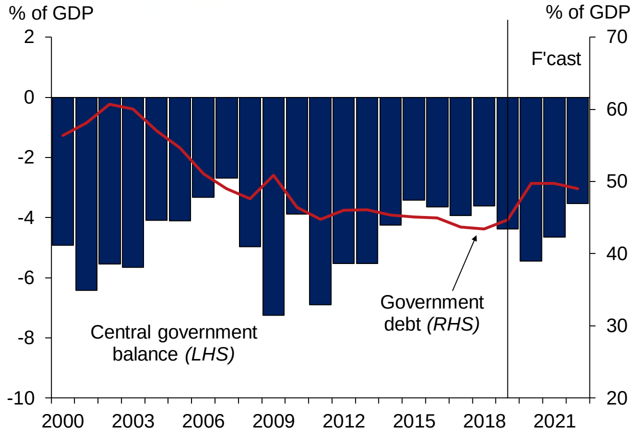
- **Narrowing current account gap but broader market contagion weighs on the INR**: the rupee has traded to a new low of 76.58 against the US dollar as outflows from Indian markets have gathered speed amid rising risk aversion globally. While we expect the current account deficit to benefit from low oil prices and remain smaller than 1% of GDP in 2020, this may not be enough to stem the short-term slide in the currency. As such, risks to our forecast of the INR ending Q2 at 77.80 against the dollar, remain to the downside.

Further monetary easing on the cards

The RBI made up for its delayed response to the coronavirus outbreak by delivering a larger than expected 75bp rate cut, lowering the repo rate to 4.4%, in an unscheduled meeting on 27 March. It also lowered the reverse repo rate by 90bp to 4% and cut the cash reserve ratio by 100bp to 3%. These were accompanied by several non-rate measures aimed at managing the currency depreciation, infusing domestic liquidity and providing regulatory relief to soften the blow of the lockdown on the economy, including letting lending institutions allow a three-month moratorium on all loans.

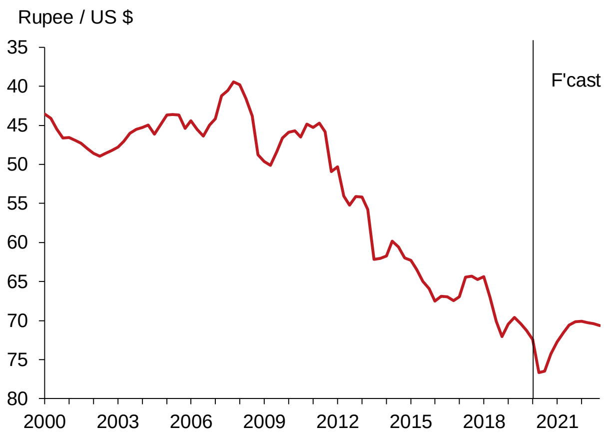
We forecast another 100bp of rate cuts this year, most likely in Q2, given the substantial negative impact that the lockdown is likely to have on growth. While there could be some supply side pressures on inflation, we expect these to be more than offset by the rising economic slack. Accordingly, we forecast consumer price inflation to average 2.1% y/y in Q4, down from 6.5% in Q1.

India: Government budget balance and debt



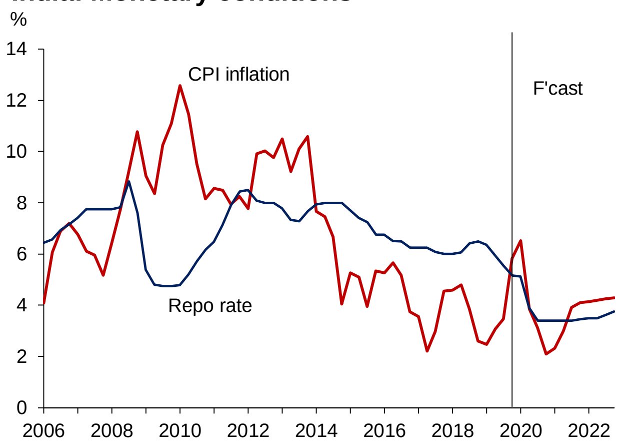
Source: Oxford Economics

India: Exchange rate



Source: Oxford Economics

India: Monetary conditions



Source: Oxford Economics

Italy

Highlights

- The coronavirus pandemic means that Italy will see a massive contraction in H1 2020, with a combination of virus-induced supply and demand shocks sending the country into a new and very deep recession. While the uncertainty around our forecast remains very high, the huge negative impact of the coronavirus outbreak and the severe measures taken to combat it have prompted us to slash our 2020 growth forecast. We now see the Italian economy shrinking by 7.6% in 2020, its sharpest drop since the second world war. Moreover, the risks are clearly tilted to the downside and linked to the duration of the containment measures, which we assume will be gradually lifted from early May.
- Time-lags in data releases mean we will need to wait until at least the start of May before we see the first 'hard' data related to March, to gauge fully the economic impact of the virus outbreak in Italy. But the March composite PMI, at 20.2 down from 50.7 in February, is consistent with a massive quarterly GDP contraction in Q1 – broadly in line with our current forecast of a 4% drop. Moreover, base effects and the intensification of the lockdown measures in the second half of March, with the cessation of non-essential manufacturing and construction, mean that Q2 will be hit even harder, shrinking by more than 8% on the quarter.
- The shock to the labour market will be huge. While official figures have yet to be published the number of people in the short-term work scheme is expected to account for around 10-20% of the total workforce. But, as they will not be counted as unemployed, they will not inflate the unemployment rate – which we see jumping to around 13% in Q2 and Q3. The combination of the government's emergency policies and the plunge in economic activity means that the fiscal deficit is likely to increase to about 9% of GDP this year, with the government debt ratio jumping to 155% of GDP.

Forecast for Italy

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	1.0	-0.2	-7.4	4.1	2.8	1.3
Private Consumption	0.9	0.4	-8.2	3.8	3.2	1.3
Fixed Investment	2.9	1.4	-11.4	9.0	3.3	1.5
Stockbuilding (% of GDP)	0.6	-0.1	-0.4	-0.3	-0.2	0.0
Government Consumption	0.1	-0.4	0.4	0.4	0.3	0.1
Exports of Goods and Services	1.7	1.4	-8.0	7.3	3.8	2.4
Imports of Goods and Services	2.8	-0.2	-7.4	8.5	4.0	2.2
GDP	0.7	0.3	-7.6	3.8	2.8	1.4
Industrial Production	0.6	-1.4	-15.4	12.1	3.9	1.4
Consumer Prices	1.1	0.6	-0.5	1.3	1.3	1.4
Current Balance (% of GDP)	2.5	3.0	3.9	3.5	3.2	3.1
Government Budget (% of GDP)	-2.2	-1.6	-9.0	-4.9	-2.1	-1.8
Short-Term Interest Rates (%)	-0.3	-0.4	-0.4	-0.4	-0.3	0.0
Long-Term Interest Rates (%)	2.6	1.9	1.5	2.0	2.3	2.7
Exchange Rate (US$ per Euro)	1.18	1.12	1.09	1.09	1.13	1.17

All growth rates are calculated based on values in local currency

Worst recession in many decades

The Italian economy is experiencing its worst time since the second world war and is set to drop by around 7.5% this year. Our forecast, albeit subject to very high levels of uncertainty, assumes that the current lockdown measures will continue until the end of April and that the measures will then be gradually lifted thereafter. This assumption is in line with recently reported comments by some government officials about the rationale to start a gradual opening-up of activity in May.

Time-lags in data releases mean we will need to wait until at least the start of May before we see the first ‘hard’ data related to March, to gauge fully the economic impact of the virus outbreak in Italy. But the business surveys released so far point to a massive quarterly contraction in Q1. Moreover, electricity demand is down by around 20% in the last couple of weeks with respect to the average of the corresponding periods of the previous five years (Chart 3).

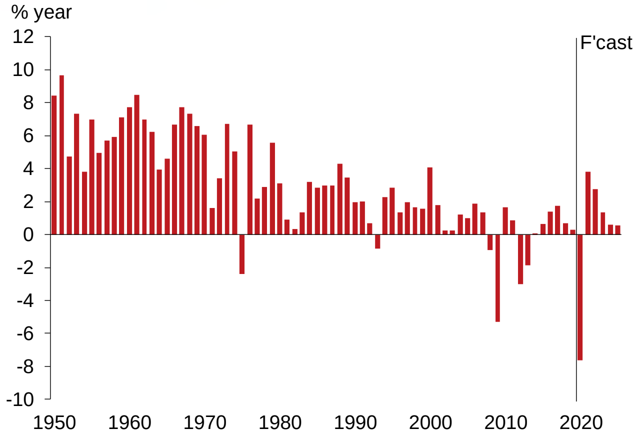
Both the ISTAT confidence indicators and the PMIs reached multi-year lows in March. The services PMI plunged to 17.4 in March, from 52.1 in February, marking the weakest level of activity ever (Chart 2). Unsurprisingly, the hit to services was much bigger than the drop seen in the manufacturing PMI (40.3 in March from 48.7 in February) as measures to limit the spread of the virus, such as the closure of restaurants, non-core consumption outlets and hotels, drastically (and rapidly) restricted services activity.

March’s composite PMI, at 20.2 down from 50.7 in February, is consistent with a massive quarterly GDP contraction in Q1 – broadly in line with our current forecast of a 4% drop. Moreover, base effects and the intensification of the lockdown measures in the second half of March, with the cessation of non-essential manufacturing and construction, mean that Q2 will be hit even harder, shrinking by more than 8% on the quarter. Based on ‘bottom-up’ estimates, we assume a cumulative drop of around 12% in H1. Indications from the labour market suggest that employment will be badly hit and that the support measures implemented by the government will only partly offset the loss in income.

Fiscal deficit will widen sharply this year

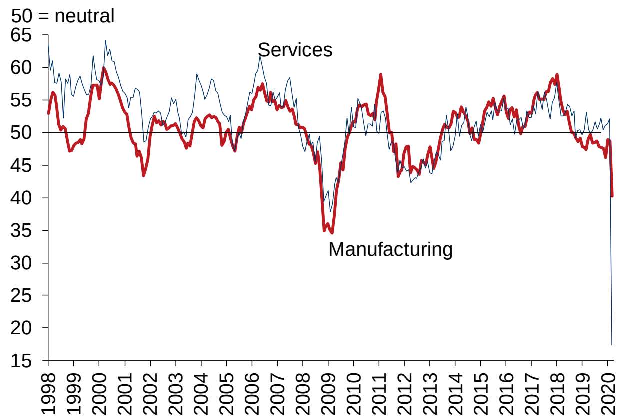
The fiscal response to the crisis has been relatively prompt, albeit inevitably constrained by the country’s large existing debt. The government’s focus has been to increase funding for the health system, provide tax credits for firms with revenue shortfalls, raise funding for the short-term furlough scheme and extend public guarantees on credit. But the initial funding of around 1.2% of GDP will cover only a short time and we think

Italy: GDP



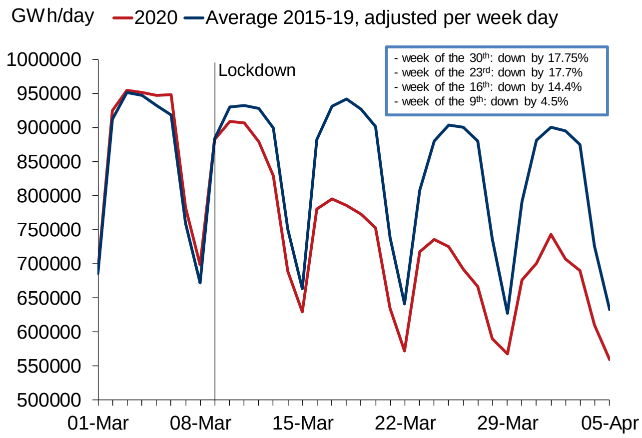
Source : Oxford Economics/Bank of Italy/Haver Analytics

Italy: PMIs



Source : Oxford Economics/IHS Markit

Italy: electricity demand



Source : Oxford Economics/Terna

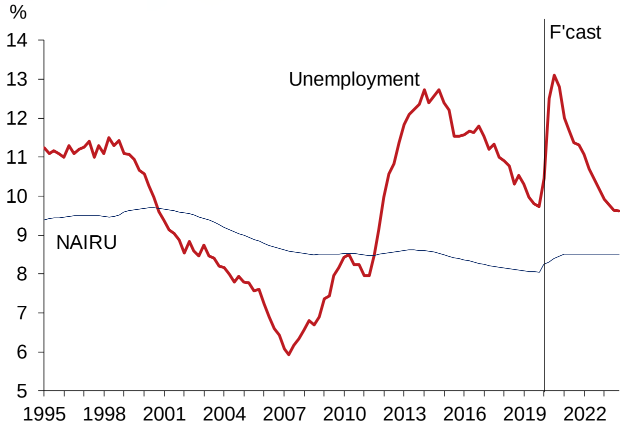
OXFORD ECONOMICS

the government will have to go further. The combination of the government's emergency policies (which at the moment we estimate at around 2.5% of GDP) and the plunge in economic activity means that the fiscal deficit is likely to increase to about 9% of GDP this year.

Short-term prospects are very negative

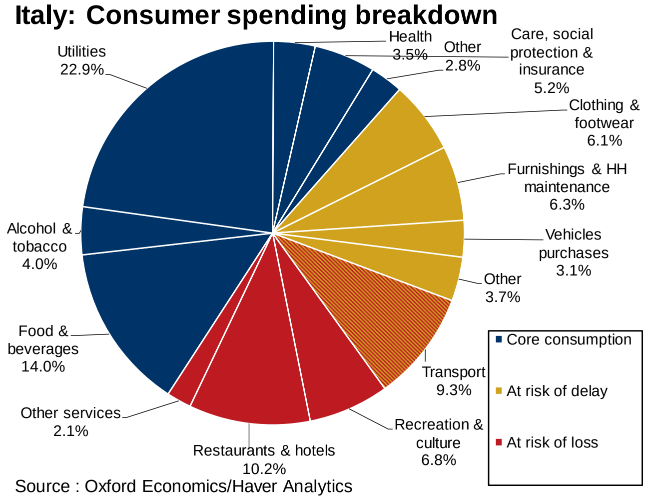
- **Weakening labour market outlook**: we think unemployment will rise above 13% this year. Moreover, the unemployment numbers will not show the true scale of weakness in the labour market, as those in the short-term work scheme, which is expected to account for around 10-20% of the total workforce, will not be shown in the unemployment statistics.
- **Consumption to plummet this year**: we currently think that Italian consumption may plummet by 15% or so in H1 and by 8% in 2020 as a whole. The lockdown puts restrictions on around half of the consumer basket (Chart 5). On top of that, travel restrictions may last into H2 weighing on the recovery of the battered tourism sector.
- **Low inflation here to stay**: CPI inflation was 0.1% in March and we expect it to move into deflation in Q2, averaging -0.5% this year and only around +1% in 2021.
- **Trade will take a hit**: both exports and imports will slump in H1. This is due to a combination of factors, such as severe weakness in domestic and global demand, some disruption to supply chains and much lower tourism flows (around 10% of total exports).
- **Capital spending will stop this year**: investment, especially business investment, will weaken particularly in the first half of the year, potentially with some carry-over into the latter part of 2020 if the banking system starts to tighten credit as a consequence of sustained, much worse economic and financial conditions.
- **Current crisis exacerbates Italy's strained debt position**: Italy's weak public finances keep it on the edge of sustainability. We now expect the government debt to GDP ratio to rise above 155% at the start of 2021, from 135% at the end of 2018. While at the moment the ECB backstop should help to contain the Italy-Germany bond yield spread, once the crisis has ended Italy will need a credible medium-term plan to reduce its debt.

Italy: Unemployment and the NAIRU



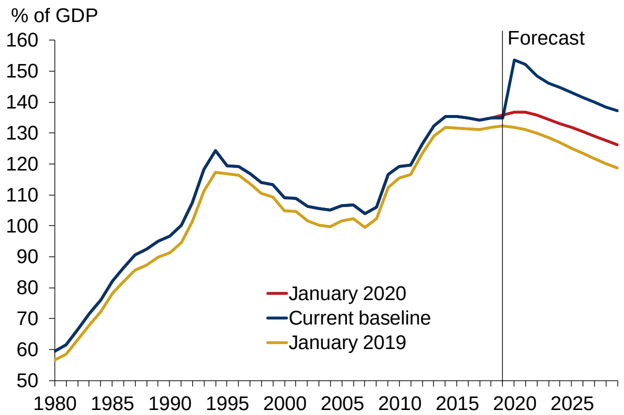
Source: Oxford Economics

Italy: Consumer spending breakdown



Source : Oxford Economics/Haver Analytics

Italy: Government debt*



Source : Oxford Economics/Haver Analytics
*historical diffrences might be due to differences in accounting

OXFORD ECONOMICS

Japan

Highlights

- The coronavirus pandemic continues to disrupt social and economic activity worldwide and the near-term outlook for the Japanese economy remains extremely challenging. Measures to contain the spread of the virus will weigh on domestic spending while businesses and trade will be hit hard by a very sharp global recession. We now expect Japanese GDP to contract 4.8% in 2020, the worst print since the Global Financial Crisis. The economy should start to recover in the second half of 2020. In 2021, we expect GDP to grow 3.9%.
- The services PMI dropped to a dismal 33.8 in March after 46.8 in February while the manufacturing PMI fell to 44.8 from 47.8, both well inside contractionary territory. While real exports declined by only a modest 1.5% y/y in February, a whopping 12% drop in real imports pointed to major disruptions to global trade. The latest Tankan business survey also showed that sentiment worsened markedly in March, with business forecasts signalling expectations of further declines in the coming months.
- The risks remain firmly skewed to the downside. Should disruptions from the spread of the coronavirus turn out to be larger and more long-lasting than currently assumed, the impact on the economy would be significantly worse and, further out, possibly prevent a strong recovery.
- The government is working on a major fiscal stimulus package to support firms and households affected by coronavirus-related disruptions. Planned measures aim to provide financial support to firms that maintain employment, postpone tax and social security charges, and provide households with direct cash transfers, among others. Meanwhile, the Bank of Japan (BoJ) in mid-March announced it would temporarily step up asset purchases and introduce a new lending programme but left its negative 0.1% policy rate and 0% government bond yield target unchanged.

Forecast for Japan
(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	0.3	0.9	-3.9	3.3	1.7	1.1
Private Consumption	0.0	0.2	-4.0	2.3	1.4	1.0
Fixed Investment	0.6	1.3	-4.4	5.3	1.9	1.8
Stockbuilding (% of GDP)	0.2	0.3	-0.8	-0.3	0.1	0.2
Government Consumption	0.9	1.9	2.0	1.2	0.2	0.2
Exports of Goods and Services	3.4	-1.8	-19.2	17.4	7.0	3.8
Imports of Goods and Services	3.3	-0.7	-13.7	12.3	4.1	3.2
GDP	0.3	0.7	-4.8	3.9	2.1	1.2
Industrial Production	1.0	-2.5	-8.9	6.9	1.9	1.2
Consumer Prices	1.0	0.5	-0.5	0.1	0.3	0.6
Current Balance (% of GDP)	3.5	3.6	2.6	3.5	3.7	3.7
Government Budget (% of GDP)	-2.4	-2.7	-5.8	-4.5	-3.3	-2.8
Short-Term Interest Rates (%)	-0.1	-0.1	-0.1	-0.1	-0.1	0.0
Long-Term Interest Rates (%)	0.1	-0.1	-0.1	-0.1	0.0	0.0
Exchange Rate (Yen per US$)	110.4	109.0	106.9	106.0	105.5	104.4
Exchange Rate (Yen per Euro)	130.4	122.1	116.6	115.2	118.9	122.3

All growth rates are calculated based on values in local currency

OXFORD ECONOMICS

Huge disruptions to economy in 2020

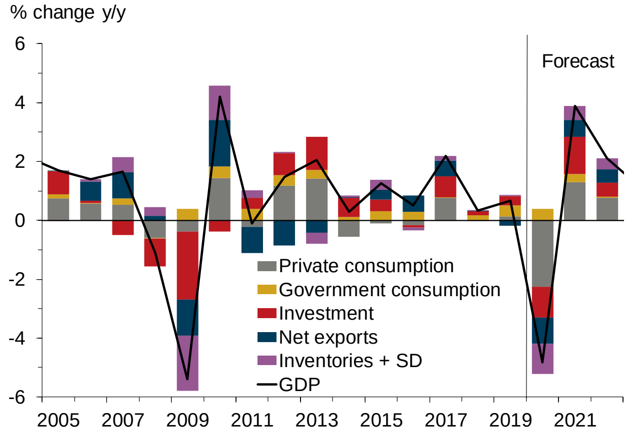
With the coronavirus pandemic continuing to disrupt activity in Japan and worldwide, we expect GDP to record a sharp contraction in 2020. Domestic demand will fall rapidly as people stay at home, which will add to pressure on sectors already hit by the collapse in travel. Crumbling foreign demand and supply chain disruptions will hit manufacturers and exporters, likely leading to cutbacks in investment spending, wage cuts, and a rise in unemployment. We now expect GDP in 2020 to shrink 4.8%. This is 2.8ppt below our mid-March projection, and 4.5ppt below our projection of four weeks ago, highlighting how quickly the pandemic and the containment measures to fight it have clouded the economic outlook in Japan and across the world. For 2021, we forecast GDP to grow 3.9%, with the now-postponed Tokyo Olympics providing a modest but welcome boost:

- **Consumption outlook extremely challenging:** while Japan avoided large-scale lockdowns and drastic restrictions on movement in the first quarter of 2020, tourism has come to a near-standstill and spending has declined as public spaces have been closed and large events cancelled. Retail sales of food, medicine and health-related products saw a pick-up in February but spending on various services and non-essential goods declined. Leading indicators suggest more and more people are staying at home as the government is urging the population to avoid gatherings and work from home. With the recently-announced state of emergency, wage freezes, softening employment conditions, collapsing consumer confidence metrics and a generally vulnerable consumer outlook after last year's tax hike, consumption will likely see a major set-back in 2020.

- **Investment to plunge as global economy enters recession:** after a sharp contraction in capital spending in Q4, domestic machinery orders and production of capital and investment goods started 2020 on a weak note. Meanwhile, foreign machinery and machinery tool orders will deteriorate as the spread of the coronavirus disrupts activity in Japan's main trade partners. The latest Tankan results show business sentiment and business forecasts worsened markedly in March 2020, particularly for non-manufacturing firms (especially in tourism-related industries). With the global economy entering a very sharp recession, we expect business investment to fall markedly in 2020.

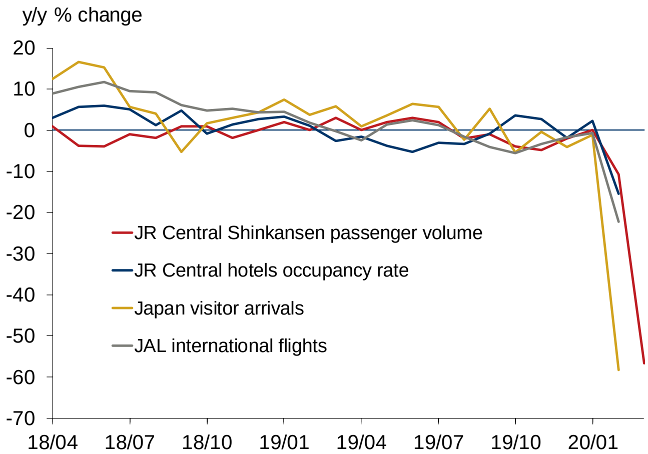
- **Exports and imports to fall sharply:** despite a modest 1.5% y/y fall in real exports in February, a 12% drop in import volumes on the back of a hefty contraction in imports from China highlights supply chain disruption. With Chinese

Japan: Contributions to GDP growth



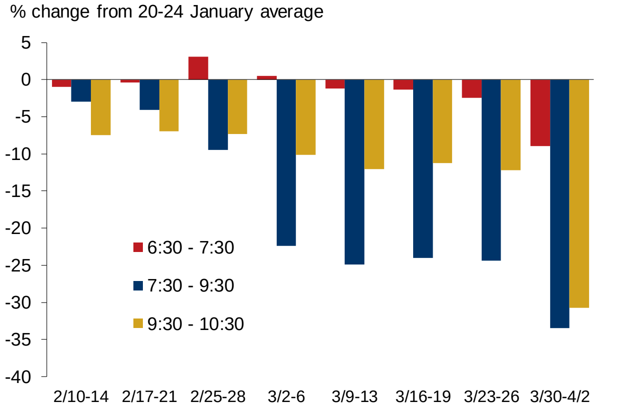
Source: Oxford Economics

Japan: Travel and tourism-related indicators



Source: Oxford Economics/JR/JAL/JNTO/Haver Analytics

Japan: Toei subway passengers by time of day



Source: Oxford Economics/Tokyo Metropolitan Bureau of Transportation

OXFORD ECONOMICS

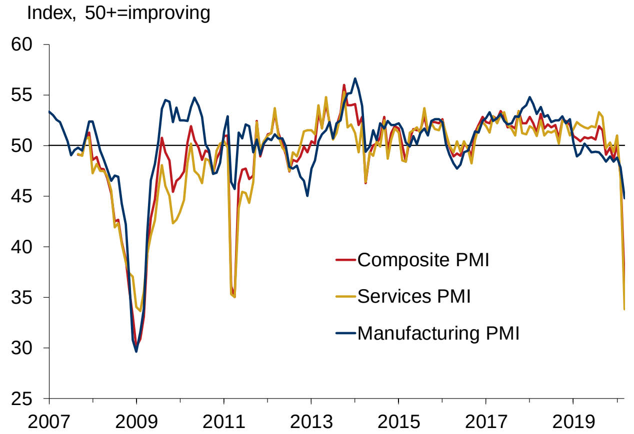
data showing massive declines in activity in February, most of the global economy now under lockdown, and a rapidly worsening employment picture in the US, we expect forthcoming data to show very large declines in exports. Domestically, falling spending by firms and households will exacerbate import weakness.

- **Production to slide as coronavirus takes its toll:** industrial production was 2.5% down on the year in February (after -2.3% y/y in January) while the manufacturing PMI fell to 44.8 in March (down from 47.8 in February). With industry forecasts pointing to large falls in production in March and major Japanese car makers announcing partial suspensions, we expect industrial production to weaken markedly in 2020.
- **Financial market turmoil spurs BoJ into action:** after a selloff in financial markets and emergency action by global central banks, the BoJ in mid-March unveiled measures to soften the economic and financial fallout from the coronavirus pandemic, focussing on temporarily raised asset purchases and a new lending programme, but leaving its negative 0.1% policy rate and 0% bond yield target unchanged. The BoJ further announced lower rates and longer maturities on its US dollar supply operations, matching the Fed's upgrade to its global dollar swaps. Meanwhile, headline CPI weakened to 0.4% y/y in February (from 0.7% in January).
- **Government working on major stimulus package:** the government is working on a supplementary budget to fund a major stimulus package to support firms and households affected by coronavirus-related disruptions. Adding to emergency measures for SMEs and workers already deployed, the government is reportedly aiming to increase financial support for firms to maintain employment, postpone tax and social security charges, and provide households with direct cash transfers.
- **Financial markets to remain volatile while uncertainty persists:** Japanese stock markets have sold off and lost about 25% of their value since January while the yen has strengthened and bond yields declined, although these moves have partly reversed. We expect financial markets to remain volatile and see the yen continuing to trend higher, appreciating to 106 to the dollar by end-2020.

Japan: Exports and world trade

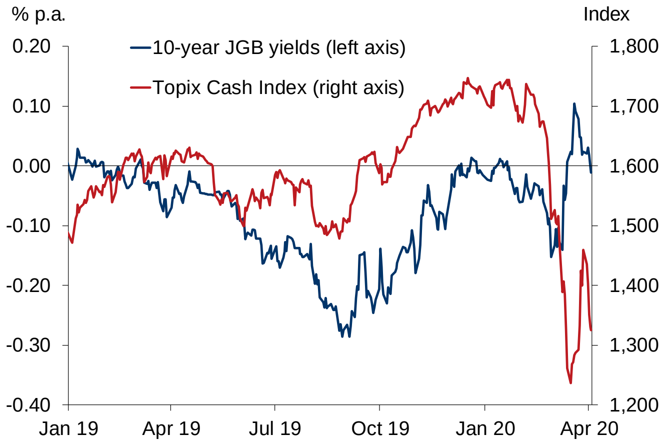
Source: Oxford Economics

Japan: Purchasing Managers' Index



Source: Oxford Economics/IHS Markit/Jibun Bank/Bloomberg

Japan: 10-year JGBs and Topix Cash Index



Source: Oxford Economics/MoFJ/FT/Haver Analytics

Mexico

Highlights

- Mexico's economic outlook has deteriorated rapidly as the growing number of virus-infected patients forced the government to implement control measures. Given this, together with the plunge in global activity, we have decided to slash our 2020 GDP forecast by 3.5pp to -3.9%, though we now expect GDP growth of 3.2% in 2021. However, weak measures to control the virus spread and the lack of a comprehensive economic relief package point to sizeable downside risks.
- Lockdowns of non-essential businesses and voluntary social distancing measures imposed from 30th March to 30th April suggest a 5% contraction of private consumption and a 5.8% plunge in industrial production this year. On a positive note, the basic structure of consumer spending, highly focused on core food, utilities, healthcare and transport – sectors that remain open and classified as essential – should prevent a sharper contraction.
- However, AMLO's administration remains reluctant to implement mandatory quarantines and has failed to reach a deal with the private sector to minimize the impact on households and businesses. Meanwhile, Banxico has unleashed liquidity programs that could potentially reach 8% of GDP and accelerated its cautious easing cycle with an unscheduled 50bp rate cut to 6.5%.
- We expect Banxico to continue easing, lowering the target rate to 5.25% by the end of the year, with additional rate cuts frontloaded into H1. We now expect lower energy prices and a widening output gap to offset FX pass-through effects, so we have revised year-end inflation down to 3.7%, from 4.2% previously. However, the deterioration of public finances, upside risks from a weaker peso and sticky core prices might prevent a more aggressive response to the crisis from the central bank.

Forecast for Mexico
(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	2.1	-1.0	-5.2	2.5	4.7	2.9
Private Consumption	2.3	0.6	-5.0	3.5	4.0	3.4
Fixed Investment	0.9	-5.0	-7.7	-1.1	3.1	2.4
Stockbuilding (% of GDP)	1.5	1.3	0.9	1.0	2.1	2.0
Government Consumption	3.0	-1.5	0.5	1.4	1.5	1.7
Exports of Goods and Services	5.9	1.2	-6.4	2.4	2.5	3.3
Imports of Goods and Services	5.9	-1.1	-10.1	0.3	7.6	5.0
GDP	2.1	-0.1	-3.9	3.2	2.9	2.3
Industrial Production	0.4	-1.8	-5.8	2.4	1.8	1.9
Consumer Prices	4.9	3.6	3.6	3.3	3.3	3.2
Current Balance (% of GDP)	-1.9	-0.2	-0.1	0.7	-1.1	-1.6
Government Budget (% of GDP)	-2.0	-1.7	-3.9	-4.0	-3.3	-3.0
Current Account ($bn)	-23.00	-2.44	-0.94	8.28	-14.22	-22.86
Trade Balance ($bn)	-13.80	5.62	3.16	10.90	-13.34	-23.47
Short-Term Interest Rates (%)	8.06	8.27	6.23	5.78	5.82	5.85
Exchange Rate (Per US$)	19.23	19.25	22.42	21.28	20.43	20.43

All growth rates are calculated based on values in local currency

Halfway measures add downside risks

The virus spread in Mexico, which currently exceeds 2,400 confirmed cases, forced the government to declare a health emergency on 30th March until 30th April. The measures reduced the number of people who can gather to 50, extended suspensions of non-essential activities and called for voluntary quarantine. However, AMLO's reluctance to impose stricter state-of-emergency protocols to control the spread of the virus threatens to prolong the need for social distancing measures. Moreover, the announcement of an underwhelming economic package, highly dependent on credit to government employees, reallocation of already budgeted spending and virtually zero fiscal incentives for small businesses, has dashed hopes of a quick recovery.

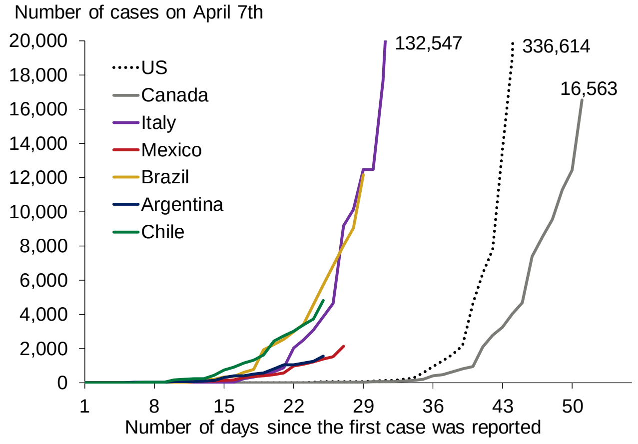
PMI survey data pointed to only a moderate economic underperformance in Q1, but 'hard' auto-industry data and anecdotal traffic evidence suggest a sharper than expected contraction in March. We now expect 2020 GDP to contract 3.9%, down from our previous forecast of a mild 0.4% fall, before a 3.2% GDP rebound in 2021.

Broad-based recession this year

We expect an outright recession, with risks tilted to the downside, followed by only fragile recovery in 2021. We forecast domestic demand to contract by 5.2% this year:

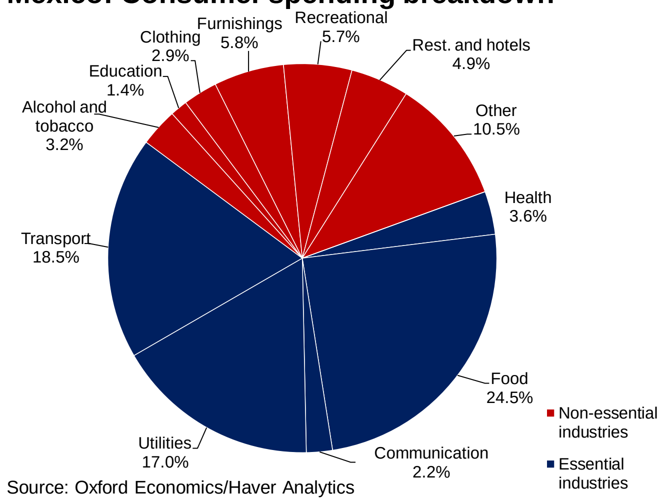
- **Social distancing weighs on consumption:** the breakdown of Mexican consumer spending suggests that a large proportion of expenditure on staples will take place despite the lockdowns. However, our estimates contemplate a lax implementation of social distancing measures until mid-May, two weeks beyond the current official targets. This could result in consumption plunging 5.0% this year, down from our previous forecast of a 0.7% contraction. The deep recession, both domestically and across the world, points to a 7.7% contraction in investment and a 6.4% drop in export volumes this year.
- **Industries under lockdown:** unaffected food, energy and medical equipment sectors, as well as the classification of financial, transport and storage services as essential, could limit the economic impact of the lockdowns. Nonetheless, we expect the industrial sector to contract 5.8% this year before a moderate 2.4% expansion in 2021.
- **Benign inflation outlook with important caveats:** consumer price inflation eased to 3.2% in March, from 3.7% in February, due to a plunge in energy prices. Meanwhile, stubborn core inflation only edged down to 3.6%. Lack of aggregate demand pressures and lower energy prices will

Cumulative confirmed cases of Covid-19



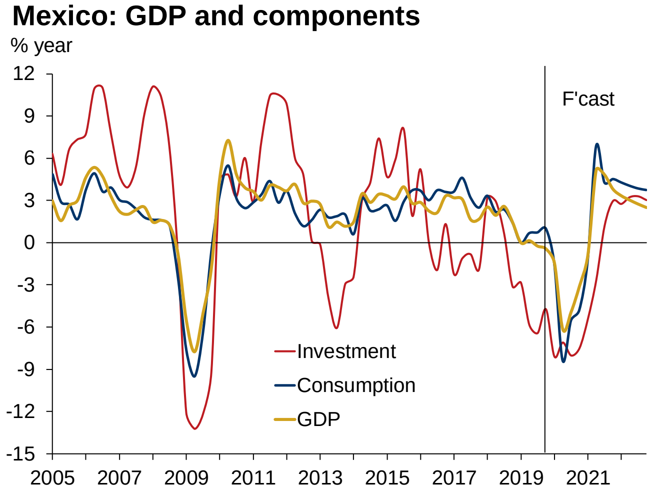
Source: Oxford Economics/Haver Analytics/Johns Hopkins University

Mexico: Consumer spending breakdown



Source: Oxford Economics/Haver Analytics

Mexico: GDP and components



Source: Oxford Economics

likely offset the sharp increase in fresh food prices during Lent and the shocks to some tradable goods due to shortages. Therefore, we now see year-end inflation at 3.7%, down from 4.2% previously. However, the sharp 20% depreciation of the peso in Q1 and the likely persistent 'risk-off' attitude of investors, that keeps the peso above an average level of 22.5/USD (14% depreciation from last year), implies upside risks, particularly given already stubborn core inflation.

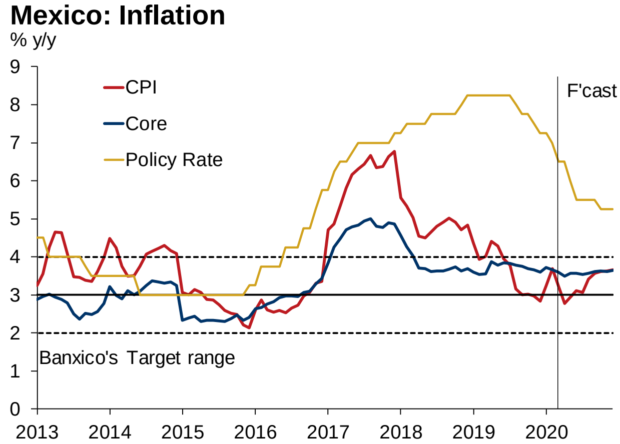
Minimal stimulus package

Recovery in H2 will likely depend on the expected rebound in the US and the implementation of domestic relief measures to contain disruptions in the labor market and businesses. However, Mexico's response so far has been moderate compared to other countries in the region.

- **Fiscal austerity interrupted:** AMLO's austere instincts remain intact as he failed to reach a comprehensive deal with the private sector to minimize lay-offs and provide fiscal incentives. Instead, the package of broadly 4% of GDP center around already planned infrastructure investment, reallocation of already budgeted funds, public job creation, credit and symbolic wage adjustment for senior government officials. The prospect of recession warranted the revision of the ambitious official primary surplus target of 0.7% to a 0.4% deficit. We now expect a 0.5% of GDP primary deficit for this year and next, before a return to moderate surpluses thereafter.

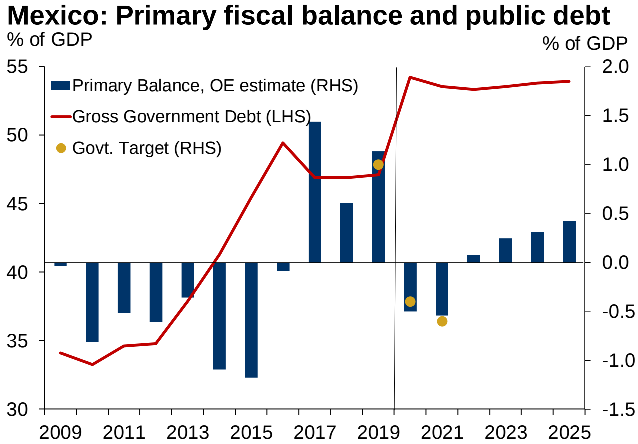
- **Better liquidity conditions:** Banxico and the Ministry of Finance unleashed liquidity programs in both MXN and USD that could potentially reach 8% of GDP (including the USD60bn swap line with the US Fed). In addition, Banxico accelerated its cautious easing cycle with an unscheduled 50bp rate cut to 6.5%. However, the large depreciation of the peso and the deterioration of public finances, which already prompted S&P's latest credit rating downgrade, prevents a more aggressive easing. We expect Banxico to continue a cautious easing cycle towards 5.25% by the end of the year, with two further 50bp rate cuts in H1 and a final 25bp cut in H2.

Mexico: Inflation



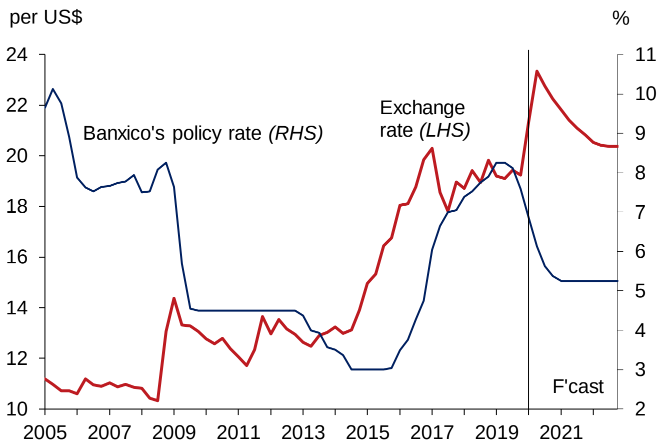
Source: Oxford Economics/Haver Analytics

Mexico: Primary fiscal balance and public debt



Source: Oxford Economics/SHCP 2021 Pre-criteria

Mexico: Exchange and interest rates



Source: Oxford Economics

OXFORD ECONOMICS

South Korea

Highlights

- Global shutdowns amid the coronavirus pandemic will take a toll on South Korea's trade in goods and services. Though avoiding a domestic country-wide lockdown, Korean consumer and business sentiment have plunged to around the lows seen in the 2008-2009 global financial crisis, presaging significant weakness in domestic demand. On a positive note, the rate of COVID-19 transmission in South Korea itself has slowed. Notwithstanding extraordinary policy support, which will prevent a deeper downturn, we have downgraded our 2020 GDP growth forecast to -1%, from +0.2% last month.
- The coronavirus outbreak has dampened consumer confidence, dragging on private consumption growth. With people staying at home more to reduce the risk of infection, brick-and-mortar retail sales have plunged due to lower footfall. However, a jump in online retail sales has provided a partial offset.
- Given the rapidly deteriorating global situation there has not been much recovery in facilities investment, while construction investment remains under pressure amid macroprudential measures to keep house prices in check. But government plans to frontload public sector investment will help to prevent a larger drop in overall capex.
- Against a background of much weaker growth and widening credit spreads, we think it reasonably likely that the BOK will cut interest rate by 25bp to 0.5% at its monetary policy meeting on May 28. That said, the pressure to cut rates has eased after the BOK frontloaded a 50bp rate cut in March and implemented quantitative easing. Moreover, the government has unveiled direct fiscal measures worth KRW31.8tn (1.7% of GDP) and other financial support totalling KRW109tn (5.7% of GDP).

Forecast for Korea

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	1.6	1.1	-0.9	3.6	4.3	4.0
Private Consumption	2.8	1.9	-1.3	3.7	3.6	3.0
Fixed Investment	-2.4	-3.5	-1.1	4.8	5.6	5.3
Stockbuilding (% of GDP)	0.9	1.1	-0.7	-0.4	0.0	0.5
Government Consumption	5.6	6.5	11.0	-0.2	2.2	1.6
Exports of Goods and Services	3.5	1.7	-5.2	9.8	1.6	2.4
Imports of Goods and Services	0.8	-0.4	-5.4	11.0	3.7	4.2
GDP	2.7	2.0	-1.0	3.5	3.4	3.2
Industrial Production	1.5	-0.5	-2.0	4.5	3.4	2.9
Consumer Prices	1.5	0.4	-0.2	1.1	2.1	1.9
Current Balance (% of GDP)	4.5	3.7	5.2	5.6	4.1	3.8
Government Budget (% of GDP)	1.6	-0.8	-3.3	-0.4	-0.1	0.2
Current Account ($bn)	77.5	60.0	80.7	97.4	76.3	76.0
Trade Balance ($bn)	110.1	76.9	102.6	126.4	107.6	109.9
Short-Term Interest Rates (%)	1.70	1.67	0.99	0.83	1.11	1.62
Exchange Rate (Per US$)	1100	1165	1246	1180	1156	1127

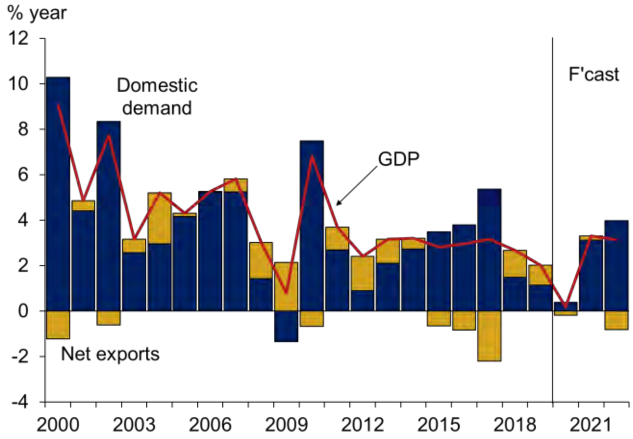
All growth rates are calculated based on values in local currency

2020 GDP growth forecast lowered to -1%

The coronavirus outbreak in South Korea itself appears to have come under control, with the daily number of new infection cases slowing to around 30 in the past few days, while imported cases accounted for about half of the new cases in the last 2 weeks. Strict social distancing measures have been extended by another 2 weeks to April 19 (4 weeks in total) to further stem the spread of COVID-19. Recent data suggest that the coronavirus impact on the manufacturing and services sectors has been huge, albeit not as severe as in many other countries. South Korea's manufacturing PMI slumped to 44.2 in March from 48.7 in February on rapid declines in output, hiring and export orders. Although South Korea has so far avoided a national lockdown, consumer and business sentiment have fallen to around the lows seen in 2009, suggesting that private consumption and investment will be sluggish. Meanwhile, global shutdowns and the prospect of further extension of such draconian measures will exacerbate the negative impact on foreign trade and disrupt industrial production. Notwithstanding extraordinary monetary and fiscal stimulus, the contraction in the economy this year will likely be deeper than during the 2008-2009 global financial crisis. We have lowered our 2020 GDP growth forecast to -1%, from +0.2% last month. Factors affecting our growth forecast are:

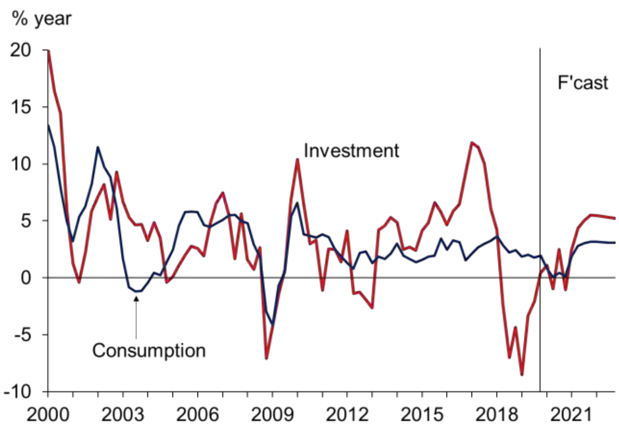
- **COVID-19 has taken a toll on consumption:** while South Korea has largely avoided a severe lockdown, consumer sentiment plunged to 78.4 in March from 104.2 in January (below 100 indicates pessimism). Notably, retail sales volumes in brick-and-mortar department stores and duty-free shops have plunged by more than 20% y/y amid lower footfall and travel restrictions. That said, people have turned to online shopping as they have been staying at home more to reduce the risk of infection. Indeed, online retail sales volumes surged by 35% y/y in February, helping to partly cushion private consumption. Still, we now expect overall household spending to contract 1.3% in 2020, down from +0.4% last month.
- **Tepid investment outlook as global activity slumps**: amid a rapidly deteriorating global growth picture, South Korea's business confidence has slumped to levels not seen since the 2008-2009 financial crisis. There also hasn't been much of a recovery in facilities investment in early March according to the central bank, while private construction investment is likely to remain under pressure amid property cooling measures. Manufacturing capacity utilisation has also fallen to its lowest level since March 2009, presaging weakness in production.

Korea: Contributions to GDP growth



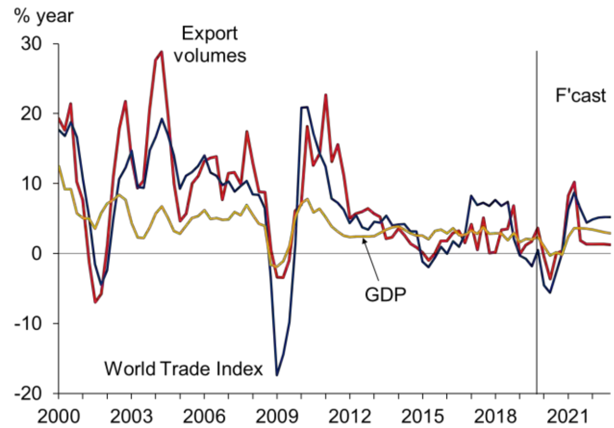
Source: Oxford Economics

Korea: Consumption and investment



Source: Oxford Economics / Haver Analytics

Korea: GDP, exports and world trade



Source : Oxford Economics / Haver Analytics

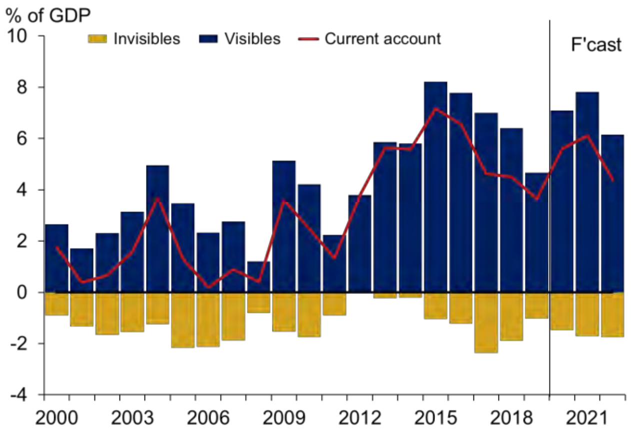
OXFORD ECONOMICS

- That said, plans by the government to frontload public sector investment worth more than KRW3.3tn in H1 2020 will help to cushion against the downturn in investment. In particular, the public sector will make early purchases and prepayment worth about KRW2.1tn from businesses that are facing cash flow difficulties, such as restaurants, airlines, oil refiners and auto companies. Another KRW1.2tn of investment in public construction projects will also be frontloaded in Q2. Other measures include relaxing government procurement rules and tax deductions to boost private sector capex. Overall, we expect gross fixed capital formation, in real terms, to fall by 1.1% in 2020 (last month we expected +0.4%), before accelerating to 4.8% growth in 2021.

- **More significant trade weakness to come**: in an early sign of the impending collapse in global demand, Korean exports fell 18.6% y/y in the first 10 days of April, led by declines in petroleum products (-47.7%), wireless communication devices (-23.1%) and passenger cars (- 7.1%). By destination, exports to China (-10.2% y/y), EU (-20.1%), US (-3.4%) and Vietnam (-25.1%) all fell. Meanwhile, imports fell 13% y/y on the back of declines in the fuel import bill and general machinery imports.

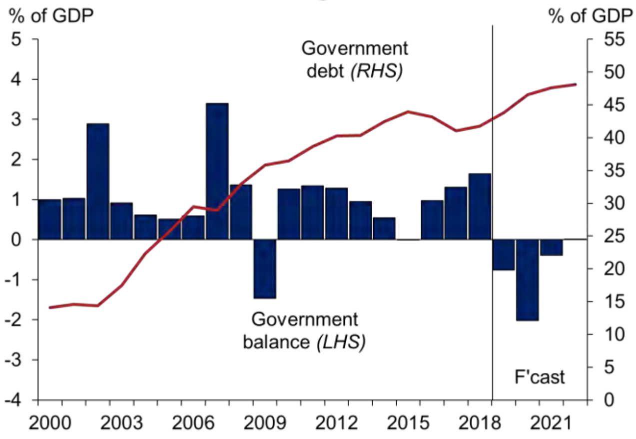
- **Extraordinary policy measures to help buffer the economic shock:** the central bank has implemented several measures to ease policy, cutting its base rate by 50bp, lowering the interest rate on the Bank Intermediated Lending Support Facility from 0.50-0.75% to 0.25% to support SMEs, broadening eligible collateral for open market operations, signing a US$60bn bilateral FX swap deal with the US, pledging to provide unlimited liquidity through repo operations at a repo rate no higher than 0.85% and announcing plans to buy government bonds. With inflation likely to remain subdued amid weak oil prices, and given the rapidly deteriorating growth outlook, we look for the BOK to cut its base rate by 25bp to 0.5% at its monetary policy meeting on May 28. And on the fiscal side, the government has unveiled support packages worth KRW140.8tn or 7.4% of GDP to support households and businesses.

Korea: Current account



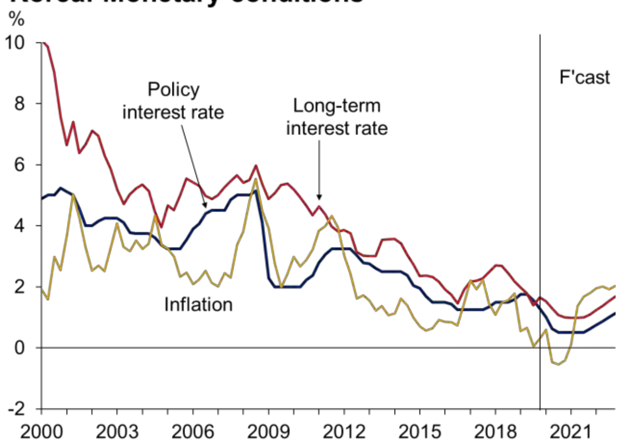
Source: Oxford Economics / Haver Analytics

Korea: Government budget balance and debt



Source: Oxford Economics / Haver Analytics

Korea: Monetary conditions



Source: Oxford Economics / Haver Analytics

Spain

Highlights

- The spread of the coronavirus and the extreme measures announced by the Spanish government to try to contain the epidemic will take a massive toll on the economy in H1 this year. As a result, we have slashed our growth projection for 2020 and now see GDP contracting 5.6% this year (from 1.4% growth expected last month), before a strong 4.2% rebound in 2021 after activity starts to stabilise in H2 this year. The unprecedented nature of the crisis adds a high level of uncertainty to our forecasts, as the final economic impact will be largely linked to the duration of the health crisis.
- We are finally starting to see some data showing the initial hit from the coronavirus outbreak. The PMIs plunged in March, with services activity suffering historically large falls as the sector collapsed under the weight of the lockdown measures. Similarly, employment data showed massive losses, with over 900,000 jobs lost in the last two weeks of March. And as the government has extended the state of emergency for another two weeks, including a ban on all non-essential activities, it looks certain that activity will collapse in March and April, leading to a massive fall in GDP in Q2.
- Our view remains linked to the evolution of the disease, as thist will largely determine the length and severity of the containing measures. We still anticipate a rebound in the economy later in H2 as the measures are lifted and normal daily activities resume slowly, but some sectors are likely to remain depressed for a longer period.
- The government has announced a host of fiscal measures worth €17bn to soften the blow from the crisis, with a much larger amount of funds potentially available in the form of state credit guarantees for companies. However, the severity of the crisis makes us think that deploying additional stimulus will be inevitable.

Forecast for Spain
(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	2.7	1.5	-4.9	3.8	3.1	1.6
Private Consumption	1.8	1.1	-5.8	4.6	2.8	1.6
Fixed Investment	5.3	1.8	-6.3	4.8	3.3	2.4
Stockbuilding (% of GDP)	1.0	1.0	0.2	0.0	0.5	0.4
Government Consumption	1.9	2.3	3.4	2.0	1.2	1.3
Exports of Goods and Services	2.2	2.6	-7.9	6.1	4.0	2.9
Imports of Goods and Services	3.3	1.2	-5.9	5.0	4.3	2.4
GDP	2.4	2.0	-5.6	4.2	3.1	1.8
Industrial Production	0.3	0.7	-11.2	9.5	1.9	1.2
Consumer Prices	1.7	0.7	-0.6	2.0	1.4	1.6
Current Balance (% of GDP)	1.9	2.0	1.6	1.1	1.0	0.9
Government Budget (% of GDP)	-2.5	-2.7	-6.5	-5.0	-3.6	-3.1
Short-Term Interest Rates (%)	-0.3	-0.4	-0.4	-0.4	-0.3	0.0
Long-Term Interest Rates (%)	1.4	0.7	0.7	1.3	1.7	2.1
Exchange Rate (US$ per Euro)	1.2	1.1	1.1	1.1	1.1	1.2

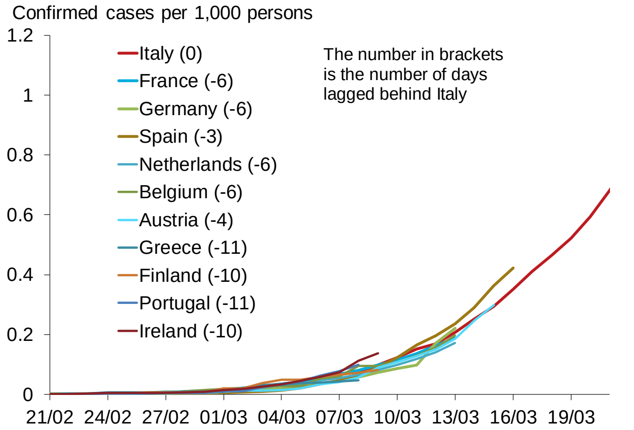
All growth rates are calculated based on values in local currency

Pandemic will sink the economy in H1

Economic activity will collapse in the short term as the strict lockdown measures deliver to impact all sectors of economy. We are now finally seeing the first data releases showing the impact of the health crisis on activity. The PMIs plunged in March, with services activity suffering historically large falls as the sector collapsed under the weight of the lockdown measures. Similarly, we now have a first glimpse at the impact of the crisis on the labour market. Employment data showed over 900,000 jobs were lost in the last two weeks of March, plus an estimated 3.5m workers now laid off temporarily not included in the official employment figures.

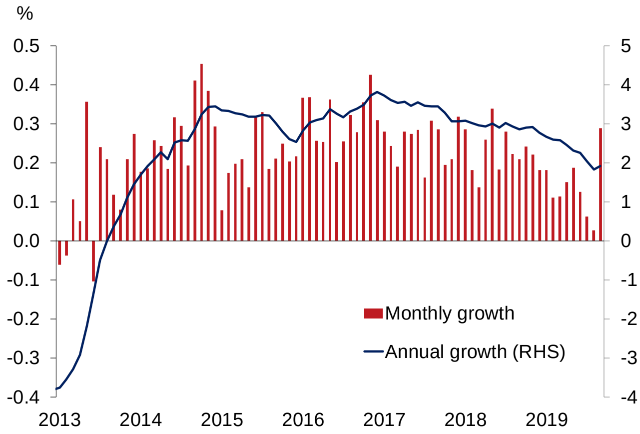
The recent extension of the state of national emergency and lockdown measures have prompted us to slash our GDP forecasts again. We now expect the economy to contract 5.6% in 2020 (compared with our previous forecast of a 1.9% decline). Our assumptions continue to be largely determined by the length and the severity of the measures put in place to contain the epidemic. Our baseline currently sees the brunt of the impact in March and April, with a gradual recovery afterwards that should speed up as containing measures are lifted, daily activities resume and the impact from monetary and fiscal policy measures starts to kick in. That said, by end-2021 GDP will still be below its pre-crisis level.

Eurozone: Evolution of confirmed COVID-19 cases



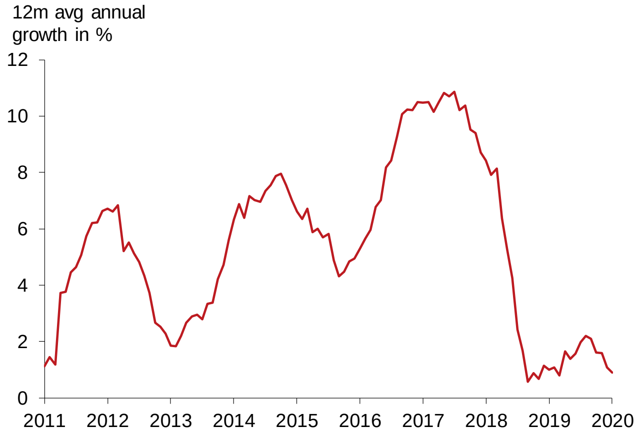
Source: Oxford Economics/Eurostat/WHO/Haver Analytics

Spain: Social security affiliations



Source: Oxford Economics/Haver Analytics

Spain: Tourist arrivals



Source: Oxford Economics/Haver Analytics

Historically sharp recession but a rebound thereafter remains our baseline

The following factors underpin our forecast:

- **Consumer spending will plunge in the short term:** enforced quarantine and social distancing measures will cause consumer spending to collapse in H1. We still expect a rebound when the lockdown is lifted later in the year, but the main risk for Spain would be a large, permanent surge in unemployment as employment is much more reactive to falls in GDP than in most other countries. We now see consumer spending declining 5.8% in 2020 but rebounding 4.6% in 2021.
- **Massive hit to exports as tourism comes to a halt:** travel bans will cause immense damage to the tourism sector, which represents around 12% of Spain's GDP, and will induce a collapse in exports of services this year. Furthermore, tourism is likely to suffer permanent damage even after the health emergency is over. Combined with the sharp drop in global merchandise trade volumes, this means that total exports will contract 7.9% this year, before expanding 6.1% in 2021.

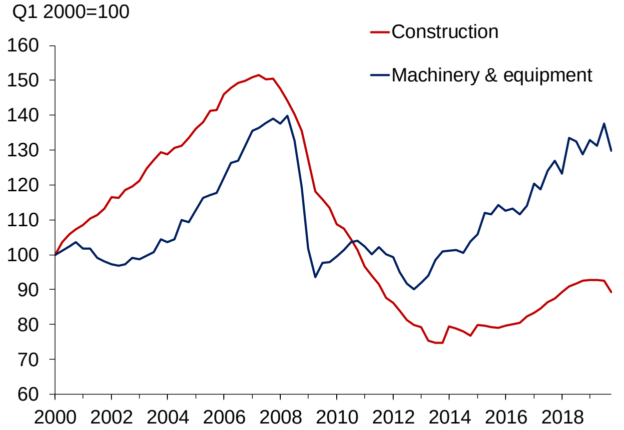
- **Investment to suffer hit as well:** capital spending was already moderating sharply before the coronavirus outbreak and it seems inevitable that it will suffer the impact from the sharp deterioration in sentiment, surge in uncertainty and the damage this crisis will deliver to large parts of the corporate sector. We see investment falling 6.3% this year before expanding 4.8% in 2021.
- **Fiscal and monetary policy and oil prices:** the combined boost from the monetary and fiscal support measures as well as the recent collapse of oil prices supports our view that economic activity should bounce back once the health situation improves and government measures start to be lifted.

Constraints on medium-term growth

Our view remains that the coronavirus will have limited lasting effects on the economy, but the medium-term outlook remains constrained by more structural factors.

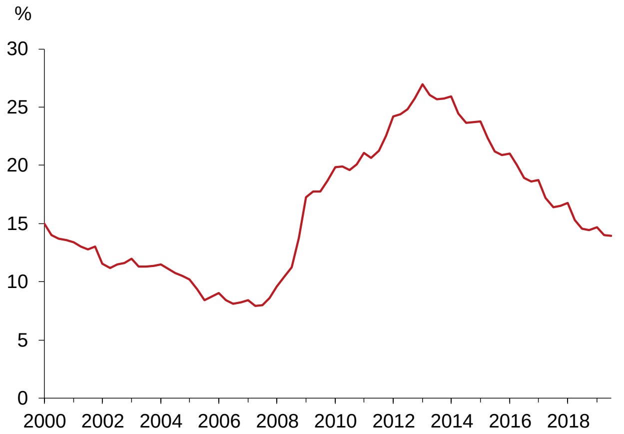
- **Private sector deleveraging:** both consumers and businesses have undergone major deleveraging, but debt remains high by historical standards. Banks continue to carry a relatively high (albeit falling) burden of NPLs. As such, credit will grow more slowly than in previous expansions. We expect investment growth around 2.5% a year in 2022-23, less than half the pace seen in the pre-crisis decade.
- **High unemployment:** unemployment has fallen sharply since 2013. But structural unemployment is still high and will weigh on consumption and welfare costs over the medium term. Although consumer spending will grow above 2% a year in 2022-23, in real terms the level will still be only slightly higher than in 2007.
- **Fiscal consolidation:** the coronavirus recession will cause a sharp deterioration in fiscal balances, leading to a surge in deficit and debt in the short term. Therefore, fiscal consolidation will remain a priority in the coming years and we see only moderate growth in public spending after the surge now expected in 2020. After the coronavirus impact on the deficit this year, if tax revenues fail to grow as expected or if interest rates and hence debt repayments rise earlier than forecast, then further adjustments will be necessary to ensure deficit reduction.

Spain: Fixed investment



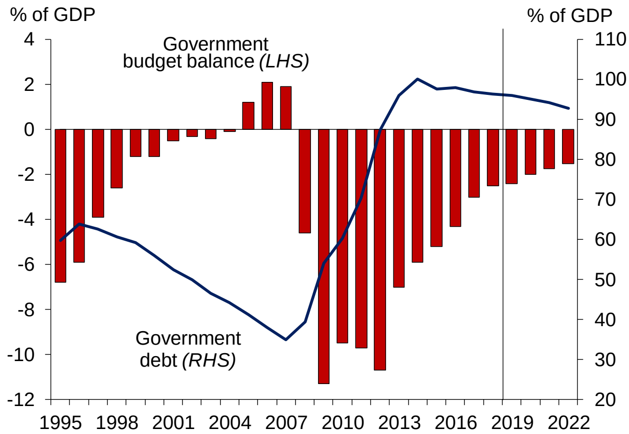
Source: Oxford Economics/Haver Analytics

Spain unemployment



Source: Oxford Economics/Haver Analytics

Spain: Government balance and debt



Source: Oxford Economics

Switzerland

Highlights

- The rapid expansion of the coronavirus outbreak poses major challenges for the Swiss economy. The various protective measures against the virus will cause significant disruption to activity in the short term. As a result, we have slashed our 2020 GDP forecast to -3.3% from +1.4% last month. However, we assume that these measures will succeed in containing the virus by summer. Therefore, we forecast a strong recovery and GDP growth of 5% in 2021.
- Services exports will be hit hardest in the short term due to the collapse in tourism demand. Foreign trade, investment and private consumption will also fall sharply as a result of the protective measures (restriction of air traffic, school, business and border closures, cancellation of events, etc.) and the very high level of uncertainty. The loss of license income due to the postponement of the EURO 2020 and the Olympic Games will further reduce growth in 2020. As a result, we expect Swiss GDP to fall by around 5% quarter-on-quarter in Q2 2020 – a record decline.
- While we assume that the measures by the federal government (on short-time working, guaranteed bank loans) will prevent a major wave of bankruptcies, there will be at least noticeable temporary effects on the labour market. Highly exposed sectors such as tourism and the event industry often have seasonal contracts. With demand currently close to zero we forecast a temporary rise of the unemployment rate by over one percentage point to 3.5% during Q2 2020. But once the virus has been contained and the protective measures have been lifted, a strong recovery is likely. Production and consumption levels should normalize and some of the postponed expenditures will be made up for. However, there is a high level of uncertainty. If the containment of the virus was to take longer, the economic damage would increase substantially.

Forecast for Switzerland

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	1.5	0.1	-4.1	4.6	2.2	1.6
Private Consumption	1.0	1.0	-3.9	5.6	2.0	1.5
Fixed Investment	1.1	0.6	-4.5	4.0	1.9	1.7
Stockbuilding (% of GDP)	-1.5	-2.3	-3.0	-3.0	-2.7	-2.6
Government Consumption	0.3	1.3	2.2	0.9	1.0	1.1
Exports of Goods and Services	4.5	2.5	-5.8	8.6	3.6	1.6
Imports of Goods and Services	2.4	1.3	-8.1	8.8	4.3	2.8
GDP	2.8	0.9	-3.3	5.0	2.1	1.0
Industrial Production	5.5	4.5	-2.7	5.1	2.1	2.2
Consumer Prices	0.9	0.4	-0.6	0.4	0.7	0.9
Current Balance (% of GDP)	9.0	8.0	8.0	9.9	10.6	11.1
Government Budget (% of GDP)	1.4	1.4	-1.7	-0.6	-0.4	-0.5
Short-Term Interest Rates (%)	-0.7	-0.7	-0.8	-0.8	-0.8	-0.5
Long-Term Interest Rates (%)	0.0	-0.5	-0.4	-0.2	0.1	0.4
Exchange Rate (Per US$)	1.0	1.0	1.0	1.0	1.0	1.0
Exchange Rate (Per Euro)	1.2	1.1	1.1	1.1	1.2	1.1

All growth rates are calculated based on values in local currency

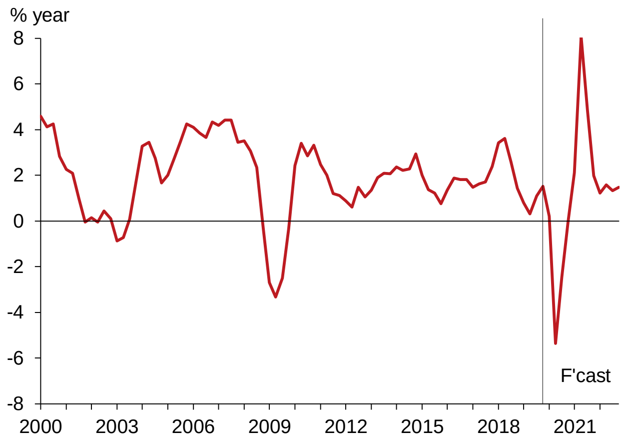
Coronavirus causes recession in 2020

Switzerland's GDP expanded by 0.3% quarter-on-quarter in Q4 2019. However, the coronavirus will push the Swiss economy into a recession in the first half of 2020. Once the virus has been contained, we expect a strong recovery.

The main drivers of our forecast are:

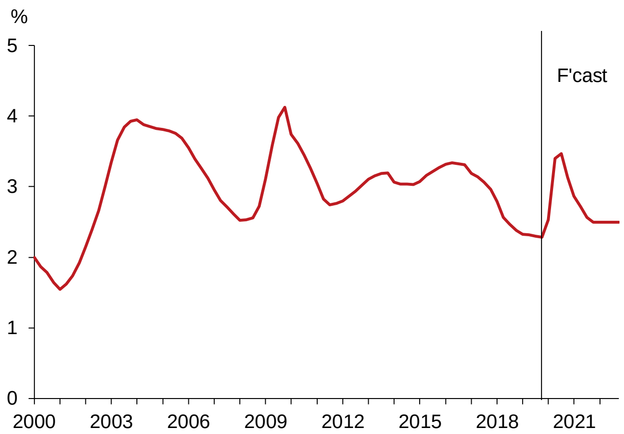
- **Pandemic causes massive disruption in H1 2020**: the various measures against the virus will cause significant disruption to activity in the short term. Services exports will be hit hardest, but foreign trade, investment and private consumption will also fall sharply. We expect Swiss GDP to fall in both Q1 and Q2 of 2020. The drop in GDP will be particularly sharp in Q2, with a contraction of around 5% q/q.
- **Tourism and air travel among the most affected industries**: many companies are suffering from the collapse in demand due to the lockdowns. Industries such as tourism, air travel, sports and entertainment services, which are most affected by the protective measures, will contract sharply in the first half of 2020. There will also be substantial losses in the retail trade sector, the capital goods industry and the watchmaking sector. Only a few industries such as the important pharmaceutical sector and healthcare will continue to expand.
- **Unemployment will rise temporarily**: the severe recession will also affect the labour market. We assume that the measures announced by the federal government (on short-time working, guaranteed bank loans) will prevent a major wave of bankruptcies, but the current crisis is hitting personnel-intensive service providers particularly hard, for example in the hospitality and event industries. We forecast a rise of the unemployment rate by over one percentage point to 3.5% in Q2 2020. But unemployment should fall again in 2021 once the virus is contained and economic activity rebounds.
- **Special effect due to sporting events**: FIFA, UEFA and the IOC are located in Switzerland and the surge in activity and spending related to the ticketing, licensing and broadcasting for the Olympics and the soccer World Cup/European Championships is estimated to raise Swiss GDP growth by between 0.3 and 0.5 percentage points in the years they take place. Given that the EURO 2020 and Olympic Games have been postponed to 2021 we assume that there will be no license income in 2020. However, this income will boost Swiss GDP growth in 2021 instead.
- **Strong Swiss franc is an additional risk factor**: the increase of uncertainty due to the coronavirus has led to a further appreciation of the Swiss franc. The Swiss franc has traded close to 1.06 EUR/CHF in recent weeks, its highest level since 2015. In our baseline forecast, we continue to

Switzerland: GDP



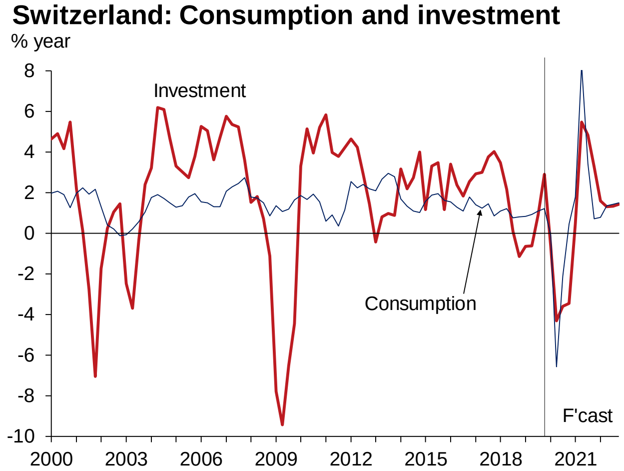
Source: Oxford Economics

Switzerland: Unemployment



Source: Oxford Economics

Switzerland: Consumption and investment



Source: Oxford Economics

think that the SNB will keep its policy rate at -0.75% and instead will try to check the Swiss franc with intervention in the foreign exchange markets.

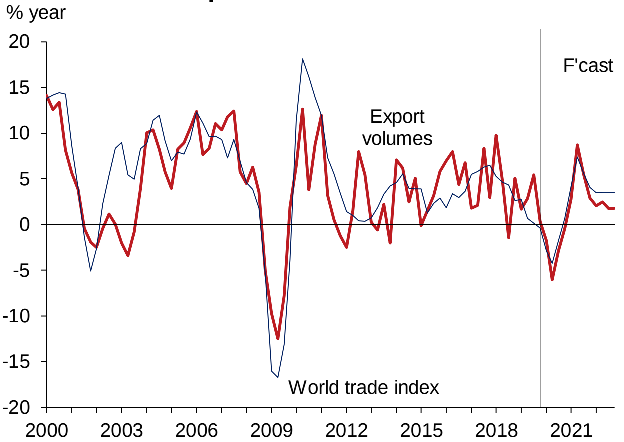
- **Strong recovery likely, once the virus is contained**: in our baseline forecast, we assume that the current protective measures will succeed in containing the virus in the coming months. Once the protective measures have been lifted, a strong recovery is likely in the second half of 2020 and throughout 2021. Consumption and production levels should normalize and some of the postponed expenditures will be made up for. Lower oil prices and fiscal measures will provide an additional impetus. Therefore, we forecast dynamic GDP growth of 5% in 2021. However, there is a high level of uncertainty about the further spread of the virus. If the containment of the virus was to take longer, the economic damage would increase substantially. This poses a significant downside risk to our forecast.

Average GDP growth of 1.4% seen in 2020-24

We forecast solid GDP growth rates averaging around 1.4% between 2022 and 2024. In the medium term, the economy will benefit from:

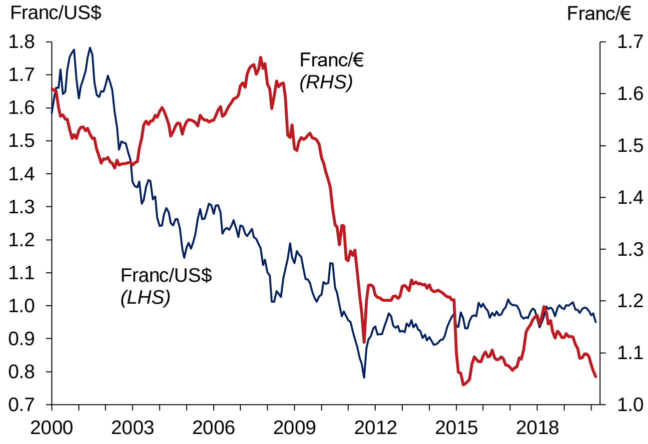
- **Strong industrial base**: Switzerland exports high-quality consumer and investment goods.
- **Efficient monetary policy**: the SNB has the advantage of being able to adjust its policy to meet the changing needs of the domestic economy without reference to possibly conflicting requirements (whereas the ECB has to set one policy for many different economies).
- **Rising population**: we expect population growth to be above that of most western European countries in the coming years. We expect the working-age population to grow by around 0.5% per year in 2020 to 2022.

Switzerland: Export volumes and world trade



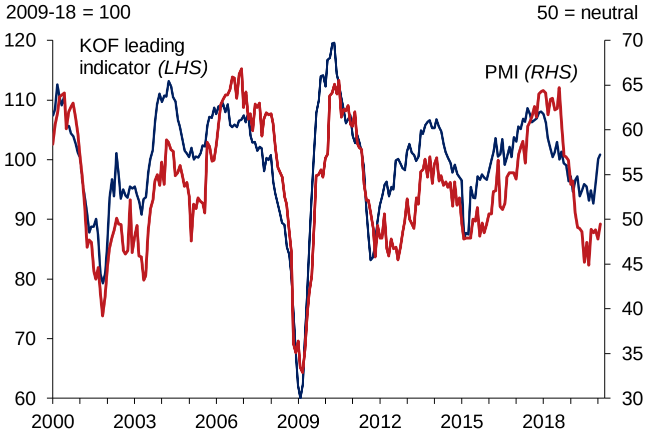
Source: Oxford Economics

Switzerland: Exchange rates



Source : Haver Analytics

Switzerland: PMI survey & KOF leading indicator



Source: Haver Analytics

Taiwan

Highlights

- Taiwan's external trade was resilient in early 2020 despite the global COVID-19 outbreak, but it will not stay immune from supply chain disruptions and the plunge in global demand prospects. The service sector will bear the economic brunt of the virus outbreak, exacerbated by the recent closure of borders to foreign nationals on March 19. Notwithstanding the monetary and fiscal support delivered thus far, we now forecast Taiwan's 2020 GDP growth at -0.6%, down from 1.8% last month. Given high uncertainty over when the pandemic will be contained, we see ongoing, sizeable downside risks to our baseline forecast.
- While Taiwan has performed relatively well in containing the spread of the coronavirus, domestic consumption will nonetheless be significantly dampened as people stay at home more and defer most purchases of non-essential goods amid weakening job prospects. We expect the unemployment rate to soar to about 5% from 3.7% in early 2020, while the services sector will have to brace for challenging times.
- Fixed investment has held up surprisingly well in early 2020 despite the coronavirus outbreak in mainland China, most likely this reflects sustained capex in semiconductors and 5G infrastructure, and reshoring by Taiwanese multinationals. But the full impact of the current global crisis will emerge in the coming months.
- We expect the central bank to stand pat for the rest of 2020 after it cut the policy rate by 25bp to a new low of 1.125% on March 19, but we cannot rule out further easing should the growth outlook deteriorate significantly from here. The NT$60bn (US$2bn) fiscal support package, introduced in early March, will also help to cushion the economic impact of the crisis. Meanwhile, we maintain our forecast for modest Taiwan dollar weakness in H1 2020 before seeing renewed strength in H2 2020.

Forecast for Taiwan

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	3.5	2.7	-0.1	3.0	2.4	2.6
Private Consumption	2.0	2.1	-0.4	3.0	3.0	2.5
Fixed Investment	3.0	9.1	0.9	3.6	1.5	1.5
Stockbuilding (% of GDP)	0.6	-0.1	-0.5	-0.1	0.0	0.5
Government Consumption	4.0	0.1	3.0	-1.4	1.0	1.0
Exports of Goods and Services	0.7	1.2	-6.4	10.4	3.7	2.8
Imports of Goods and Services	1.4	0.8	-7.0	11.1	3.1	3.1
GDP	2.7	2.7	-0.6	3.6	2.9	2.5
Industrial Production	3.6	-0.3	-0.5	4.2	4.1	2.7
Consumer Prices	1.3	0.6	0.0	1.3	1.4	1.3
Government Budget (% of GDP)	0.0	-0.9	-1.4	-1.0	-1.0	-1.1
Trade Balance ($bn)	67.0	57.8	70.8	75.3	77.6	75.4
Current Account ($bn)	70.8	64.4	73.0	81.5	85.8	81.7
Current Balance (% of GDP)	11.6	10.5	11.7	12.3	12.3	11.3
Short-Term Interest Rates (%)	0.5	0.6	0.5	0.6	1.0	1.3
Exchange Rate (Per US$)	30.2	30.9	30.3	29.8	29.4	29.0

All growth rates are calculated based on values in local currency

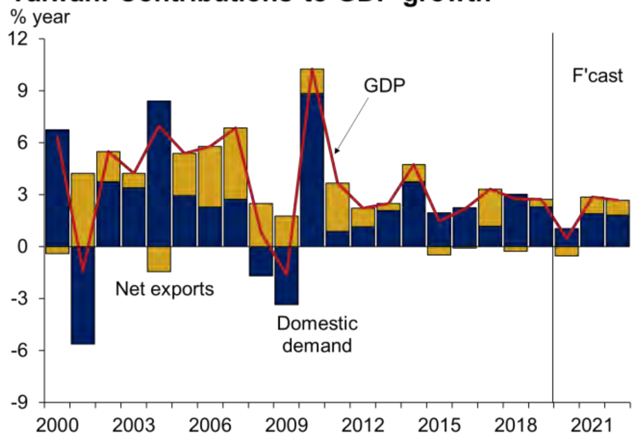
2020 GDP growth forecast reduced to -0.6%

Taiwan's economic outlook has weakened significantly amid the worsening coronavirus outbreak globally. We expect global demand to fall sharply and supply chains to be disrupted as more countries have imposed restrictions on social gatherings, travel, people and firms to contain the public health crisis. This will in turn weigh on Taiwan's goods exports. As the number of imported COVID-19 cases climbed, Taiwan also banned the entry of foreign nationals from March 19, further dampening services exports. Meanwhile, the coronavirus outbreak is keeping people at home and dampening business sentiment, in turn weighing on the domestic demand outlook. Given the worsening global spread of the coronavirus, we now forecast Taiwan's 2020 GDP growth at -0.6%, down sharply from 1.8% last month. But given the high uncertainty as to when the COVID-19 pandemic will be contained, we continue to see ongoing, sizeable downside risks to our forecast. Factors affecting our baseline forecast for GDP growth are.

- **Dampened consumption, service sector bearing the economic brunt:** Taiwan has so far managed to slow the spread of the coronavirus, with the number of cases relatively low (fewer than 300), reflecting early and swift efforts by the authorities to act to contain the spread. However, the risk of getting infected along with the social distancing measures are keeping people at home. Retail sales fell 1.4% year-on-year in February despite a very helpful base effect. Meanwhile, consumer confidence held up in January-February, but it will be dampened by weak job prospects as the global growth picture deteriorates. Amid very challenging market conditions, where the travel and retail sectors have been severely affected, we expect the unemployment rate to rise to about 5% from an average of 3.7% in January-February. Indeed, the NDC non-manufacturing PMI slumped to 40.4 in February from 55 in January. We now expect household spending growth of -0.4% in 2020 (down from last month's forecast of 1.8%), which would be the slowest pace since the global financial crisis.

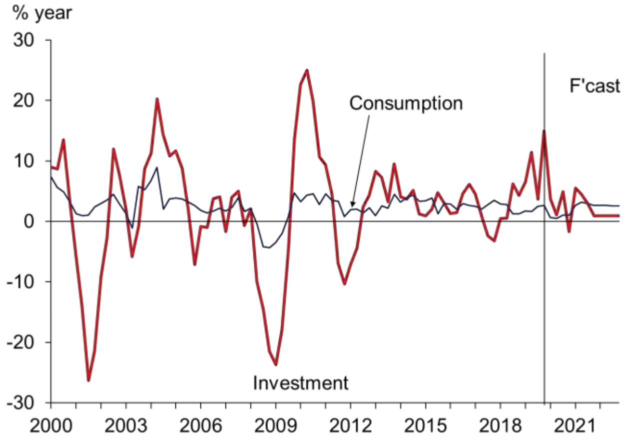
- **Fixed investment has held up so far, but virus outbreak will weigh:** investment held up in January and February despite the COVID-19 outbreak in mainland China, with the imports of machinery and electrical equipment growing by 11.4% in January-February compared to a year ago, albeit slowing from 15.6% y/y in H2 2019. Meanwhile, industrial production was up an average 7.7% y/y in January-February. Continued investment in the semiconductors sector and 5G infrastructure, as well as reshoring by Taiwanese multinational companies, have likely contributed to resilient investment growth. That said, the worsening coronavirus outbreak globally will weigh on business sentiment and dampen global demand, in turn slowing

Taiwan: Contributions to GDP growth



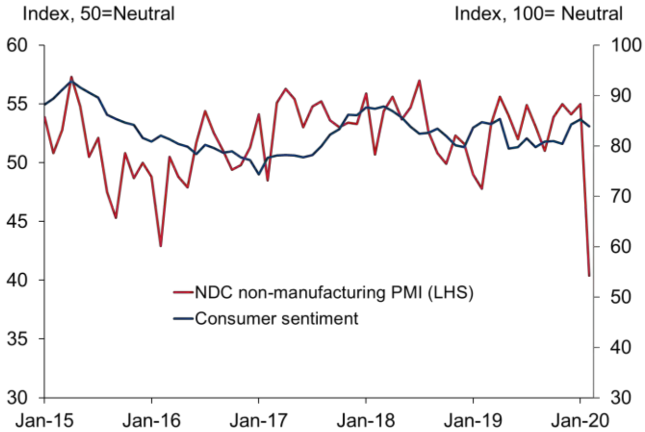
Source: Oxford Economics

Taiwan: Consumption and investment



Source: Oxford Economics

Taiwan: Services PMI and consumer sentiment

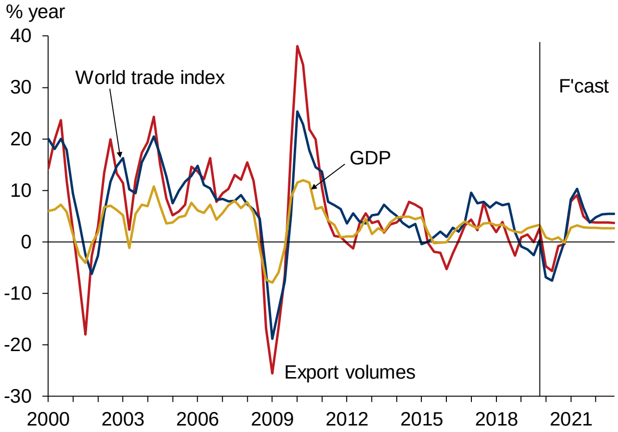


Source : Oxford Economics/Haver Analytics

capital goods imports and production. Given the rapid deterioration in the global economy, we have revised down our forecast for gross fixed capital investment growth to 0.9% in 2020, from 2.9% last month.

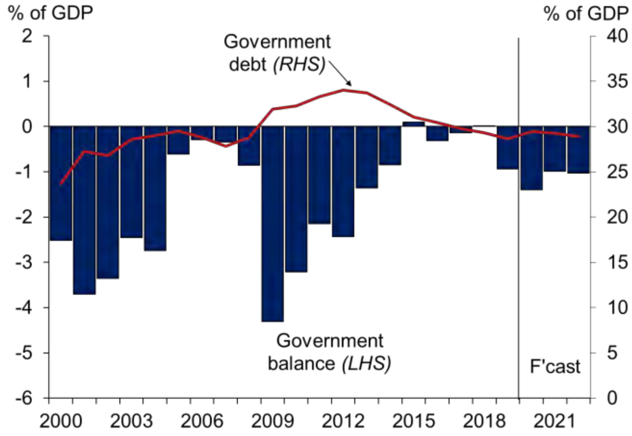
- **Exports unlikely to stay immune from global COVID-19 spread:** exports remained resilient in January-February, growing by 6.4% y/y in US$ terms, led by electronics parts and ICT products. Meanwhile, imports rose by 5.3% y/y, with capital goods imports up strongly. That said, export orders remained subdued, while the IHS Markit manufacturing PMI slipped to 49.9 in February from 51.8 in January, presaging trade weakness ahead.
- **Fiscal stimulus will help support worst-hit sectors:** President Tsai's administration has rolled out a NT$60bn (US$2bn) fiscal package to provide support to affected businesses such as those in the travel and retail sectors. This will widen the budget deficit to 1.4% of GDP in 2020. A second stimulus package worth NT$40bn also looks likely, which will bring the total fiscal support to NT$100bn or 0.5% of GDP.
- **Central bank cut policy rate to support the economy:** at its regular quarterly monetary policy meeting on March 19, the central bank cut the policy rate for the first time since 2016, by 25bp to 1.125%, which is below the 1.25% level during the global financial crisis. The scope of its repo facility was also expanded to include insurance companies while the repo tenor was extended from 30 days to 180 days. The central bank also provided NT$200bn to banks to shore up liquidity conditions for small and medium enterprises. While we expect the central bank to stand pat for the rest of 2020, we cannot rule out further easing if the economic outlook weakens significantly from here. Moreover, there's likely more room to cut interest rates given the probable period of disinflationary pressures resulting from the slump in global oil prices and weak domestic demand. The headline inflation rate fell to -0.2% y/y in February, after rising to +1.9% (influenced by the timing of the Lunar New Year holiday) in January. We now forecast average CPI inflation at 0% in 2020, down from 0.8% last month.

Taiwan: GDP, exports and world trade growth



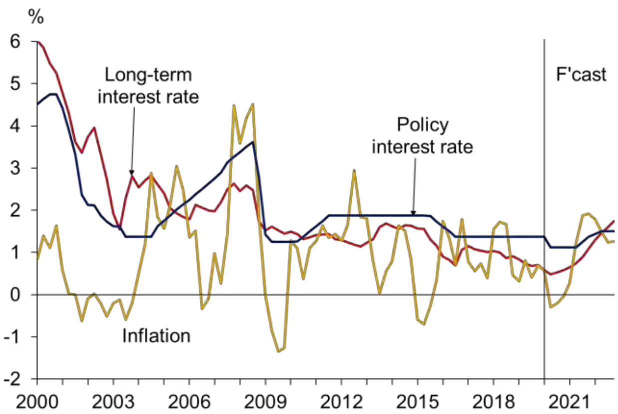
Source: Oxford Economics

Taiwan: Government budget balance and debt



Source: Oxford Economics/Haver Analytics

Taiwan: Monetary conditions



Source: Oxford Economics/Haver Analytics

Thailand

Highlights

- We have slashed our 2020 GDP growth forecast to -4.9% from +1.9% a month ago given the unprecedented shutdown of international travel, large cuts to our global forecasts, as well as domestic lockdown measures implemented to dampen the spread of the coronavirus. We expect the Bank of Thailand (BoT) to reduce interest rates a further 25bp, to 0.5% in Q2. Coupled with more fiscal measures and the hoped-for improvement in global and domestic activity in H2, we expect the economy to rebound to 6.6% growth in 2021.
- The government announced a state of emergency as of 26th March, which will lead to further restrictions on social gatherings and likely result in more business closures, further hitting already weak household spending and the service sector. We expect the unemployment rate to rise to 1.6% in H1 and consumer sentiment to weaken further. As such the additional government support, announced on top of its earlier 400bn baht package, is unlikely to have a notable impact in the short term.
- Tighter liquidity conditions and upward pressure on market interest rates led to the Bank of Thailand holding an emergency meeting, days before its scheduled March meeting, and reducing its policy rate by 25bp to 0.75%. In addition, policy makers announced coordinated action to improve liquidity for corporates and the functioning of the government bond market through a special loan facility and purchases of bonds. Although policy space is limited, we expect a further 25bp rate cut in Q2.
- These measures should help lower market rates. But the equity market and the THB will remain under pressure. Although the BoT has large foreign reserves to actively intervene in fx markets, we expect the THB to be the worst performing regional currency this year, testing 35 against the USD in the short term and only gradually tending back below 33 by year end, as regional and domestic conditions improve

Forecast for Thailand
(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	7.8	1.4	-3.7	5.8	3.0	3.4
Private Consumption	4.6	4.5	-3.8	6.2	3.2	3.1
Fixed Investment	3.8	2.2	-7.6	8.9	4.0	3.7
Stockbuilding (% of GDP)	4.4	2.5	2.5	2.0	1.9	2.1
Government Consumption	2.6	1.4	3.7	2.7	2.0	2.4
Exports of Goods and Services	3.3	-2.6	-13.5	11.3	7.8	4.6
Imports of Goods and Services	8.3	-4.4	-12.6	10.4	5.8	4.4
GDP	4.2	2.4	-4.9	6.6	4.6	3.6
Industrial Production	4.3	-3.9	-10.5	9.7	4.1	3.4
Consumer Prices	1.1	0.7	-1.5	1.4	1.5	1.6
Government Budget (% of GDP)	-1.6	-1.6	-4.2	-2.8	-2.5	-2.6
Trade Balance ($bn)	22.4	26.6	26.6	21.7	22.3	24.1
Current Account ($bn)	28.5	37.9	10.7	11.0	13.3	15.6
Current Balance (% of GDP)	5.58	6.95	2.11	2.09	2.29	2.52
Short-Term Interest Rate (%)	1.6	1.7	0.8	0.8	1.6	2.4
Exchange Rate (per US$)	32	31	33	32	31	31

All growth rates are calculated based on values in local currency

5% fall in 2020 before solid rebound in 2021

In recent weeks more and more countries have announced unprecedented measures to limit the spread of the coronavirus. This has led to significant downgrades to our global growth forecasts, and hence Thai exports. A sharp rise in domestic new cases has also seen the Thai government announce a state of emergency, which will lead to an extension of the partial lockdown to the rest of the country and will hit service sectors already severely affected by travel restrictions.

The government has announced a further US$3.3bn of stimulus measures, including cash handouts, soft loans, emergency loans and tax breaks, in addition to US$12.7bn previously announced. However, we still expect discretionary spending to contract amid falling consumer sentiment and higher unemployment. We also expect business investment to fall.

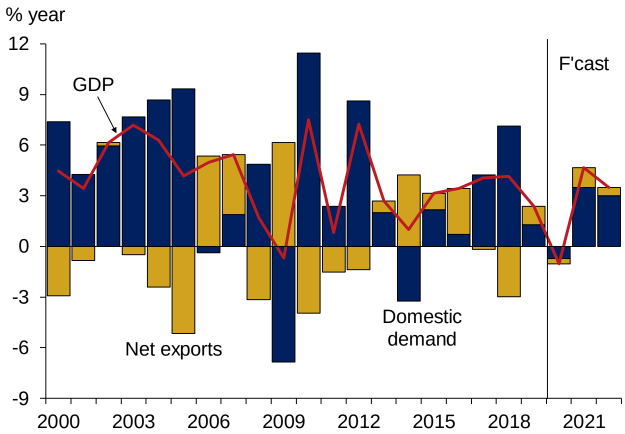
It is highly uncertain as to when the coronavirus outbreak will be contained, and when activity will return to normal. However, we assume a sequential improvement in growth in H2 amid improving global and domestic activity and accommodative macro policies. As such, while we now expect GDP to contract by 4.9% this year (compared to 1.9% growth a month ago), we look for a strong rebound in 2021 to 6.6% growth. The key drivers of the forecast are.

- **Huge hit to tourism**: tourism is one of Thailand's key exports, generating US$56bn of revenue in 2018, with tourism (directly and indirectly) accounting for around 20% of Thailand's GDP while Chinese tourists accounted for around 28% of all visitors to Thailand last year. Indeed, visitor arrivals were already down nearly 20% in the first two months of the year and, given the rapid escalation in international travel restrictions, we now expect inbound arrivals to fall by around 40% in 2020.

- **Exports and imports to fall sharply**: merchandise exports fell 0.8% y/y in January-February combined, driven by a sharp fall in exports to the US and Japan. We expect exports to fall deeper into negative territory in the coming months, with global trade set to contract in both Q1 and Q2. We also forecast imports to fall substantially given the worsening domestic demand conditions, before a modest recovery ensues as infrastructure investment picks up and discretionary spending recovers.

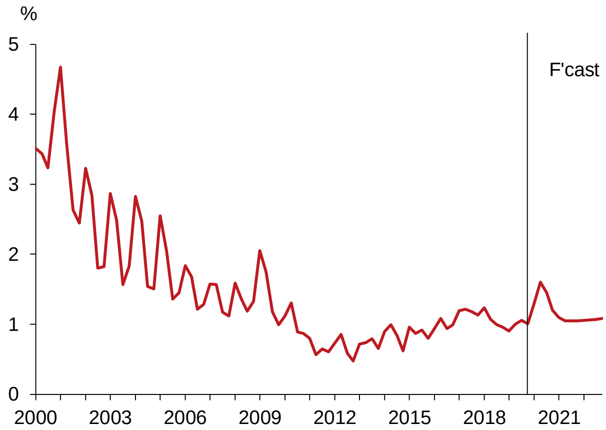
- On the export front, momentum is forecast to turn the corner from mid-2020 as Chinese import demand and global trade more generally starts to recover. Meanwhile, our projected depreciation in the THB should also improve Thailand's

Thailand: Contributions to GDP



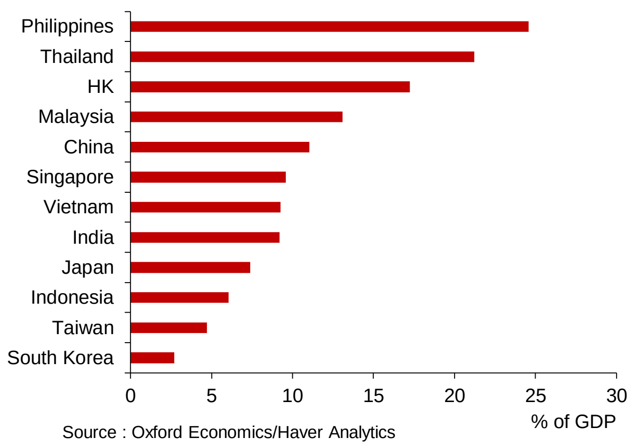
Source: Oxford Economics

Thailand: Unemployment



Source: Oxford Economics

Asia: Tourism Direct and Indirect



Source : Oxford Economics/Haver Analytics

export competitiveness somewhat. Overall, we expect net exports to exert a small drag on GDP growth in 2020 as a whole.

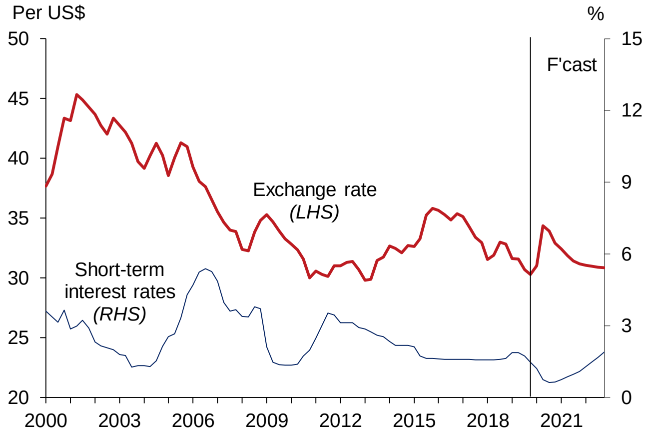
- **Lockdowns and rising unemployment to drag on consumption**: household spending started 2020 on a weak note. The consumer activity index slowed to 1.2% y/y in January and motor vehicle sales plunged 7.5% in the first two months. The rest of Q1 and Q2 is likely to be even weaker as travel bans and the national lockdown will be a drag on employment, wages and overall household consumption, as will falling consumer confidence. We now expect household spending to fall 3.8% in 2020, before improving to 6.2% next year.

- **Businesses to defer or cancel investment plans**: we expect business investment to contract by over 7.6% this year as the national lockdown and falling external demand will prompt businesses to defer or cancel investment plans. However, notwithstanding some risks of delay, we expect the passing of the 2020 Budget, and the planned front-loading of some infrastructure projects, to avert a deeper downturn.

- **BoT steps in to improve liquidity**: the Bank of Thailand reduced the policy rate by 25bp to 0.75% at an emergency meeting in March, days before the scheduled policy (where rates were then left unchanged) due to tightening liquidity conditions and a very sharp deterioration in the economic outlook. On top of this, the BoT, in coordination with the Ministry of Finance and the Securities and Exchange Commission, announced measures to improve market liquidity and the purchase of newly issued corporate and government bonds to ensure bond markets function normally.

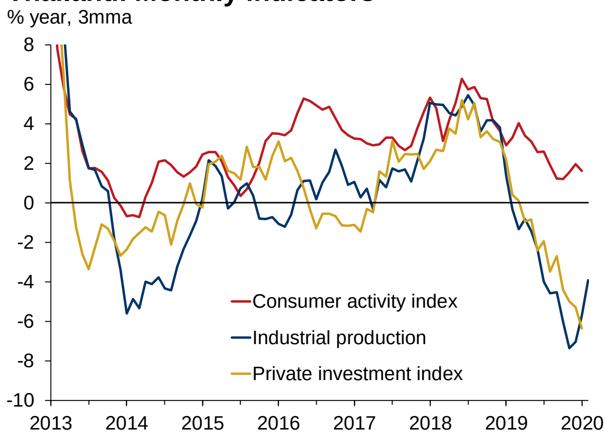
- With major central banks slashing interest rates, inflation below the BoT's 1 to 3% inflation target and a sharp deterioration in Thailand's economic outlook, we think that a further 25bp cut is likely in Q2, even though we believe that its effectiveness in boosting domestic demand will be limited as it will become increasingly difficult for banks to pass on lower borrowing rates.

Thailand: Exchange and interest rates



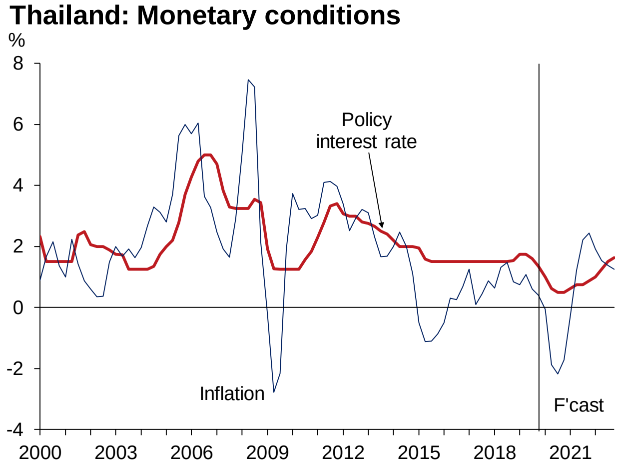
Source: Oxford Economics

Thailand: Monthly indicators



Source : Oxford Economics/Haver Analytics

Thailand: Monetary conditions



Source: Oxford Economics

Turkey

Highlights

- Turkey's unexpectedly strong recovery of 6% in Q4 2019 brought full-year 2019 expansion to 0.9%. However, reflecting the global pandemic, the rapid surge in the number of domestic coronavirus cases and the associated restrictions on normal activity, we now expect a fall of 1.4% this year. This assumes the authorities succeed in containing the outbreak by mid-year.
- The composition of growth was concerning in late 2019, but the coronavirus outbreak will not only put pressure on exports but also cause a decline in domestic demand in Q2 2020. And the boost from stockpiling, which made the largest positive contribution to output for the second consecutive quarter in Q4 2019, is bound to unwind.
- More positively, the oil price drop following the breakdown in talks between Saudi Arabia and Russia in early March is good news for Turkey; the country typically saves about $4bn in energy imports for every $10 decline in the oil price. Our updated Brent forecast for 2020 has been slashed by over $20, to $38.5pb, which will contain imports. However, factoring in the pandemic's hit to tourism, we see the external gap around -1.5% of GDP, even after helpful historical revisions and a drop in imports.
- The lower oil price and weaker demand will reduce price pressures. Inflation likely reached a cyclical peak in February of 12.4%. And given the fall in energy prices, the headline rate will now slow more significantly in the months ahead, to reach single digits by October and 8.9% by year-end, below our previous forecast of 10.5%. However, given sticky inflation expectations and a volatile lira, we see more caution from the central bank (CBRT), particularly as the 100bp emergency rate cut on 17 March took ex-post real interest rates further into negative territory.

Forecast for Turkey

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	-0.8	-1.4	0.9	6.2	4.5	4.3
Private Consumption	0.0	0.7	0.0	7.9	3.0	3.0
Fixed Investment	-0.6	-12.4	-2.2	8.0	4.8	5.0
Stockbuilding (% of GDP)	-3.3	-2.5	-1.6	-2.3	-1.3	-0.4
Government Consumption	6.6	4.4	4.5	0.9	2.6	2.7
Exports of Goods and Services	7.8	6.4	-10.8	13.4	4.9	2.8
Imports of Goods and Services	-7.8	-3.6	-1.9	15.3	3.2	3.1
GDP	2.8	0.9	-1.4	5.9	4.9	4.2
Industrial Production	1.1	-0.6	-0.2	3.4	2.8	2.9
Consumer Prices	16.3	15.2	10.5	9.6	8.9	9.4
Government Budget (% of GDP)	-2.0	-3.0	-4.4	-2.8	-2.3	-2.4
Trade Balance ($bn)	-43.0	-18.7	-12.1	-17.9	-31.7	-39.5
Current Account ($bn)	-20.7	8.0	-5.9	-13.2	-19.4	-25.5
Current Balance (% of GDP)	-2.40	0.98	-0.82	-1.72	-2.20	-2.51
Short-Term Interest Rates (%)	19.34	20.20	9.38	8.99	8.81	8.62
Exchange Rate (Per US$)	4.82	5.68	6.64	7.06	7.20	7.24

All growth rates are calculated based on values in local currency

2020 GDP growth forecast now at 1.7% as headwinds have escalated

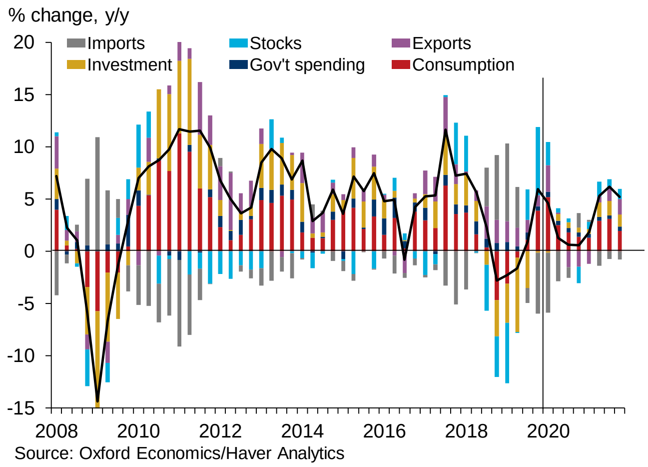
The Turkish economy surprised significantly on the upside in Q4 2019, beating expectations to grow by 6.0% y/y. On a seasonally-adjusted basis, Q4 GDP rose 1.9% q/q, more than double the 0.8% pace in Q3, underscoring the economy's improved momentum. Private consumption surged by 6.8% y/y, from an upwardly revised 1.9% in Q3, while investment fell by just 0.6% y/y, better than we had expected as activity grew for a second consecutive quarter. External conditions proved less favourable to the Turkish economy in Q4, but it was imports, which surged by 29.3% y/y, that was the primary drag on the contribution from net exports. Stocks again made the largest positive contribution. Overall, the economy grew by 0.9% in 2019, down from 2.8% posted in 2018.

The economy started 2020 strongly against the backdrop of ongoing credit expansion. The amount of credit extended in the 13 weeks to mid-March surpassed the previous peak reached in 2017. And industry recorded gains with the manufacturing PMI rising to a two-year high of 52.4 in February.

But the recovery has been blown off course by the escalating coronavirus pandemic. Turkish authorities have progressively tightened restrictions on movement and everyday life to contain the outbreak, including imposing a curfew on the over 65s. Manufacturing supply chains have been disrupted and lockdowns across Europe suggest a heavy hit to the travel and tourism sector, which overall contributes more than a tenth of output. Flights to most locations have been suspended and borders with Bulgaria, Greece, Iran, Iraq shut. Notwithstanding the US$15.4bn stimulus package, we have lowered our sequential (q/q) growth forecasts for Q1 and Q2 but assume that activity rebounds in H2. We now see GDP expanding by 0.7% q/q in Q1 in seasonally adjusted terms, followed by a q/q contraction of 2.1% in Q2. Overall, we forecast a decline of 1.4% in 2020, down from last month's projection of 2.8% and significantly below the government's target of 5%. Our baseline forecast assumes the country contains the surge in COVID-19 cases and that the situation improves in H2.

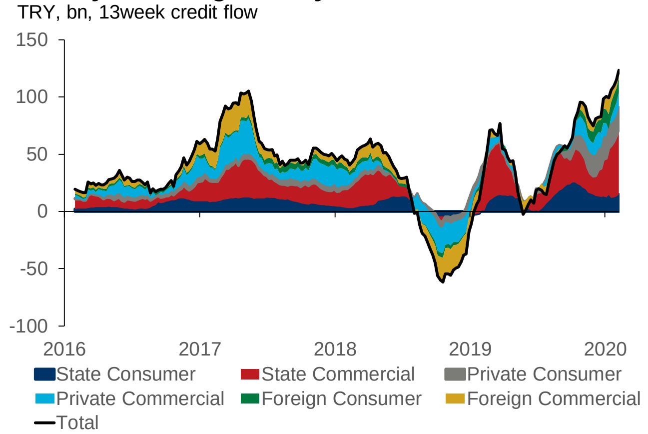
Geopolitics may not have been in the spotlight in recent weeks, but it also adds to the risks the economy will have to navigate

Turkey: Contributions to GDP



Source: Oxford Economics/Haver Analytics

Turkey: Lending activity



Source : Oxford Economics/Haver Analytics

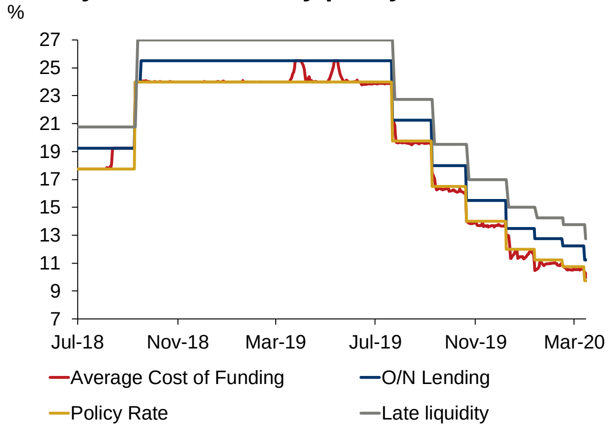
Turkey: USDTRY change over 6 months

Source : Oxford Economics/Haver Analytics

The following factors drive our baseline forecast.

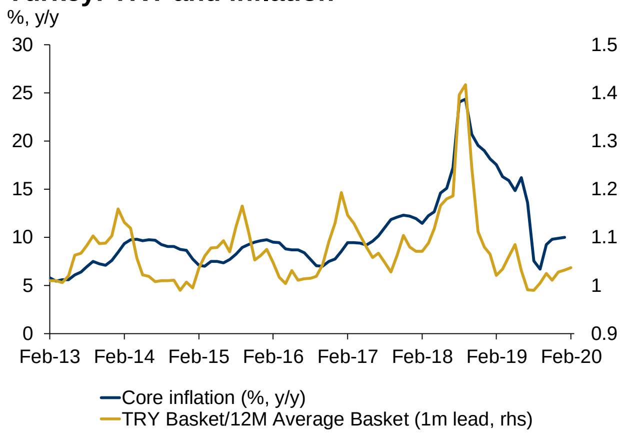
- **Domestic financial conditions have eased but uncertainty continues to weigh on investment:** the downturn in Turkey's investment since the 2018 crisis is almost unparalleled in the EM space and prospects for recovery remain bleak. Q4 GDP data showed that the economy grew by 6% y/y, but private investment continues to decline, dragging overall growth. The contribution from net exports was again negative, while inventories made the biggest positive contribution to headline GDP growth for the second consecutive quarter.
- **Lower oil prices and weakening demand to support disinflation:** inflation dynamics reversed in November, and inflation accelerated further in February, to 12.4%, from 12.2% in January and up from a three-year low of 8.6% in October. We expect prices to follow a disinflationary path from here on, supported by lower energy prices, finishing the year at 8.9%. Our 2020 average inflation forecast has been revised down to 10.5%, from 11.5% previously. Inflation averaged 15.2% in 2019.
- **Major policy easing by CBRT since mid-2019:** the CBRT extended its easing cycle in March, contrary to our expectation of policy staying on hold. The bank cut its key rate by 100bp in an unscheduled meeting, to 9.75%, from 10.75%; the seventh cut since the easing cycle began in July 2019. The CBRT has now reduced the rate by a cumulative 1425bp. but notwithstanding the dovish bias globally, reduced price risks and the political pressure to loosen policy further, we expect more caution going forward, now that the rate has been cut to single digits. However, worries about further possible easing will maintain headwinds for the lira.
- **External position deteriorating:** the balance of payments adjustment has gone into reverse as imports recover. We had been expecting the 12-month running total to swing into deficit in January, but revisions to the way foreign trade statistics are calculated left the external balance in surplus. The balance for 2019 saw an upward adjustment of $6.3bn, to $8bn, equivalent to a current account surplus of about 1% of GDP. While lower oil prices and weaker demand will supress imports, the balance will be in deficit equal to around 1.5% of GDP this year given the expected loss in tourism revenue.

Turkey: CBRT monetary policy framework



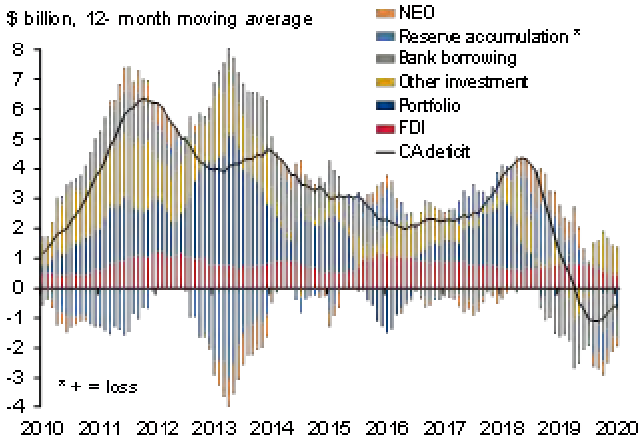
Source : Oxford Economics/Haver Analytics

Turkey: TRY and inflation



Source : Oxford Economics/Haver Analytics

Turkey: Financing of current account



Source : Oxford Economics/Haver Analytics

United Kingdom

Highlights

- The social distancing measures to try to slow the spread of coronavirus will cause significant disruption to activity in the short term, leading us to slash our 2020 UK GDP forecast to a fall of 5.1% from 0.7% growth seen last month. But we expect a strong 6.0% rebound in 2021 as resumption of discretionary spending is supported by low oil prices and monetary and fiscal stimulus.
- With the coronavirus spreading rapidly, the government has introduced increasingly restrictive social distancing measures over the past month. Currently, people are only permitted to leave their homes for a limited number of reasons, with most schools, non-essential shops and leisure facilities closed. Our forecast assumes these measures remain in place until May before being gradually lifted. This will cause significant disruption to activity and we now see GDP contracting by 10% in H1 2020.
- The MPC has reacted to the escalating crisis by cutting Bank Rate by 65bp to its effective floor of 0.1% and restarting quantitative easing with £200bn of asset purchases, consisting of gilts and private sector securities. It has also introduced a new Term Funding Scheme, with additional incentives for SMEs, which aims to ensure a full pass-through of the rate cuts. Meanwhile the Financial Policy Committee (FPC) and Prudential Regulation Committee (PRC) have instigated a number of measures aimed at sustaining the supply of credit.
- The Chancellor has also provided substantial fiscal support, including a job retention scheme which pays 80% of salaries for furloughed employees and income support for the self-employed. We expect public sector net borrowing to reach £220bn (10.7% of GDP) this year, but without these measures there was a strong risk that recession could become depression. Nevertheless, even assuming high usage of these schemes, we expect to see a sharp rise in unemployment during 2020.

Forecast for UK

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	1.3	1.6	-5.1	6.8	2.7	1.6
Private Consumption	1.6	1.1	-7.4	7.7	2.6	1.6
Fixed Investment	-0.2	0.6	-5.2	7.2	2.9	2.0
Stockbuilding (% of GDP)	-0.3	-0.1	-0.1	0.1	0.2	0.1
Government Consumption	0.4	3.5	3.8	2.8	2.1	1.9
Exports of Goods and Services	1.2	4.8	-9.9	5.3	2.6	-0.2
Imports of Goods and Services	2.0	4.6	-9.7	8.0	3.1	0.7
GDP	1.3	1.4	-5.1	6.0	2.5	1.4
Industrial Production	0.8	-1.4	-8.9	8.0	2.0	-1.0
CPI	2.5	1.8	0.8	1.5	2.1	2.0
Current Balance (% of GDP)	-3.9	-3.8	-3.0	-3.4	-3.3	-3.0
Government Budget (% of GDP)	-2.2	-2.1	-11.1	-3.1	-3.6	-3.5
Short-Term Interest Rates (%)	0.72	0.81	0.43	0.35	0.74	1.22
Long-Term Interest Rates (%)	1.46	0.94	0.49	0.81	1.30	1.74
Exchange Rate (US$ per £)	1.34	1.28	1.26	1.28	1.33	1.37
Exchange Rate (Euro per £)	1.13	1.14	1.15	1.18	1.18	1.17

All growth rates are calculated based on values in local currency

The economy was weak prior to coronavirus

Prior to the spread of coronavirus to the UK, the economic performance had been underwhelming. Despite an improvement in the business survey data in the aftermath of December's decisive election result, official data reported that GDP was flat in January.

Q2 is likely to see a sharp drop in activity…

Since then, the CIPS surveys have suggested that activity has weakened sharply, initially because of disruption caused by the impact of coronavirus on other countries and then latterly from the introduction of social distancing measures in the UK. The composite PMI fell to a record low level of 36.0 in March (down from 53.0 in February), with service sector activity hit particularly hard.

However, the scale of the economic impact will remain unclear for some time – business survey data is typically of limited use in quantifying the scale of change at turning points, while the first 'hard' data for March will not be available until late-April (retail sales) and early-May (GDP and sectoral output).

We now expect GDP to fall by around 10% in H1 2020, and by 5.1% in 2020 overall, as the economy endures a sizeable supply shock. The key transmission channels are:

- **Lower discretionary spending:** around 40% of consumer spending usually takes place in crowded areas and this will be drastically reduced while social distancing measures are in place.

- **Lower working hours:** the closure of schools for the majority of children will prevent many parents from working, adding to the negative supply shock from individuals 'self-isolating' but unable to work from home and a higher incidence of sickness.

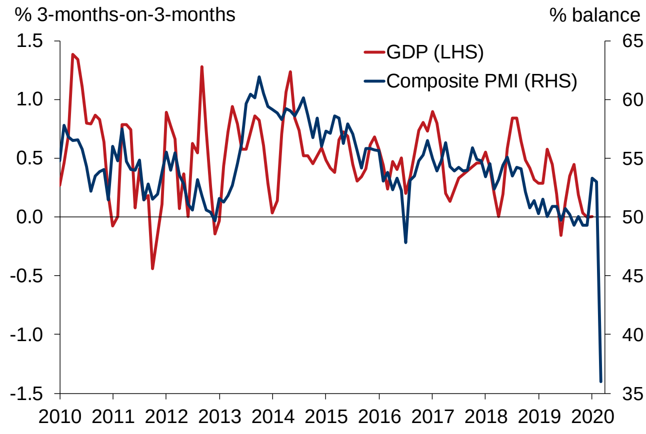
  Tightening in financial conditions: equity prices ended Q1 some 27% below their January peak.

…but we expect a strong recovery in 2021

The key risk now is that the supply shock and tightening in financial conditions morph into a demand shock which prevents a strong recovery when activity resumes. This could happen if, for example, large numbers of firms facing dramatic short-term declines in their incomes go out of business and there is a large rise in unemployment.

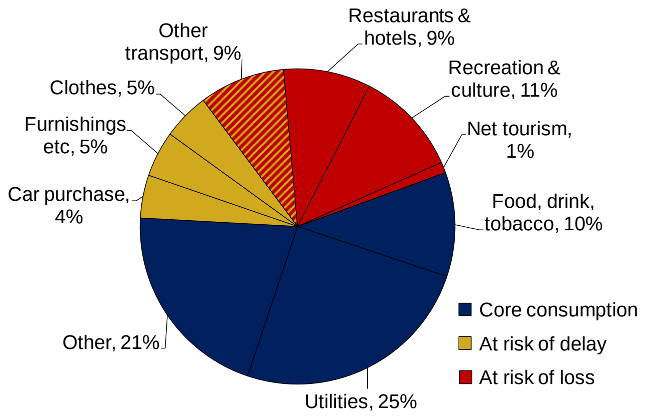
With this fear in mind, policymakers have been quick to intervene. The Coronavirus Job Retention Scheme will pay 80%

UK: GDP vs composite PMI



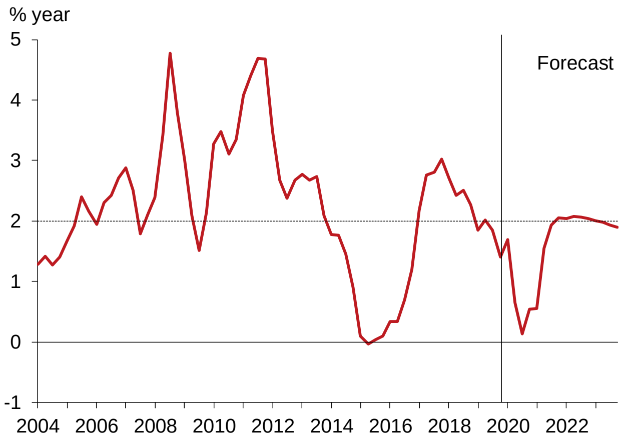
Sources: ONS, CIPS, IHS Markit

UK: Structure of consumer spending



Sources: Keogh-Brown et al, Oxford Economics, Haver Analytics

UK: CPI inflation



Sources: Oxford Economics/Haver Analytics of salaries up to £2,500 a month if employees are furloughed rather than laid off, while the Self-employment Income Support Scheme offers self-employed workers grants worth 80% of their profits up to £2,500 a month. Although we still expect unemployment to rise by more than 2% points in H1 2020, the uplift would be far higher without these schemes. With the majority of vulnerable workers keeping their jobs, we expect to see a strong rebound in GDP growth once social distancing measures are lifted. The key drivers of the rebound will be:

- **Very low inflation:** though the recent depreciation of sterling and the UK's large tax wedge mean that it will benefit less from the collapse in oil prices than many other economies, our modelling suggests that the price of a litre of petrol should drop to around £1 over the next month from £1.30 at the start of the year. This should mean that CPI inflation slows sharply, dropping close to zero in the summer. Very low inflation will provide a sizeable boost to household spending power.

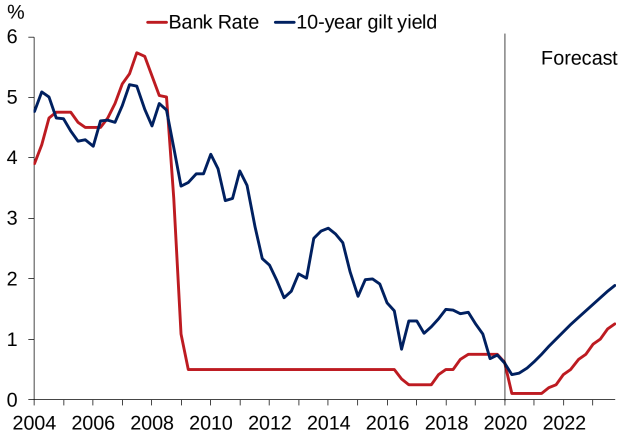
- **Loose monetary policy:** the MPC has cut Bank Rate by 65bp to its effective floor of 0.1% and restarted quantitative easing with £200bn of asset purchases, consisting of gilts and private sector securities.

- **Government income support schemes:** we expect the various government policy measures to result in public sector net borrowing temporarily rising to £220bn (10.7% of GDP) this year. But with the BoE restarting quantitative easing, we do not expect the government to have problems financing the extra borrowing.

The risks are skewed to the downside

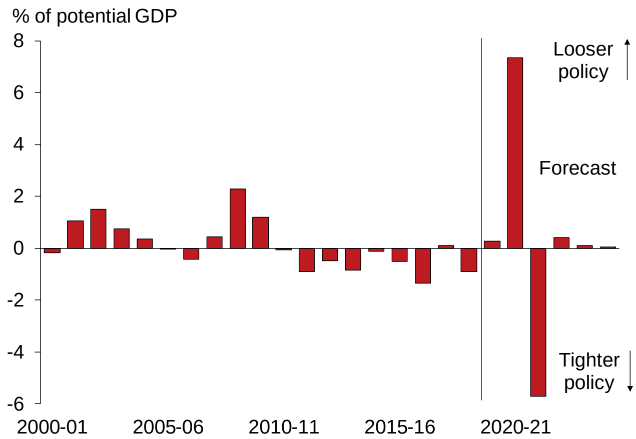
After the 5.1% contraction in GDP now seen this year, a strong rebound to growth of 6.0% is forecast for 2021. But there is a huge degree of uncertainty surrounding these projections as, with no historical precedents, it is very difficult to forecast what happens next. We judge the risks are skewed to the downside, with the key uncertainties being around the length of the lockdown, the severity of the near-term decline in activity, the extent of financial market spill-overs and the degree to which government support schemes limit the increase in unemployment.

UK: Interest rates* * period average



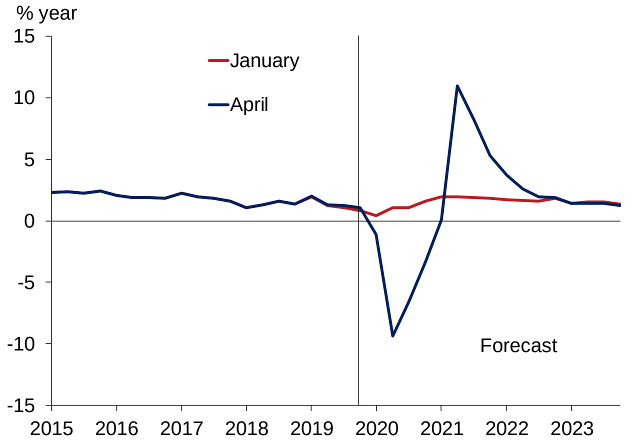
Sources: Oxford Economics/Haver Analytics

UK: Fiscal impulse



Sources: Oxford Economics/Haver Analytics

UK: Forecasts for GDP growth



Source: Oxford Economics

United States

Highlights

- The Global Coronavirus Recession (GCR) not only marks the end of the longest US economic expansion on record, but it will also lead to the sharpest contraction in activity since WWII. We now expect real GDP will contract around 4% in 2020, assuming a 12-week lockdown starting in late March, followed by a very gradual relaxation of social distancing measures thereafter.
- High frequency indicators show that spending on restaurants has come to a near full stop, hotel occupation is only about 20%, retail spending at brick and mortar stores is down over 80%, and road congestion across the nation is about 75% lower than last year. We estimate real GDP will shrink more than 30% annualized in Q2 – nearly 2.5 times larger than the output loss from the GFC.
- A decade-long streak of monthly employment gains ended abruptly in March as the initial effects of the coronavirus pandemic led to a sharp job loss of 701,000. But, while the report may have looked dark, it will pale in comparison to the expected 24 million job losses in April. We foresee the unemployment rate surging to 14% in April and 16% in May, with a cumulative job loss over two months of around 27 million – three times more than during the GFC.
- Unprecedented Fed stimulus and unparalleled fiscal support will provide an essential lifeline to the economy. But, even with $2.5tn of stimulus – including a multi-trillion business lending capacity – the 'new normal' of fear will feature only a gradual relaxation of social distancing measures and a slow recovery until a medical solution to coronavirus ends the crisis.
- Given the severity of the economic and labor market shock and the expectation for a gradual and uneven easing of lockdown measures in Q3, we forecast a U-shaped rebound with the structurally vulnerable states taking the longest to recover.

Forecast for US

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	3.1	2.4	-4.5	7.8	1.7	1.7
Private Consumption	3.0	2.6	-6.7	9.9	2.9	2.0
Fixed Investment	4.1	1.8	-3.0	4.9	2.2	2.0
Stockbuilding (% of GDP)	0.3	0.4	-0.6	0.7	0.2	0.1
Government Consumption	1.7	1.8	10.0	-3.8	-1.4	0.1
Exports of Goods and Services	3.0	0.0	-6.0	7.3	3.5	2.8
Imports of Goods and Services	4.4	1.0	-8.1	9.0	4.1	3.3
GDP	2.9	2.3	-4.1	7.7	1.6	1.6
Industrial Production	4.0	0.9	-7.7	8.2	3.5	1.5
Consumer Prices	2.4	1.8	0.7	1.6	2.0	2.0
Current Balance (% of GDP)	-2.4	-2.3	-2.2	-2.6	-2.7	-2.8
Government Budget (% of GDP)	-6.5	-7.2	-14.7	-9.1	-7.8	-7.6
Short-Term Interest Rates (%)	2.31	2.33	0.89	0.45	0.90	1.42
Long-Term Interest Rates (%)	2.91	2.14	0.97	1.39	1.80	2.09
Exchange Rate (US$ per Euro)	1.18	1.12	1.09	1.09	1.13	1.17
Exchange Rate (Yen per US$)	110.38	109.02	106.94	106.00	105.47	104.40

All growth rates are calculated based on values in local currency

A very sharp recession

With our "triple P" rule for a recession being fulfilled, the current "prolonged, profound, and pervasive" contraction in economic activity has brought an end to the longest US economic expansion on record. This downturn in activity will be pervasive – not confined to just one sector or region of the economy; profound – not only a "blip"; and prolonged – it will last several months.

With the number of infections rising exponentially across the country and states representing up to 75% of US GDP under stay-at-home orders, we expect to see deep cutbacks on a wide range of discretionary spending. We see consumer spending contracting more than 13% in Q2 2020 – at 43% annualized, this would be the sharpest drop on record. We also see business investment contracting 14% in Q2, or 46% annualized, with the oil price crash adding a drag from the energy sector.

Policy measures will help offset the shock but cannot prevent it. The Fed's response to the GCR has been exemplary, delivering rapid policy stimulus via traditional and emergency measures. After cutting interest rates to the effective lower bound, the Fed has launched multiple lending facilities aimed at reducing stress in the Treasuries, mortgage-backed securities, commercial paper, money markets, dollar, muni and corporate debt markets.

Congress has passed the CARES Act, a record $2.2tn stimulus package providing fiscal stimulus, loans, and loan guarantees amounting to 9% of GDP. The three-pronged CARES Act will support households via direct checks to low- and middle-income families along with an expansion of unemployment benefits worth a combined $540bn. It directs $150bn to state and local governments. And it will support large and small businesses via nearly $1tn of loans, loan guarantees, and bailout funds.

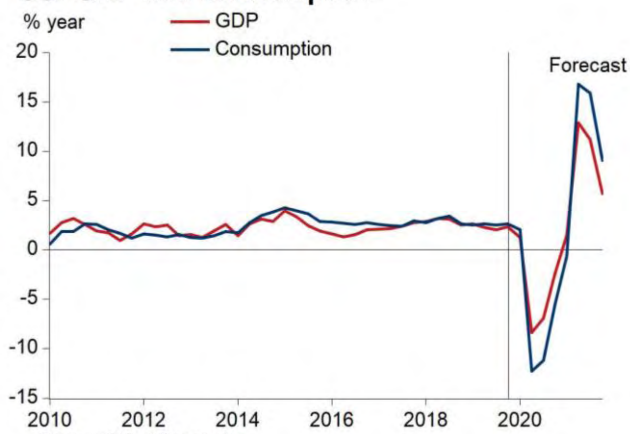
While these measures will support the economy and the recovery, a rebound in H2 2020 ultimately hinges on successful containment measures.

Key vulnerabilities

A short, very sharp recession could become more protracted if key risks materialize:

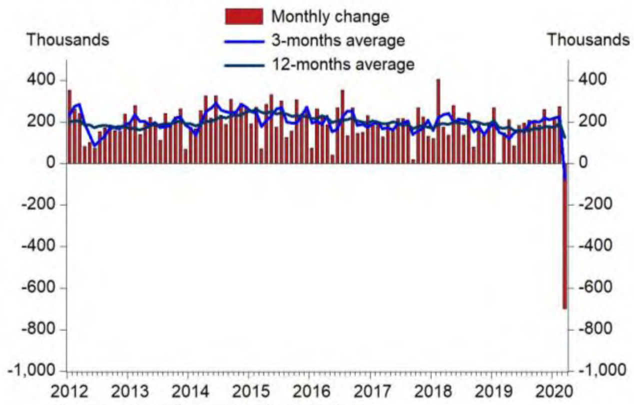
- **Indebted corporate sector**: a highly leveraged corporate sector with a large amount of low-quality corporate bonds represents a key risk to the economy amid this sudden stop.
- **Labor market shock**: we anticipate cumulative job losses of

US: GDP and consumption



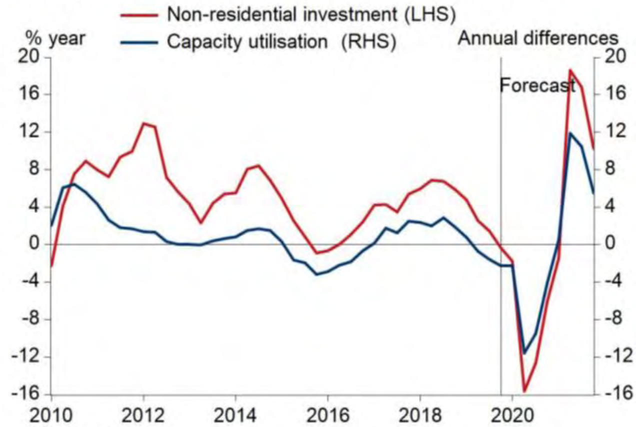
Source: Oxford Economics

US: Nonfarm payrolls



Source: Oxford Economics/Haver Analytics

US: Investment and capacity utilisation



Source: Oxford Economics

27 million due to the coronavirus pandemic, with the bulk of losses coming in April as the unemployment rate surges to 14%.

- **Struggling business investment**: the sudden stop in domestic and global activity, a stronger dollar, rising corporate spreads and plunging energy investment will lead to a sharp contraction in business investment.
- **Trade collapse**: major supply chain disruptions and a halt to tourism activity point to a protracted slump in trade flows, as imports and exports fall across 2020.

Fed will 'do what it takes' to support activity

After cutting the Federal Reserve policy rate 150bp to the effective lower bound, the Fed revived emergency funding facilities and launched new ones. Not stopping at more generous funding terms and a wider range of collateral, the Fed has since implemented new emergency credit and funding measures, as well as greatly increasing the size of QE. Support has come for primary and secondary market corporate bond liquidity, municipal bond issuance and reserve requirements.

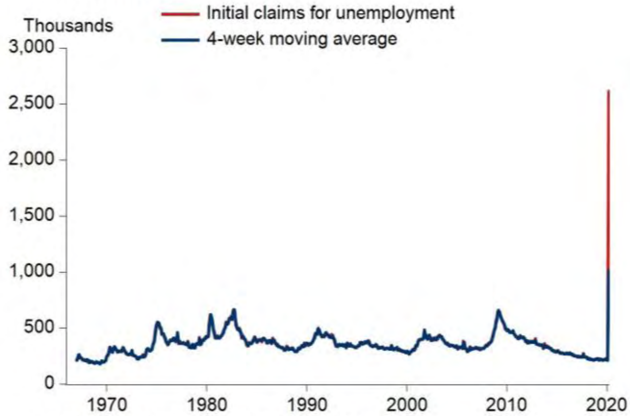
But it's perhaps what the Fed is doing in conjunction with Treasury and Congress that will provide the greatest support to the economy. Roughly $425bn in the Coronavirus Aid, Relief, and Economic Security (CARES) Act aims at supporting up to $4tn in lending by the Fed to businesses and state and local governments. Meanwhile, the Main Street Business Lending Facility and the newly announced facility to back small-business lending appear to have tremendous firepower.

Long-term factors

Despite the bleak situation currently, the US economy should return to growth of just under 1.7% per year in 2022-30 as the economy grows broadly in line with its potential.

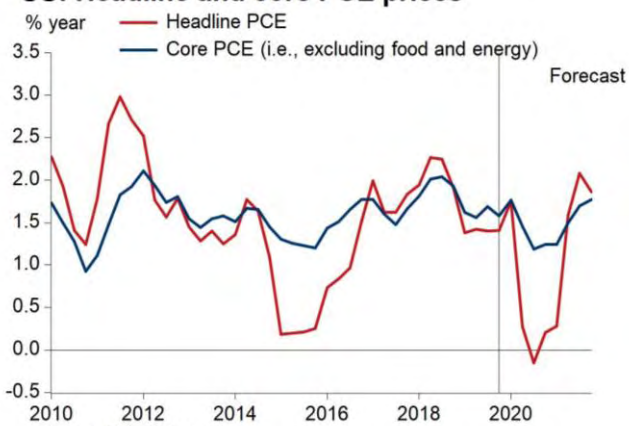
- **Flexible labor force**: the US will maintain the flexibility of its labor force, giving it an advantage over its peers.
- **Steady productivity**: we look for productivity growth to sustain a steady, but modest, pace in the long term.
- **Population challenges**: lower Census population projections have cut our long-run growth estimate by 0.1ppt.

US: Unemployment claims



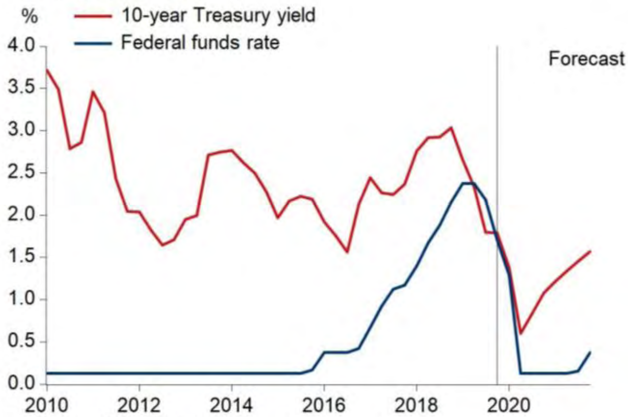
Source: Oxford Economics/Haver Analytics

US: Headline and core PCE prices



Source: Oxford Economics

US: Interest rates



Source: Oxford Economics

Austria

Highlights

- With the number of infected people rising across the continent and partial or full lockdown measures in place in most European countries, the economic impact from the health crisis is going to be massive and the eurozone is headed for an historically deep recession in H1. This has led us to slash our 2020 GDP growth forecast to -5.6% (from +0.6% previously), before a strong pick-up to 6.8% in 2021. But the speed at which negative events are unfolding and the escalation of containing measures mean that the risks to our forecast remain to the downside and we may well have to lower our projections further.
- As expected, PMI figures for March showed the initial impact from the coronavirus outbreak. The eurozone PMI collapsed to a new historic low of just 31.4 from 51.6 in February as the severe containment measures put in place in many countries hit the economy. Following the pattern shown earlier by China, the decline in services activity was much deeper than in manufacturing, although we expect the April figures to be even worse as they will reflect the implementation of even harsher lockdowns.
- The unprecedented nature of the crisis is leading to extraordinary volatility around our forecasts. Our baseline assumes the brunt of the impact will be centred around March and April, with a gradual recovery afterwards, which should speed up later in H2 as lockdowns are lifted and monetary and fiscal stimulus feeds through. But the evolution of the disease will be key in order to determine the final economic damage.
- The ECB has announced a massive new QE package worth €750bn. Combined with the liquidity bazooka for banks already in place, this makes the ECB's monetary policy stance arguably the most accommodative on record as it attempts to cushion the economy from the unprecedented crisis.

Forecast for Austria

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	1.6	1.4	-5.2	6.0	2.4	1.6
Private Consumption	1.1	1.3	-3.4	5.6	1.6	1.5
Fixed Investment	3.9	3.0	-2.4	4.5	2.4	1.9
Stockbuilding (% of GDP)	1.4	1.2	-2.1	-0.6	0.0	0.0
Government Consumption	0.9	0.9	2.3	1.2	1.1	1.6
Exports of Goods and Services	5.6	2.9	-7.4	9.4	2.8	2.3
Imports of Goods and Services	4.6	2.9	-6.9	8.1	2.9	2.4
GDP	2.3	1.5	-5.6	6.8	2.3	1.6
Industrial Production	4.8	0.5	-6.7	6.3	2.1	2.0
Consumer Prices	2.0	1.5	0.5	0.8	1.5	1.7
Current Balance (% of GDP)	2.3	2.0	2.3	3.1	3.5	3.9
Government Budget (% of GDP)	0.3	0.3	-5.8	-1.2	-0.1	-0.1
Short-Term Interest Rates (%)	-0.32	-0.36	-0.37	-0.38	-0.31	-0.02
Long-Term Interest Rates (%)	0.69	0.06	0.05	0.26	0.54	0.95
Exchange Rate (US$ per Euro)	1.18	1.12	1.09	1.09	1.13	1.17

All growth rates are calculated based on values in local currency

Canada

Highlights

- Canada is in the midst of a severe recession. The economy has virtually shut down, paralyzed by measures to contain the coronavirus pandemic, free-falling financial markets, plunging oil prices and plummeting confidence. We have markedly downgraded our forecast for real GDP growth in 2020 to -6.5%, down from +1.4% pre-virus. Furthermore, we are in uncharted and rapidly changing territory, with an unusual degree of uncertainty, so the likelihood of future significant downgrades to our outlook is very high.
- The country has now entered an effective lockdown that we think will last through the summer. The border has been closed for non-essential travel, schools have shut down, and several provinces have declared a state of emergency and ordered the closure of all non-essential workplaces.
- Weak momentum from late 2019, initial coronavirus effects and some temporary factors likely led to a 0.6% annualized decline in Q1 GDP. However, the very recent and sudden stoppages across Canada are expected to result in a sharp 11.6% drop in Q2 GDP. Furthermore, the fall in Q2 GDP could be even more dramatic. Consumer confidence collapsed a record 32 points in March and claims for Employment Insurance (EI) reached an unprecedented 929,000 level, foretelling huge job losses.
- We expect a strong bounce back in Q4, once lockdowns are lifted, boosted by extraordinary fiscal and monetary stimulus. We have incorporated the federal government's "first phase" fiscal response totalling C$82bn (3.5% of GDP), and, while we welcome the recent upsizing to C$107bn (4.6% of GDP), much more is required.
- The Bank of Canada stands ready "to do what it takes". And, as widely expected, finally cut the policy rate to the zero-lower bound on March 27th . It also launched new programs to inject liquidity and begin acquiring Government of Canada securities.

Forecast for Canada

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	2.1	1.2	-5.7	7.8	2.5	1.6
Private Consumption	2.1	1.6	-8.4	11.1	3.0	1.8
Fixed Investment	1.2	-0.7	-6.3	7.9	2.6	1.5
Stockbuilding (% of GDP)	0.6	0.7	-0.4	0.8	0.2	0.2
Government Consumption	3.0	2.1	2.7	0.1	1.4	1.3
Exports of Goods and Services	3.1	1.2	-8.7	4.8	2.0	1.2
Imports of Goods and Services	2.6	0.3	-8.6	4.6	1.7	1.1
GDP	2.0	1.6	-6.5	9.2	2.0	1.6
Industrial Production	3.1	-1.1	-11.0	11.9	3.5	1.6
Consumer Prices	2.2	2.0	0.8	1.8	2.3	2.1
Current Balance (% of GDP)	-2.5	-2.0	-3.1	-2.1	-1.6	-1.4
Government Budget (% of GDP)	0.3	0.1	-8.9	-1.1	-1.1	-1.4
Short-Term Interest Rates (%)	1.84	1.96	0.85	0.53	1.04	1.29
Long-Term Interest Rates (%)	2.28	1.59	0.78	0.92	1.27	1.61
Exchange Rate (Per US$)	1.30	1.33	1.46	1.49	1.45	1.41
Exchange Rate (Yen per Can $)	85.17	82.17	73.35	70.98	72.84	73.99

All growth rates are calculated based on values in local currency

Czech Republic

Highlights

- We have lowered our 2020 GDP growth forecast significantly to -1.7% following the rapid spread of COVID-19 throughout Europe, prompting a flurry of severe containment measures. A sharp recession now seems inevitable, but we expect a strong rebound towards the end of the year. The shock is likely to hit all parts of the economy as some sectors contract sharply. We see the recovery continuing in 2021, with growth now forecast at 5.3% as containment measures are eased once the outbreak is under control.
- The coronavirus outbreak and subsequent containment measures will hit the economy hard in many places. We expect consumption to drop sharply in Q2 as the country-wide lockdown takes its toll on the hospitality sector and tourism, while consumers will delay their durable purchases. On the investment side, we expect most plans to be delayed rather than lost. But the prevailing uncertainty will exacerbate the output shock in H1 this year.
- Industry will be hit equally as hard. By now, the supply chain disruption from the initial outbreak will have filtered through to Czech manufacturers. Moreover, the production shutdown of all major German car manufacturers, including VW-owned Skoda Auto, will hit the heavily auto-oriented industry and exports. Other large manufacturers are also at risk of shutdown as the containment measures ramp up.
- There has been a range of policies aimed at mitigating the fallout. The government has announced a fiscal package aimed mainly at preventing bankruptcies. And the Czech National Bank (CNB) cut the policy rate by 50bp to 1.75% at an emergency meeting on 16 March along a number of measures aimed at maintaining liquidity provision. Given the policy space, we expect another 50bp rate cut very soon.

Forecast for Czech Republic
(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	3.9	3.0	0.0	4.5	2.0	1.7
Private Consumption	3.2	3.0	-2.9	6.4	2.5	2.0
Fixed Investment	7.5	2.7	1.7	4.3	2.4	2.1
Stockbuilding (% of GDP)	0.5	0.7	1.3	1.0	0.8	0.7
Government Consumption	3.4	2.6	2.0	1.6	1.1	1.3
Exports of Goods and Services	4.4	1.0	-3.4	6.2	2.8	2.4
Imports of Goods and Services	5.9	1.5	-1.4	5.3	3.0	2.4
GDP	2.8	2.5	-1.7	5.3	1.9	1.8
Industrial Production	3.1	-0.3	-4.0	7.4	2.1	2.4
Consumer Prices	2.2	2.8	2.1	2.0	2.0	2.0
Government Budget (% of GDP)	1.1	-0.5	-3.9	-0.2	-0.2	-0.2
Trade Balance ($bn)	9.3	10.5	8.8	11.7	12.9	14.6
Current Account ($bn)	1.18	-0.83	0.74	0.89	0.92	0.93
Current Balance (% of GDP)	0.44	-0.33	0.32	0.34	0.31	0.29
Short-Term Interest Rates (%)	1.27	2.12	1.12	0.80	1.79	2.47
Exchange Rate (Per US$)	21.73	22.93	24.28	23.20	21.78	20.54
Exchange Rate (Per Euro)	25.64	25.64	26.47	25.22	24.54	24.07

All growth rates are calculated based on values in local currency

Hungary

Highlights

- Despite a strong end to 2019, the Hungarian economy is undoubtedly going to be heavily affected by the disruption and travel bans associated with the coronavirus. This is expected to reduce growth sharply this year, although we still anticipate a strong bounce back in activity once social distancing measures are relaxed. We now forecast GDP growth will fall sharply from 4.9% in 2019 to -3.1% this year before recovering to grow by 7.5% in 2021.
- The decision to close Hungary's borders and postpone cultural and sporting events, together with other measures to reduce the spread of the virus, is expected to take a heavy toll on tourism, travel-related services and the hospitality sector. While gauging the full impact of these measures is challenging, we currently expect consumption, investment and exports to all contract in Q2, leading to a 1% q/q fall in GDP.
- Assuming social distancing measures are relatively short-lived, monetary and fiscal stimulus combined with a strong recovery in discretionary spending should ensure a strong recovery in activity once the worst of the virus-related disruption is past. We therefore see the economy recovering in H2 this year and going on to grow by over 7% in 2021. This said, clearly the situation is still fluid and the imposition of tighter or more lengthy controls could delay the recovery into 2021.
- The announced moratorium on principle and interest repayments until the end of the year for both households and business, together with sector-specific support measures and cuts in interest rates by the MNB, should limit the financial stress experienced by companies and households. We therefore anticipate only a relatively modest increase in job losses, with unemployment expected to remain below 5%.

Forecast for Hungary

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	8.0	5.8	-0.8	7.4	2.8	1.7
Private Consumption	4.8	5.1	-1.9	8.1	3.0	2.1
Fixed Investment	17.1	15.3	-1.6	8.7	3.2	2.1
Stockbuilding (% of GDP)	-4.5	-5.8	-5.7	-5.2	-5.0	-5.2
Government Consumption	0.9	1.7	2.0	1.3	1.3	1.3
Exports of Goods and Services	4.3	6.0	-4.9	7.9	3.4	2.6
Imports of Goods and Services	6.8	6.9	-3.1	7.8	3.0	2.2
GDP	5.1	4.9	-3.1	7.5	3.3	2.1
Industrial Production	3.8	5.3	-1.1	6.4	3.5	3.0
Consumer Prices	2.8	3.3	3.4	3.7	3.2	3.1
Current Balance (% of GDP)	0.0	-0.8	-2.1	-2.3	-2.3	-2.1
Government Budget (% of GDP)	-2.3	-2.0	-4.2	-1.6	-1.7	-1.7
Current Account ($bn)	0.02	-1.36	-2.85	-3.50	-3.77	-3.83
Trade Balance ($bn)	-1.95	-3.00	-1.75	-2.20	-2.59	-2.71
Short-Term Interest Rates (%)	0.12	0.19	0.45	0.64	0.92	1.25
Exchange Rate (Per Euro)	318.83	325.36	361.30	373.32	371.84	370.13

All growth rates are calculated based on values in local currency

Indonesia

Highlights

- We have substantially cut our forecast of Indonesia's GDP growth in 2020, to 0% from 4.9% previously, as we now think the coronavirus outbreak will not only reduce external demand but also cause a sharp fall in domestic demand in Q2. Given fiscal stimulus packages and subdued revenue prospects, we expect the fiscal deficit to widen further to 7.3% of GDP in 2020. While the recent steep depreciation in the rupiah raises concerns about the room for further monetary policy support, we expect Bank Indonesia (BI) to take the policy rate down to a new low of 4% by end-Q2.
- The impression that Indonesia is ill-prepared to fight the coronavirus outbreak is especially harmful for business and consumer confidence. As such, we forecast final domestic demand growth to slow to 0.5% this year from 3.6% in 2019. This is the main contributing factor behind our large downward revision to 2020 GDP growth. The authorities have also increasingly turned more pessimistic in their outlook, with BI revising down its 2020 growth forecast by 0.9ppt to 4.4% over the last two months.
- As more countries go into unprecedented lockdowns, we expect a sharp reduction in global production and trade. With falling global demand, we forecast export volumes to contract 11% in 2020. In line with our substantial downgrade to domestic demand, we forecast imports to fall 9.5% this year following a 7.7% contraction last year.
- In line with our view, BI cut its policy rate by 25bp at its March meeting. Despite the financial stability risks, we think the escalating risks to growth will push the BI to ease further with two more 25bp rate cuts in Q2. The government has announced two fiscal stimulus packages to dampen the economic impact from the coronavirus outbreak, summing to almost 1% of GDP, which should help contain the fall in demand.

Forecast for Indonesia

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	6.2	3.6	0.5	9.7	6.5	5.5
Private Consumption	5.1	5.2	0.4	8.6	6.4	5.4
Fixed Investment	6.6	4.4	-1.1	11.4	8.7	6.3
Stockbuilding (% of GDP)	2.8	1.7	1.4	2.1	1.4	1.2
Government Consumption	4.8	3.2	13.3	1.0	6.9	6.6
Exports of Goods and Services	6.5	-0.9	-11.0	12.2	6.9	4.3
Imports of Goods and Services	11.9	-7.7	-9.5	16.2	8.7	5.4
GDP	5.2	5.0	0.0	9.0	6.2	5.3
Industrial Production	4.0	4.0	-1.7	8.1	5.2	4.6
Consumer Prices	3.3	2.8	2.7	3.3	3.2	3.1
Government Budget (% of GDP)	-1.8	-2.2	-7.3	-3.8	-2.5	-1.7
Trade Balance ($bn)	-0.2	3.5	2.8	5.9	5.4	6.5
Current Account ($bn)	-30.6	-30.4	-33.1	-32.4	-34.6	-36.4
Current Balance (% of GDP)	-2.94	-2.71	-3.30	-2.59	-2.39	-2.29
Short-Term Interest Rates (%)	6.55	6.62	4.95	5.76	6.61	6.79
Exchange Rate (Per US$)	14230.65	14138.04	16032.50	14519.92	13854.11	13655.91

All growth rates are calculated based on values in local currency

Malaysia

Highlights

- We have slashed our 2020 GDP growth forecast to a fall of 2.5%, from 3.9% last month, reflecting the sharp deterioration in the global economy as well as partial domestic lockdown measures implemented to dampen the transmission of the coronavirus. We expect the BNM to reduce interest rates a further 50bp, bringing the policy rate to a record low of 2%, at or before the next scheduled meeting in May. A second fiscal stimulus is also likely in the coming weeks.
- The government introduced nationwide ‘movement control’ measures for two weeks commencing 18th March to limit the spread of domestic transmission of the virus. While essential services are excluded, as are supermarkets and food deliveries, the manufacturing, tourism and construction sectors will be severely hit. Indeed, these sectors have been negatively affected since February, and we expect this weakness to spill over into Q2, particularly if the national movement restrictions are extended.
- In addition to this, measures all around the world to control the spread of the coronavirus will have a significant impact on global trade, which we now forecast to contract in both Q1 and Q2. As such, Malaysian exports and hence manufacturing, as well as tourism, will suffer in the months ahead. However, we do expect the economy to bounce back in H2, as activity resumes, while more monetary and fiscal stimulus should support GDP growth picking up to 7.2% in 2021.
- Bank Negara Malaysia (BNM) has stepped in to improve liquidity conditions and support domestic demand amid the widening impact of the coronavirus, including a 100bp cut in the Statutory Reserve Requirement (SRR) ratio and a further 25bp cut in the policy rate. We expect BNM to reduce rates by an additional 50bp, possibly before its next scheduled meeting in May, bringing the policy rate to a record low of 2%.

Forecast for Malaysia

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	4.3	4.0	-1.7	8.0	5.2	4.4
Private Consumption	8.0	7.6	-1.6	8.2	5.0	4.5
Fixed Investment	1.4	-2.1	-6.0	8.6	6.3	4.3
Stockbuilding (% of GDP)	-1.1	-1.4	-1.6	-0.6	-0.5	-0.4
Government Consumption	3.3	2.0	6.7	-1.3	2.8	3.6
Exports of Goods and Services	2.2	-1.1	-8.5	6.2	4.8	4.6
Imports of Goods and Services	1.3	-2.3	-8.1	7.6	5.3	4.5
GDP	4.7	4.3	-2.5	7.2	4.8	4.4
Industrial Production	3.0	2.4	-5.1	6.8	3.7	3.1
Consumer Prices	1.0	0.7	-0.4	2.7	2.2	2.5
Government Budget (% of GDP)	-3.7	-3.2	-5.7	-3.5	-2.9	-2.8
Trade Balance ($bn)	29.6	30.3	28.6	28.5	32.7	34.8
Current Account ($bn)	7.6	12.0	4.5	8.4	13.2	15.2
Current Balance (% of GDP)	2.12	3.33	1.29	2.13	3.02	3.14
Short-Term Interest Rates (%)	3.65	3.48	2.35	2.19	3.04	3.51
Exchange Rate (Per US$)	4.04	4.14	4.32	4.13	3.97	3.83

All growth rates are calculated based on values in local currency

Poland

Highlights

- We have cut our 2020 GDP forecast to a 1.7% contraction (from 0.1% growth seen last month) in response to the introduction of a full domestic lockdown. We now expect the recession in H1 to be sharper, with GDP seen falling around 6% q/q in Q2. Contingent on containment measures being successively lifted from May, we still expect economic activity to rebound in H2 and, as the recovery continues, we now see 2021 growth picking up strongly to 5.2%.
- Containment measures include closure of schools, a border shutdown and domestic lockdown of all non-essential business activities. There is no monthly hard data available yet for March and there remain plenty of unknowns about the future trajectory of the pandemic, so our forecasts are subject to a high degree of uncertainty. But with lockdowns enforcing a sudden stop in economic activity, a recession in H1 is inevitable.
- The government has announced several measures aimed at protecting jobs and providing affected businesses with liquidity. At PLN212bn, the programme is equal to about 9% of GDP, but only about a third of this is new spending while the rest is reserved for liquidity measures and loan guarantees for businesses. The programme will raise public net borrowing significantly and, while it is still uncertain how much will be ultimately utilised, we see the budget deficit rising to 4.6% of GDP in 2020.
- The National Bank of Poland (NBP) cut its main policy interest rate twice in the last month, to 0.5% from 1.5%. The bank also introduced the country’s first quantitative easing programme. The scale of the QE programme is unspecified and thus should enable the NBP to prevent a surge in sovereign bond yields as the government raises issuance.

Forecast for Poland

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	5.4	3.6	-1.8	5.3	3.0	2.3
Private Consumption	4.3	3.9	-2.0	5.1	2.7	2.2
Fixed Investment	9.3	7.5	0.3	5.5	3.4	2.8
Stockbuilding (% of GDP)	2.9	1.9	0.9	1.2	1.3	1.2
Government Consumption	3.8	4.2	2.7	4.1	2.8	2.6
Exports of Goods and Services	7.0	4.1	-2.0	3.4	2.9	2.5
Imports of Goods and Services	7.7	3.1	-2.2	3.4	3.4	2.8
GDP	5.2	4.2	-1.7	5.2	2.7	2.1
Industrial Production	5.7	4.4	-1.9	5.5	2.7	2.6
Consumer Prices	1.8	2.2	3.3	2.6	2.5	2.5
Government Budget (% of GDP)	-0.4	-0.4	-4.6	-3.1	-1.6	-1.2
Trade Balance ($bn)	-5.6	2.7	6.5	8.9	8.6	8.0
Current Account ($bn)	-5.84	2.76	-8.96	-8.32	-8.83	-9.25
Current Balance (% of GDP)	-1.01	0.47	-1.61	-1.36	-1.29	-1.22
Short-Term Interest Rates (%)	1.51	1.52	0.76	1.08	1.82	2.31
Exchange Rate (Zloty per Euro)	4.26	4.30	4.50	4.37	4.26	4.19

All growth rates are calculated based on values in local currency

Russia

Highlights

- As Russia enters a period of lockdown to curb the spread of coronavirus, albeit later than most other countries in Europe, activity is set to plunge in April-May, before recovering gradually throughout the rest of the year. Social distancing measures will take the heaviest toll on consumption, while investment will suffer from lower oil prices and a deterioration in sentiment, and exports will weaken in the face of lower global demand. We now see GDP contracting by 6.4% y/y, with the risks skewed to the downside.
- The high-frequency data available on the economy in early 2020 point to a pick-up in momentum, with monthly GDP registering 2.3% y/y growth in January-February, as both industrial production and retail sales accelerated after a period of prolonged weakness in 2019. Higher than planned budget spending in January-February (25% above the planned levels) also points to a much faster implementation of national projects. Russia's relatively delayed introduction of quarantine measures – effectively from the first week of April – will mean that most of the pain to the economy from the global crisis will come in Q2. But sharp disruption to global supply chains, worsening sentiment in February and March on the back of the pandemic, and the ruble's 20%+ depreciation will have hurt activity in March, particularly consumption and exports.
- The CBR was among the very few EM central banks that didn't cut interest rates in March, highlighting concerns over the short-term inflationary pressures that RUB depreciation will generate. Going forward, as RUB stabilises and domestic demand contracts, we expect the CBR to return to policy easing in Q3 or Q4, likely delivering 50bp of rate cuts by year-end.

Forecast for Russia

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	1.7	2.9	-10.3	9.2	4.6	1.7
Private Consumption	3.3	2.5	-7.7	7.7	2.8	1.5
Fixed Investment	0.2	1.5	-13.6	12.6	9.2	2.7
Stockbuilding (% of GDP)	1.5	2.0	-0.3	1.4	2.0	2.1
Government Consumption	1.3	2.2	-2.7	1.0	0.9	0.7
Exports of Goods and Services	5.5	-2.3	-7.6	10.7	1.7	3.0
Imports of Goods and Services	2.6	3.4	-23.5	23.3	8.4	3.1
GDP	2.5	1.3	-6.4	6.8	2.9	1.7
Industrial Production	3.7	2.3	-1.7	2.6	1.9	1.7
Consumer Prices	2.9	4.5	4.0	2.8	3.6	4.0
Government Budget (% of GDP)	3.0	2.2	-2.6	-2.7	-1.8	-1.1
Trade Balance ($bn)	194.4	164.3	40.2	40.0	46.7	57.3
Current Account ($bn)	113.73	64.61	-23.44	-41.86	-45.84	-38.23
Current Balance (% of GDP)	6.79	3.99	-1.73	-2.18	-2.31	-1.77
Short-Term Interest Rates (%)	7.74	7.80	6.52	6.29	6.22	6.22
Exchange Rate (Per US$)	62.67	64.74	73.86	71.08	68.58	68.62

All growth rates are calculated based on values in local currency

Slovakia

Highlights

- We now see GDP growth down by 1.9% this year as the coronavirus outbreak in China will disrupt supply chains in the industrial sector and increase uncertainty in global trade more generally. On February 29, Slovak voters will head to the polls for a high-stakes general election: the mostly likely outcome is a hung parliament, with a sharp decline in ruling party Smer-SD's electoral base and gains for the extremist LSNS party.
- The Slovak economy recorded overall growth of 2.3% last year, down from 4% in 2018, reflecting weaker demand in key trading partners and problems in the export-dependent car sector. The flash estimate of GDP growth for Q4 came out at 0.6% q/q, close to our expectation of 0.5%: the statistical office has not yet released the demand breakdown, but we expect this relatively upbeat performance reflected a slight increase in net exports and a more relaxed fiscal stance ahead of the election.
- Industrial production was down 7% y/y in December last year, with the output of transport equipment down over 10%. Notwithstanding the near 5% y/y growth seen in H1, industrial production averaged only 0.4% growth in 2019 as a whole. We expect the economic impact of the coronavirus epidemic to be steep but relatively short-lived, delaying but not derailing the awaited bottoming out of the European industrial sector. We now see industrial production falling by 2.1% in 2020, with a broad strengthening only likely in the second half of the year.
- CPI inflation was 3% y/y in January, driven by stronger services prices. Inflation continues to be supported by healthy domestic demand and the recent hikes in public sector wages. We expect the headline inflation rate to ease to an average 1.4% this year, from 2.7% in 2019).

Forecast for Slovakia

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	3.6	3.1	-1.1	5.1	2.5	2.4
Private Consumption	3.9	2.2	-1.6	7.9	2.9	2.5
Fixed Investment	3.7	4.4	0.1	5.2	2.6	2.5
Stockbuilding (% of GDP)	2.2	2.4	1.6	0.5	0.3	0.3
Government Consumption	0.2	3.8	3.4	2.8	2.3	2.3
Exports of Goods and Services	5.4	1.7	-1.8	9.6	5.4	4.0
Imports of Goods and Services	5.0	2.6	-1.0	8.4	4.8	4.1
GDP	4.0	2.3	-1.9	6.3	3.1	2.4
Industrial Production	4.5	0.5	-2.1	6.2	1.3	0.6
Consumer Prices	2.5	2.7	1.4	2.2	2.0	2.2
Government Budget (% of GDP)	-1.1	-2.1	-4.7	-0.7	-0.7	-0.7
Trade Balance ($bn)	-0.2	-0.8	-1.6	1.0	2.7	3.6
Current Account ($bn)	-2.8	-3.0	-0.9	1.4	2.8	3.0
Current Balance (% of GDP)	-2.6	-2.9	-0.9	1.2	2.3	2.2
Short-Term Interest Rate (%)	-0.3	-0.4	-0.4	-0.4	-0.3	0.0
Exchange Rate (US$ per Euro)	1.18	1.12	1.09	1.09	1.13	1.17

All growth rates are calculated based on values in local currency

Vietnam

Highlights

- We have lowered our 2020 GDP growth forecast to 1.9% amid weaker mining and agriculture production, and the coronavirus outbreak depressing growth, particularly in tourism and retail spending. Supply disruptions will also weigh on industrial production and exports. Although it is highly uncertain as to when the coronavirus outbreak will be contained, we expect most of the economic impact to be felt in Q1 2020, with a solid recovery in economic growth in H2, and we have raised our 2021 growth outlook to 8.4%.
- Travel restrictions on Chinese tourists contributed to a sharp fall in the number of visitors to Vietnam in February, with arrivals down 21.8% y/y. Meanwhile, we suspect lower Chinese import demand was a key factor behind the subdued 2.3% y/y growth in merchandise exports in January-February. On the positive side, industrial activity for the first two months of the year grew a healthy 6.6% y/y, with a strong rise in February. However, the near-term outlook is bleak given the spread of the virus.
- Indeed, we expect the impact of the coronavirus will be more evident in exports and production data in the coming months. Vietnam's supply chains are closely tied to China, with over 40% of core intermediate goods, used as inputs to produce Vietnamese goods, coming from China. Moreover, the severe virus outbreak in South Korea will further dampen activity. Indeed, the latest Vietnamese PMI dropped to 49 in February, a six-year low. But similar to the impact on tourism we do expect the hit to be short-lived with a meaningful recovery taking place in the second half of the year.
- We expect the State Bank of Vietnam to reduce its policy rate by 25bp in the coming months, bringing the discount and refinancing rates to 3.75% and 5.75% respectively to support domestic demand. But with inflation at 5.4% y/y in February, we believe that there is limited scope for further interest rate cuts beyond this

Forecast for Vietnam

(Annual percentage changes unless specified)

	2018	2019	2020	2021	2022	2023
Domestic Demand	6.1	7.3	3.2	9.1	6.5	6.3
Private Consumption	7.3	7.3	3.2	6.9	6.3	5.9
Fixed Investment	8.6	9.3	-0.8	13.1	7.1	6.1
Stockbuilding (% of GDP)	23.6	23.3	24.3	24.8	24.7	25.0
Government Consumption	6.3	6.0	6.6	6.7	5.3	5.6
Exports of Goods and Services	14.3	13.6	-4.6	16.5	11.7	8.9
Imports of Goods and Services	12.8	13.5	-3.1	16.7	11.1	8.8
GDP	7.1	7.0	1.9	8.4	6.7	6.2
Industrial Production	8.9	8.9	1.6	10.7	6.4	7.1
Consumer Prices	3.5	2.8	3.8	3.4	4.1	4.0
Government Budget (% of GDP)	-2.7	-2.7	-5.4	-4.3	-3.3	-3.8
Trade Balance ($bn)	16.5	20.9	8.1	14.6	12.9	17.1
Current Account ($bn)	5.9	10.1	-2.4	7.6	7.5	11.9
Current Balance (% of GDP)	1.95	3.07	-0.69	1.95	1.72	2.50
Short-Term Interest Rates (%)	3.86	4.35	2.98	4.12	4.86	4.99
Exchange Rate (Per US$)	23012.21	23223.96	23207.50	23137.71	23169.35	23302.53

All growth rates are calculated based on values in local currency

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