The coronavirus epidemic hit a Chinese economy already weakened by structural and cyclical factors

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The Covid-19 health crisis hit an already slowing Chinese economy, weakened not only by cyclical factors that were present before the crisis happened but also by more structural factors.

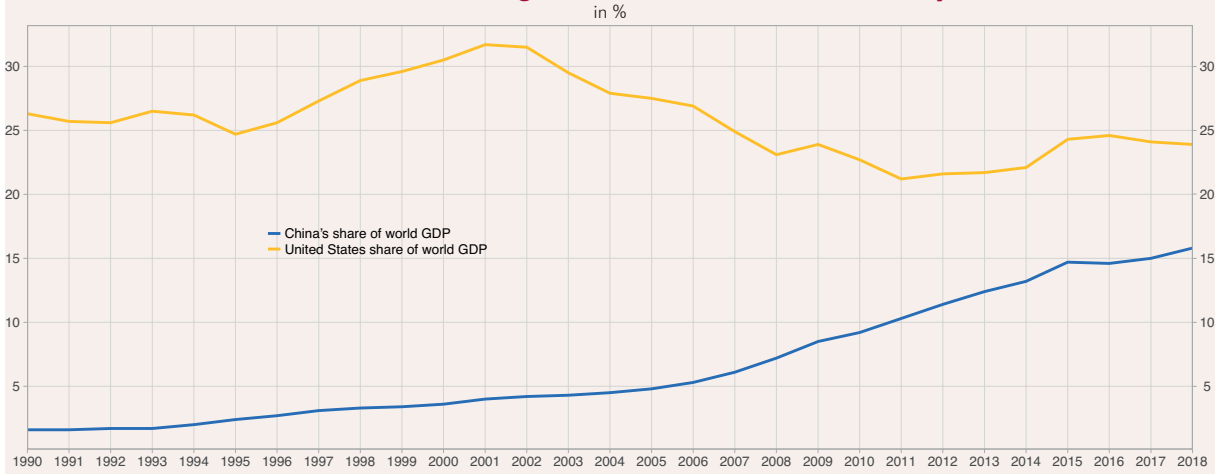
Thus, even before the health crisis that led to a 6.8% downturn in activity at the start of 2020, Chinese activity had been slowing for several years, reaching an annualised growth rate of +5.9% in Q4 2019, against +12.3% at the start of 2010. This slowdown was the result of structural factors (ageing population, slowdown in productivity) intensified over several quarters by cyclical factors, in particular trade tensions with the United States. The coronavirus epidemic is a new short-term shock, on an unprecedented scale and in a context where the Chinese growth model was already in question.

The engines of Chinese growth were struggling before the crisis

The Chinese economy has grown rapidly over the past few decades, following a very rapid catch-up process (*Graph 1*). In 1990, China represented less than 2% of global GDP; in 2018, it represented almost 16%, according to the World Bank.

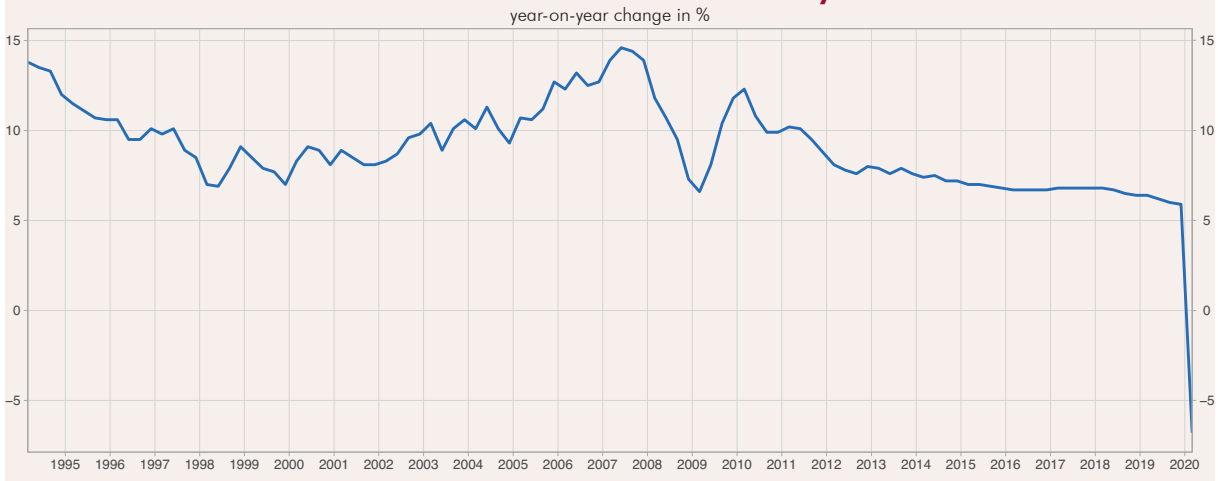
However, even before the recent fall in GDP linked to the health crisis (–6.8% year-on-year in Q1 2020), Chinese activity had been slowing for several years,

1 - China's economic weight has increased over the last 20 years



Note: GDP in current dollars
Source: Banque mondiale

2 - China's GDP has slowed almost continuously since 2010



Source: National Bureau of Statistics of China (NBSC)

dropping to a growth rate of less than 7% since 2015 against 10% in 2011(Graph 2). The trade war with the United States definitely accentuated this deceleration in 2018-2019 affecting foreign trade directly and domestic demand indirectly. However, this slowdown had started even before the emergence of trade tensions, which suggests that it is not only cyclical but also structural in nature. The traditional engines of Chinese growth, exports and investment, were running out of steam and consumption was struggling to take over.

In a context of global slowdown, trade tensions with the United States accentuated the slowdown in Chinese exports

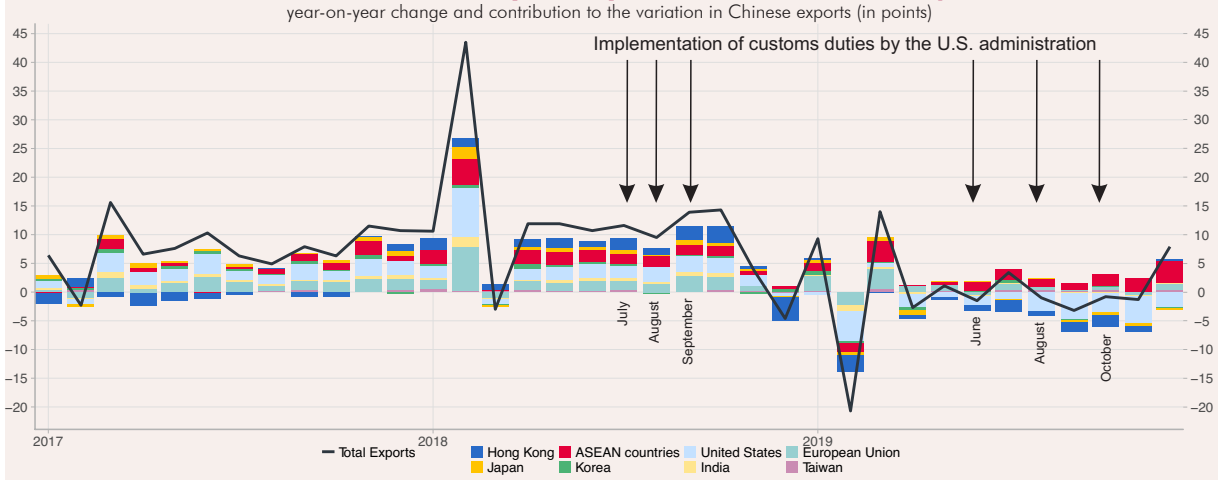
In 2018, in a global context already affected by the slowdown in foreign trade, the United States introduced a succession of increases in customs duties (in July, August and September 2018) on a total of $250 billion of annual imports of Chinese products. China countered with tariff measures on $110 billion of imports from the United States. After this series of increases in customs duties, Chinese exports slowed after the end of 2018, with the exception of a few one-off increases linked to anticipated hikes in customs duties (as happened in June 2019, *Graph 3*). In addition to the direct consequences on deliveries of goods from China to the United States, tensions between the two countries and the increased protectionism started to weigh indirectly on world demand via effects on value chains, business confidence and investment.

Customs tariffs seem to have had an effect on the development of trade in taxed goods. Chinese exports to the United States (main destination country along with Japan, excluding Hong Kong) declined over several quarters. In August and October 2019 in particular, total Chinese exports fell while exports to ASEAN countries[1] increased. It therefore seems that there was a slight reorientation of exports towards Asia, but this did not entirely offset the drop in exports to the United States (*Graph 3*).

1. ASEAN (Association of Southeast Asian Nations) is a free-trade area which includes Myanmar, Brunei, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Vietnam and Thailand.

3 - Main contributions by country to variation in Chinese exports

year-on-year change and contribution to the variation in Chinese exports (in points)

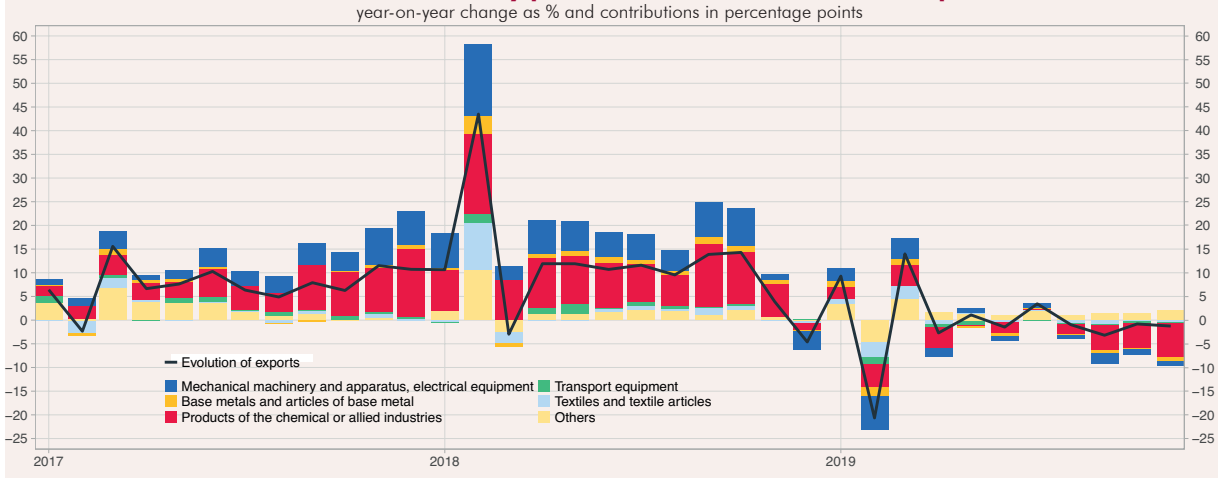


Note: contributions from destination countries and year-on-year change in exports are by value and not seasonally adjusted.

Source: NBSC, General Administration of Customs of China (GACC)

4 - Main contributions by product to variation in Chinese exports

year-on-year change as % and contributions in percentage points



Source: NBSC, GACC, INSEE calculations

Analysis of the main Chinese export sectors before the health crisis reveal three in particular (machinery and mechanical appliances, chemical products, and textiles, *Graph 4*). These sectors, which had been the driving force behind Chinese exports until the end of 2018, were no longer able to sustain them in 2019.

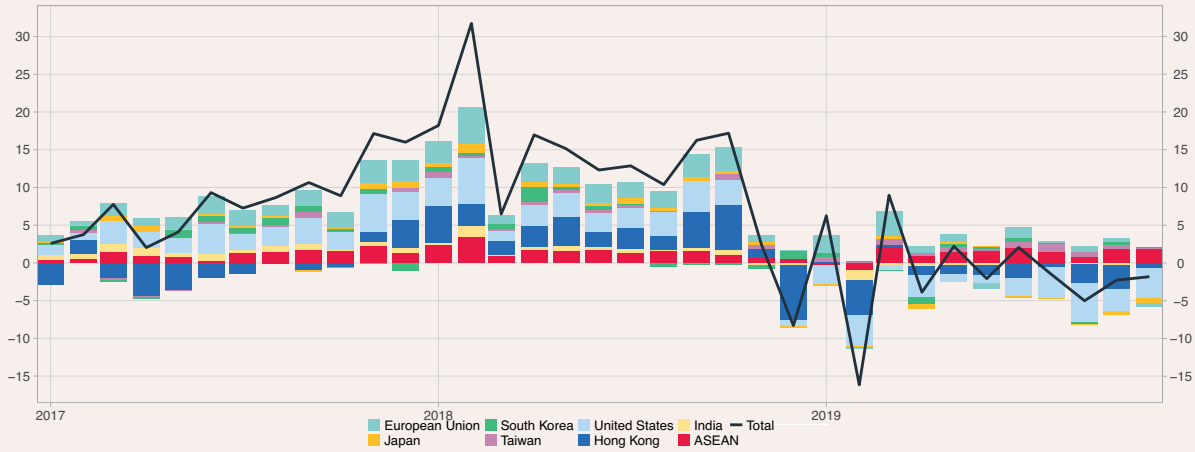
The contribution of exports of machinery and mechanical appliances to the United States decreased after the customs tariffs were put in place, but increased to the ASEAN countries and other Asian countries (*Graph 5*). It is possible that some trade flows were diverted from China to other ASEAN countries then redirected to the United States. However, of these countries, only Vietnam has massively increased its exports to the United States, from 30% to 40% year-on-year. The hypothesis that large quantities of goods are being transited through other Asian countries in order to avoid the hike in customs tariffs does not seem to have been verified empirically at this stage. The United States have also been able to change their sources of supply, but once again, the rise in US imports from some Asian countries, especially Vietnam, has not offset the decline in purchases of Chinese products.

Chinese exports of chemical industry products have also fallen, but mainly those going to Hong Kong and the European Union (*Graph 6*). Conversely, exports from branches of the chemical industry to the United States have continued to increase, even after the customs duties were put in place. Exports of these products to the ASEAN have also increased.

In October 2019, China and the United States signed a trade agreement by which China agreed to increase its imports from the United States by around $200 billion, while the United States would lower some customs tariffs. The implementation and effects of this agreement appear uncertain, however, especially in the current context.

5 - Main contributions to variation in exports of machinery and electrical equipment, by country

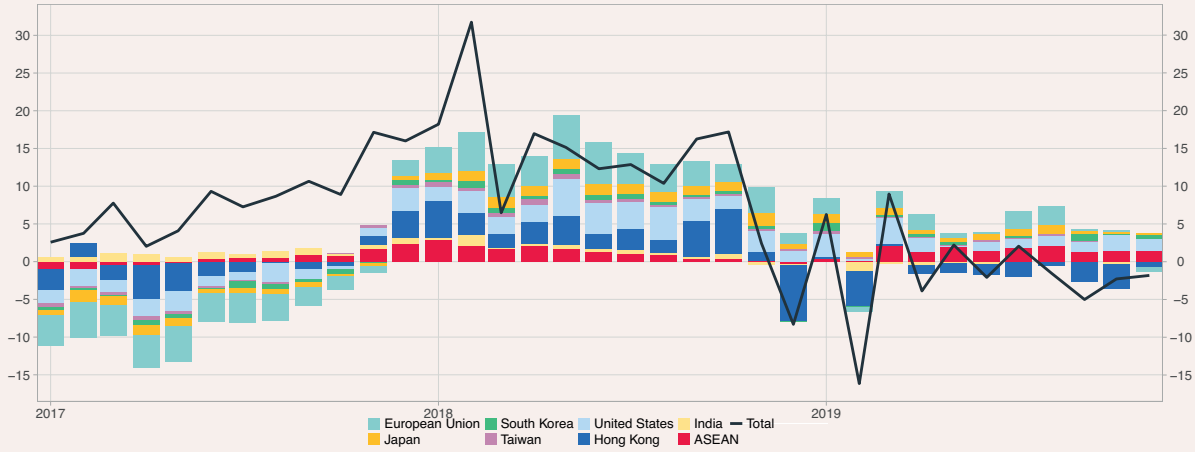
year-on-year change as % and contributions in percentage points



Source: NBSC, GACC, INSEE calculations

6 - Main contributions to variation in exports of chemicals and chemical industry products, by country

year-on-year change as % and contributions in percentage points



Source: NBSC, GACC, INSEE calculations

Chinese growth is based less and less on the assembly trade

Trade tensions with the United States are not the only cause of the slowdown in exports prior to the health crisis. Assembly trade, i.e. the assembly and reexport of products and imported spare parts, represented almost 25% of exports in 2019 against 40% in 2011 (*Graph 7*). This decrease in assembly trade demonstrates the change in China's economic model, which was originally turned towards the assembly and export of labour-intensive goods (textiles, mechanical equipment), but has moved to a model focusing more on the domestic market and the production of goods with a higher value-added.

Relatively unproductive investment

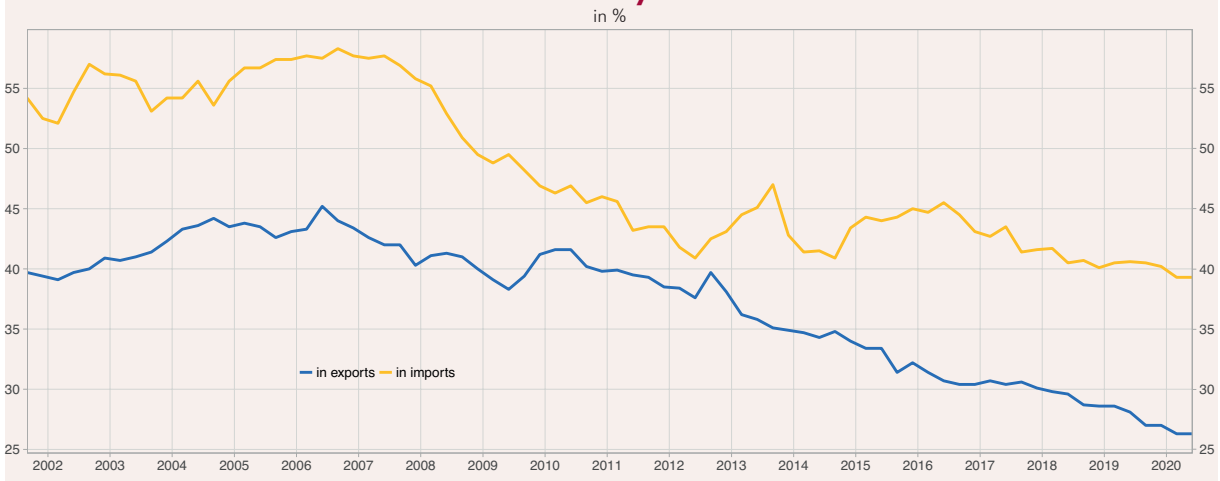
In 2018 according to the World Bank, the share of investment (gross fixed capital formation, GFCF) as a proportion of GDP was 42% of GDP against 46% in 2013. The slowdown affected both corporate investment (*Graph 8*) and real estate investment, one of the drivers of Chinese growth in the 2010s, except during a crisis in 2015-2016 (*Graph 9*). There were several reasons for this slowdown in investment: on the one hand, the shrinking of credit and on the other hand, earlier "overinvestment" linked to overabundant household savings which facilitated the financing of investment projects that were sometimes not very productive. Investment did indeed increase greatly in the 2000s, until around 2013, contributing to about half of GDP growth. This increase in investment led to the emergence of production overcapacity, which is hampering investment today. Chinese authorities and businesses are now trying to reabsorb these overcapacities.

Household consumption struggled to fill the gap

Faced with the slowdown in the traditional drivers of Chinese growth (exports, investment), consumption found it difficult to fill the gap. In 2018, it represented only around 39% of GDP.[2]

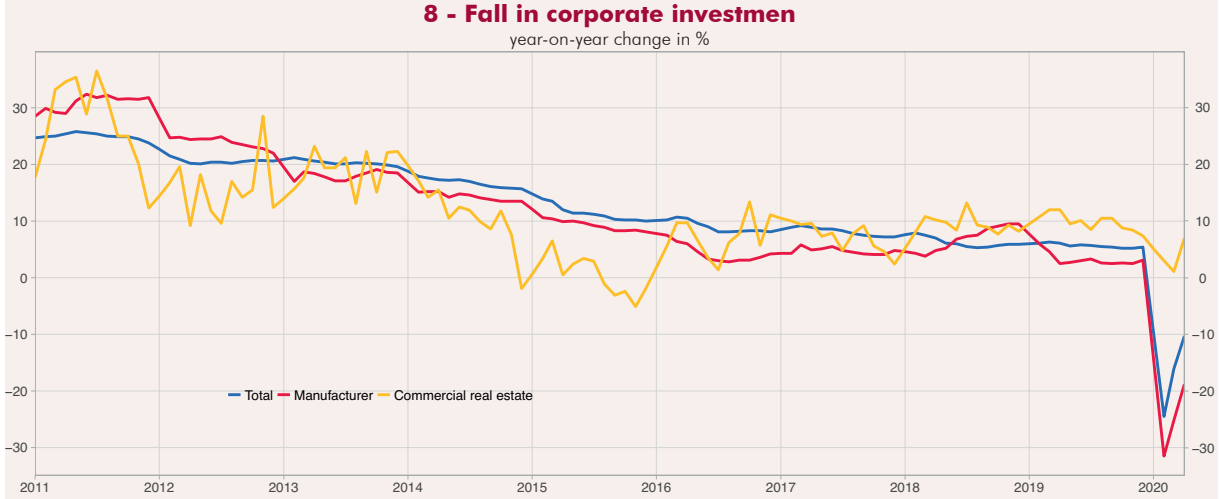
2. Data from CEIC Data, an economic data provider, using figures from NBSC.

7 - The share of assembly trade has declined



Source: GACC

8 - Fall in corporate investmen



Source: NBSC

Rising food inflation reduced disposable income. Consumer prices continued to accelerate in 2019 especially in food due to an epidemic of swine fever, since the weight of pork prices in the CPI is considerable. This rise in inflation reduced purchasing power and hence household consumption, which could have accentuated the economic slowdown already visible before the health crisis.

The trade war also affected household consumption

The trade war with the United States also affected household consumption adversely through difficulties in the export sector and their consequences for the labour market. The conflict led to a confidence shock prompting households to increase their precautionary savings, and employment slowed: export businesses hired fewer new employees or reduced their workforce. The fall in employment affected households' purchasing power and their consumption.

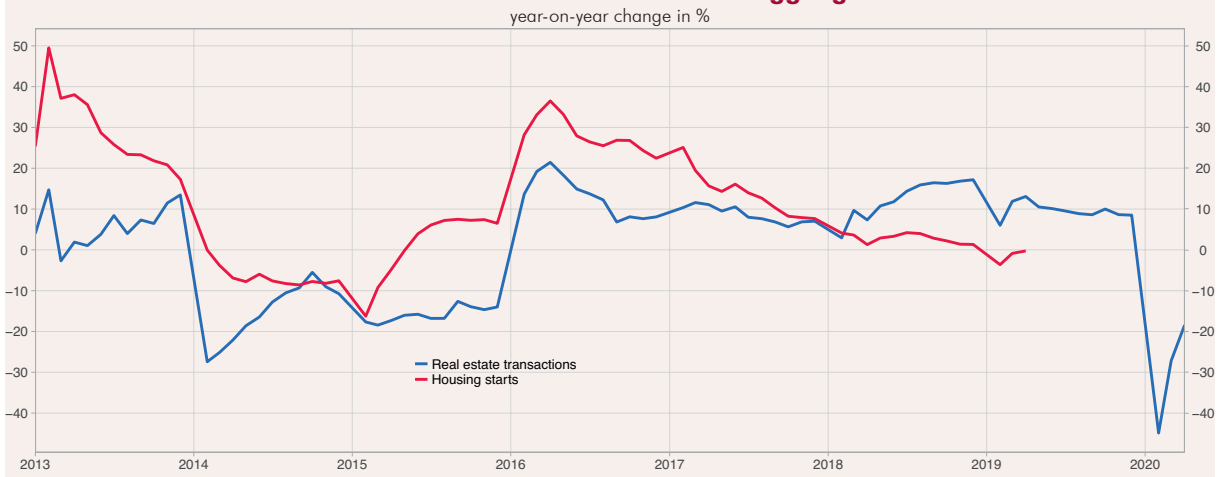
Two indicators suggested the slowdown in consumption even before the health crisis: retail sales (*Graph 10*) and car registrations (*Graph 11*). The contraction in car sales was also the result of a structural slowdown in the sector and the end of tax incentives to purchase, implemented between the end of 2015 and the start of 2018.

Trade-off between financial stability and economic growth

Although they have slowed recently, corporate loans, both public and private, remain high in China: at the end of 2019, loans to non-financial enterprises amounted to more than 160% of GDP. The Chinese authorities attempted to contain the increase in loans without penalising growth, but they were facing a short-term slowdown that was magnified by the health crisis. They tried to reduce high-risk debt: as a result, the proportion of loans granted at a rate below the reference rate halved in 2018 (*Graph 12*).

9 - The real estate market is struggling

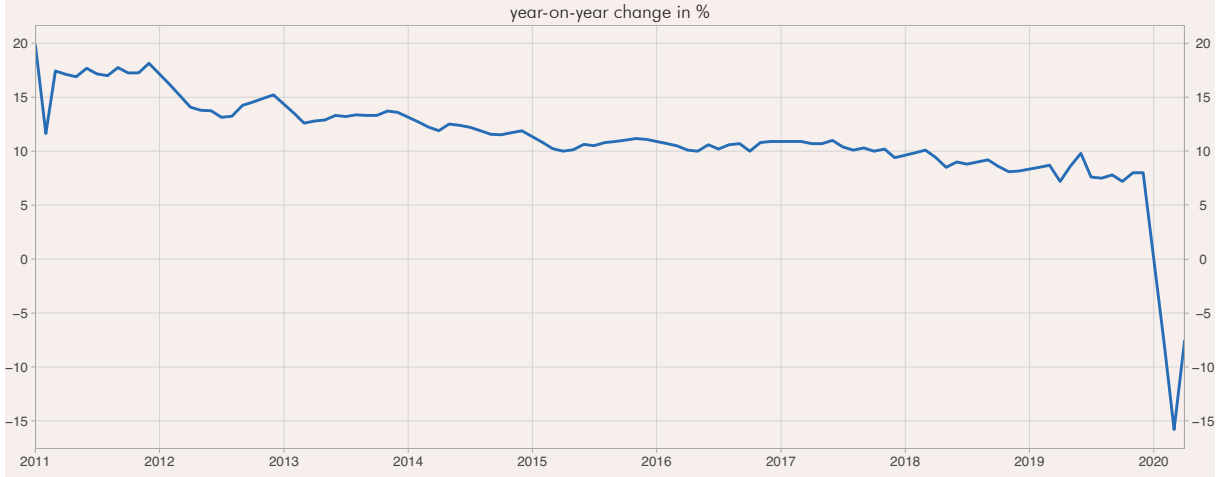
year-on-year change in %



Source: NBSC

10 - Slowdown in retail sales

year-on-year change in %



Source: NBSC

Conversely, in order to support growth, they lowered the cash reserve ratio (reserves that commercial banks must hold with the central bank, proportional to deposits) several times in 2018 and 2019, in order to keep in check the negative effects of the US customs duties on imports from China.

In the context of the slowdown in consumption and investment, the money supply appears to have been decelerating for several years (*Graph 13*). This slowdown in China's money supply, which was particularly severe in 2018, can be considered as the result of the slowdown in activity or as its cause: after monetary expansion from autumn 2015 to autumn 2016, the monetary authorities effectively hardened their monetary policy from 2018 to fight against excessive debt and shadow banking, namely non-bank loans.

In fact, strong growth in the last two decades essentially reflected a technology and capital catch-up phenomenon. This catch-up now seems complete and the Chinese economy appears to be close to the technology frontier. The Chinese authorities are trying to rebalance the economy, on the one hand towards domestic demand and on the other hand towards a better quality of investment and production. China hopes to move upmarket, to develop its high value-added industries and place itself at the forefront of the most advanced technologies, for example in aeronautics, artificial intelligence and telecommunications. Spending on research and development (R&D) has therefore increased sharply, reaching 2.1% of GDP in 2017 (*Graph 14*). Even if the various short-term shocks and the production overcapacities are absorbed, Chinese activity is unlikely to return to its previous rate of growth. In addition to the negative cyclical uncertainties in recent years, the slowdown in the Chinese economy is in fact also structural and can be explained by long-lasting factors, notably of a demographic, social and environmental nature.

Even before the health crisis, China was already facing several sociodemographic and environmental challenges

The Chinese population is ageing (*Graph 15*). Notably, the birth rate is declining significantly, falling to 1.05% in 2019, its lowest level since 1949, according to the NBSC (National Bureau of Statistics of China), the Chinese national statistical institute.

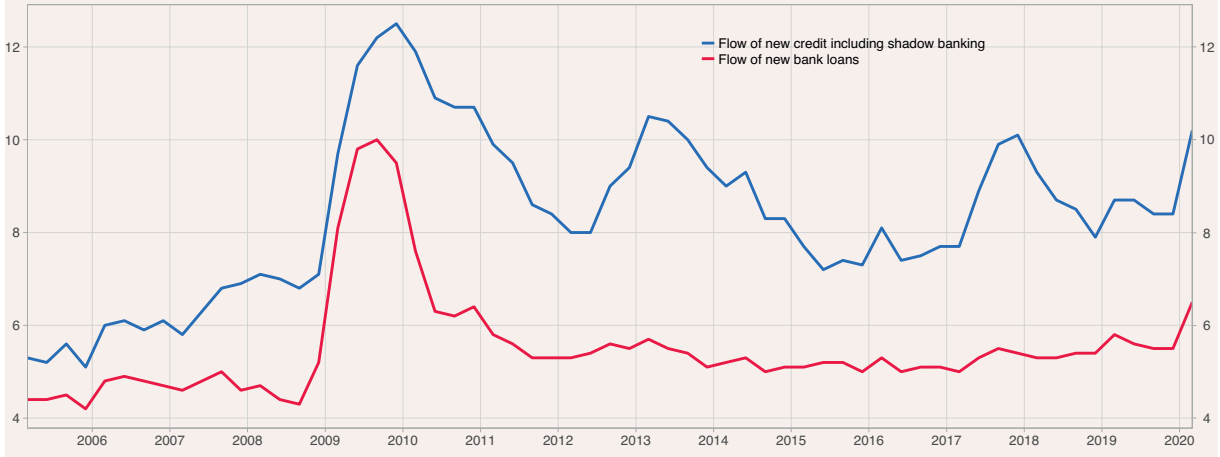
11 - The end of tax incentives penalised car registrations

year-on-year change in %

Source: China Association of Automobile Manufacturers

12 - Credit is relatively stable

as a % of GDP



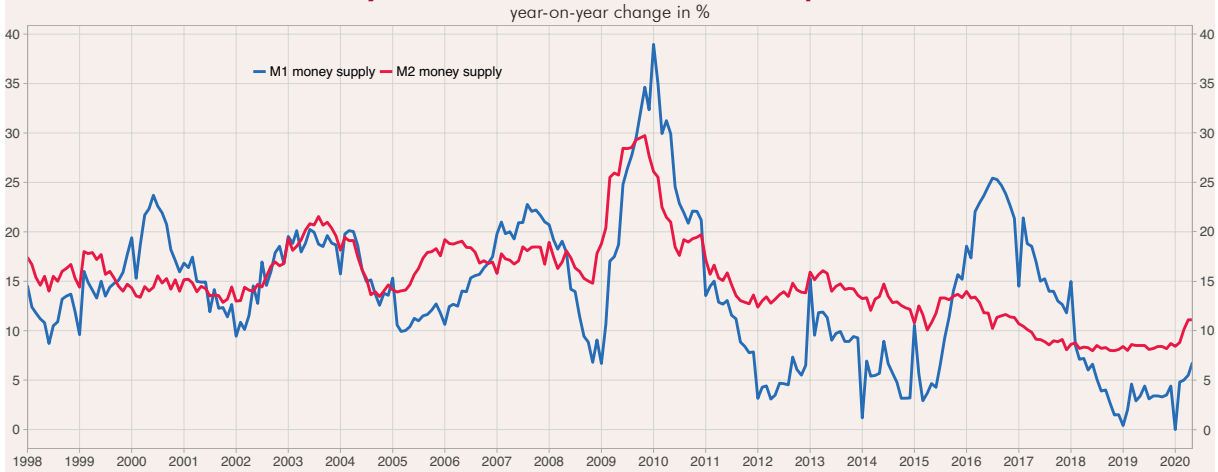
Source: People's Bank of China

This ageing of the population has two consequences. First, it affects the available labour force, especially as it is accompanied by a drop in the labour force participation rate, both in men and women, mainly because people are studying for longer and better schooling is provided for adolescents (*Graph 17*). The labour force participation rate nevertheless remains high compared to the advanced countries.

Second, the ageing population and the resulting rise in the old-age dependency ratio (*Graph 16*) represent a challenge for social protection and pensions. Improving social protection and the

13 - The monetary slowdown could hold back consumption and investment

year-on-year change in %

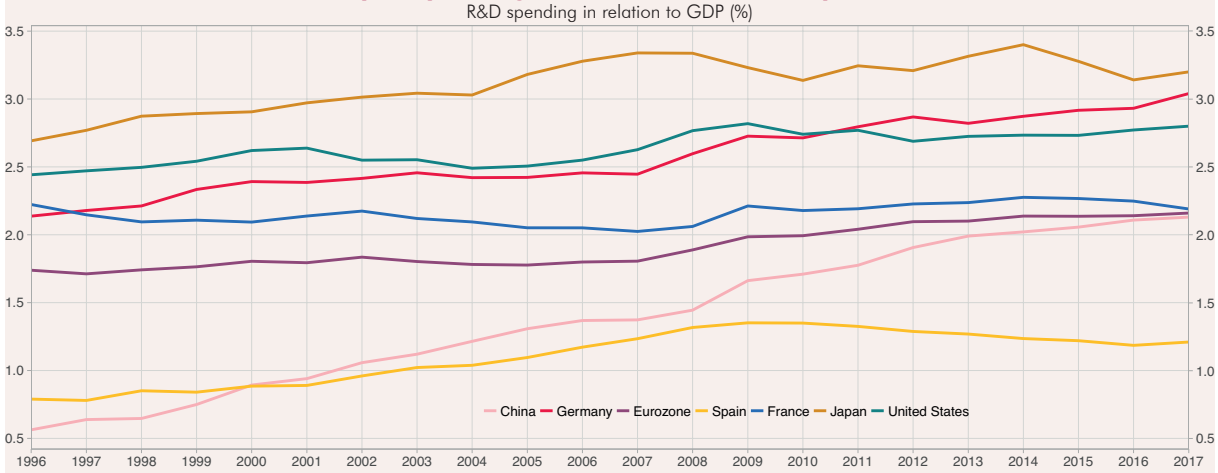


Note: the M1 aggregate combines demand deposits, coins and notes. The M2 aggregate includes the M1 aggregate and term deposits less than or equal to two years, deposits with an agreed term of maturity of less than or equal to three months and short-term loans.

Source: People's Bank of China

14 - Catch-up in spending on research and development in China

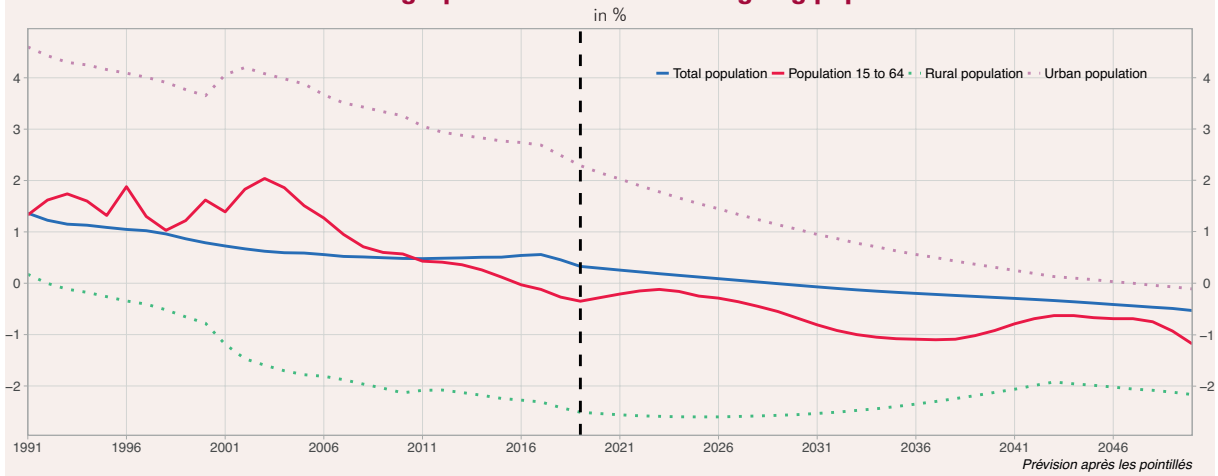
R&D spending in relation to GDP (%)



Source: Banque mondiale

15 - Demographic slowdown and an ageing population

in %



Source: Banque mondiale

pension system are important issues if the savings ratio, which is very high in China, is to be brought down and consumption increased.

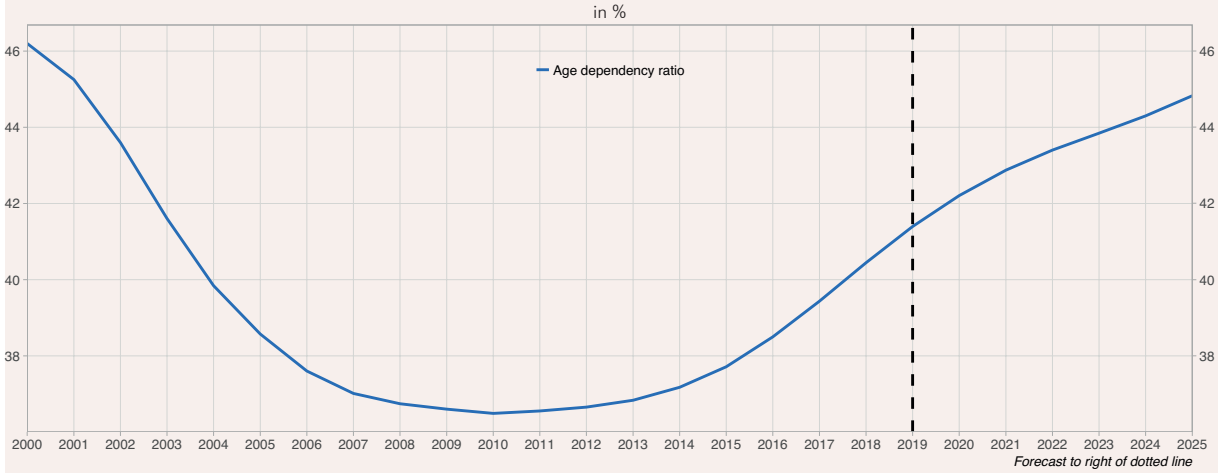
Inequalities are both a consequence of and a risk for economic growth

China is said to have passed the "Lewis turning point": the surplus labour force resulting from the rural exodus and available for work in the manufacturing branches and the services sector now appears to have been fully absorbed (Zhang, Yang and Wang, 2011). The labour market is therefore becoming more and more strained, leading to an increase in wages and a loss of competitiveness.

Consumption is hampered by the weakening of external demand and also by the slowdown in household incomes. In fact, the cumulative rise in wages has degraded cost-competitiveness, which may account for companies outsourcing outside China to countries with lower wage costs and relocating to western countries. In addition, the slowdown in income following the decline in activity and the end of the catch-up process is holding back consumption (*Graph 18*). However, the rise in unemployment caused by the health crisis could increase the severity of the challenges facing social protection and exacerbate the drop in consumption.

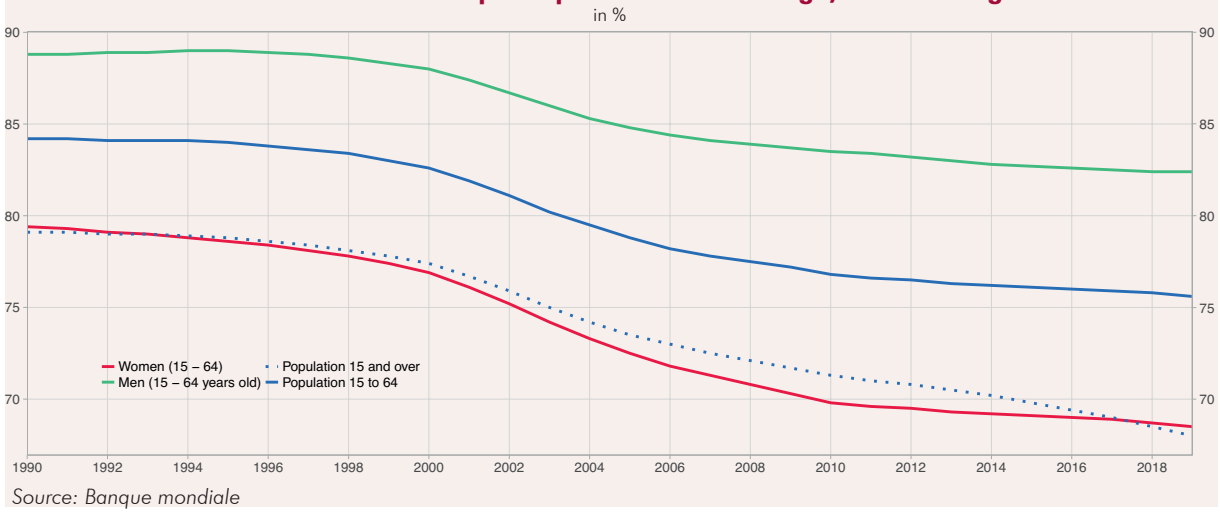
Household consumption is also held back by the Hukou system. The Hukou is a passport dependent on the administrative regions, giving access to the social protection provided in these regions. Migrant workers originally from rural areas and working in the cities have rural Hukous and therefore do not have access to social protection in the cities or

16 - The ageing population presents significant challenges for social protection and the Chinese social model



Note: the dependency ratio is calculated as the ratio of the numbers in the population aged under 15 or over 64 to the number aged 15 to 64
Source: Banque mondiale

17 - The labour force participation rate is still high, but declining



Source: Banque mondiale

regions where they are working. These inequalities with regard to social protection are a strong incentive to save.

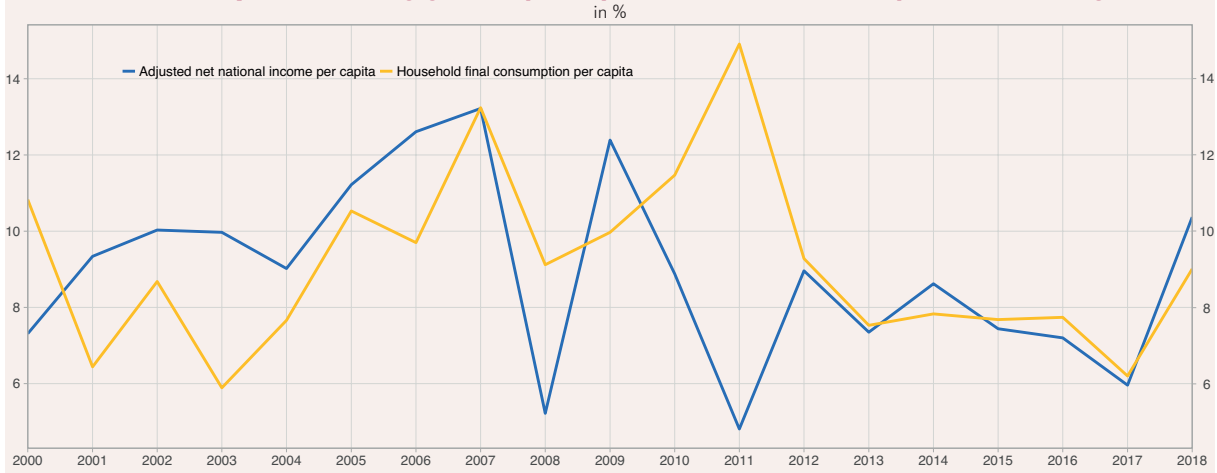
Reducing inequalities between provinces, in terms of income, social protection and infrastructure, has therefore become one of the goals of Chinese economic policy. There are significant interprovincial inequalities stemming from several factors: the share of industry in value-added, infrastructure, the degree of decentralisation and the degree of openness to international trade. The coastal provinces, then the central provinces were first to develop better infrastructure, they had access to more cheap labour, and benefitted from economies of scale through the growth of conurbations. The reduction in equalities by developing infrastructure, especially the construction of motorways, bridges and dams (e.g. the Three Gorges Dam) has sustained growth so that production factors could be reallocated to the central provinces, whereas the provinces in the North and the West have developed more slowly. However, these areas could benefit from more outsourcing from the coastal regions and thus develop in their turn.

Environmental protection is another major challenge for Chinese growth

The Chinese economic model, growth based on exports and industrialisation, has led to significant greenhouse gas emissions and high levels of pollution (*Graph 19*): China has developed and established itself, becoming "the World's Factory".

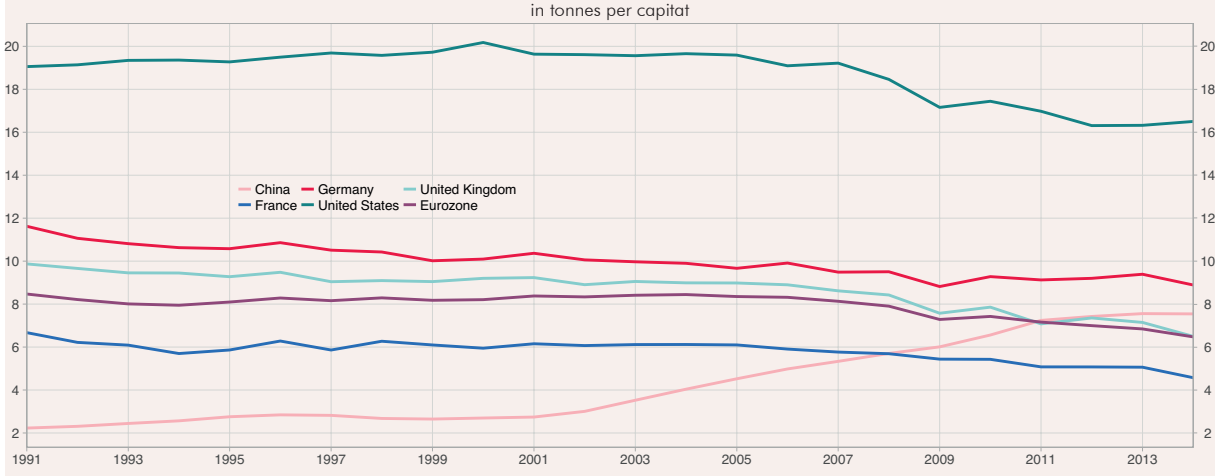
As a result of internal pressure, both from the new urban and more highly qualified middle classes, and from increased international cooperation, especially through the Kyoto Protocol and the Paris Agreement, the Chinese authorities are trying to reduce this pollution. The Chinese population are still exposed to very high levels of air pollution, which has major consequences for health: in 2015, 7% of healthcare spending was attributable to pollution (Barwick et al., 2018). According to the OECD, the cost in well-being caused by air pollution (fine particulate matter, ozone) represented 8.6% of GDP in 2016 (Roy and Braathen, 2017). Chinese cities are at saturation point from car traffic, which adds to pollution.

18 - After years of strong growth, per capita income and consumption are slowing



Source: Banque mondiale

19 - Carbon dioxide emissions in China have increased



Source: Banque mondiale

Measures have been put in place to encourage the use of hybrid or electric vehicles and renewable energy (solar power, wind power), for example the introduction of subsidies for the purchase of electric vehicles. After a sharp rise in carbon dioxide emissions per capita over the course of the 2000s, China managed to stabilise them in 2010 at a similar level to the main European economies (*Graph 19*). Relative to the purchasing power parity dollar of GDP, Chinese carbon dioxide emissions have declined, but are still higher than in the other major economies (*Graph 20*). Notably, China has reduced the concentration of fine particulate matter and greenhouse gases in the largest megacities (Beijing, Shanghai). According to a study by the Centre for Research on Energy and Clean Air (CREA), an independent research body, emissions of fine particulate matter or PM 2.5 (fine particles of less than 2.5 micrometres diameter) would appear to have decreased across all of China and notably by 48% in Beijing between 2015 and 2019. However, ozone emissions increased between 2015 and 2019 and emissions of PM 2.5 appear to have increased in the year from Q4 2018 to Q4 2019. The health crisis has nevertheless had the effect of slowing this increase temporarily. An extended slowdown or a change in the Chinese economic model would have significant consequences for the other economies.

Over the years, China has become a major trading partner of most of the large economies

Japan in particular and the Eurozone countries, especially Germany, are highly vulnerable to Chinese demand. *Graph 21* shows the structure of Chinese trade in 2019. The countries of Asia and the European Union are China's main suppliers: in 2019, 13.6% of Chinese imports came from countries of the ASEAN and 13.3% from the European Union. Taiwan (8.3% of Chinese imports), South Korea (8.4%) and Japan (8.3%) were also major suppliers.[3]

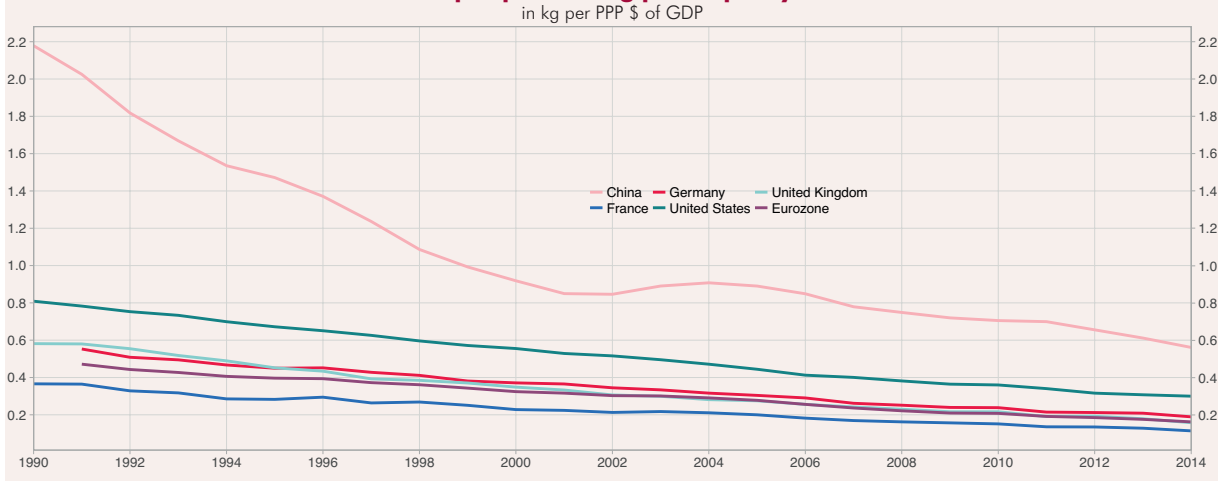
In terms of Chinese exports, the European Union (17.2% of Chinese exports) and the United States (16.7%) are China's primary customers, followed by the ASEAN countries (14.4%) and Hong Kong (11.1%).

The importance of China in the production process of the main economies has increased significantly over the last two decades. In return, China has become an increasingly important partner for the other countries. *Graph 22* shows the share of bilateral trade with China in the imports and exports of the countries usually monitored in *Conjoncture in France*.

3. Australia, not shown in the graph, supplies about 4% of Chinese imports.

20 - Carbon dioxide emissions per purchasing power parity dollar of GDP have declined

in kg per PPP $ of GDP



Source: Banque mondiale

China is both an important supplier and a major customer for Japan: 23% of Japanese imported goods come from China and about 18% of Japanese exports of goods go to China. China is also a major supplier for the United States (approximately 18% of US imports), but less of a customer (only 6% of US exports); the same for the United Kingdom (9% of UK imports and about 6% of exports). Finally, China is an important partner for Germany, with about 7% of German imports and exports. However, exports represent about half of Germany's GDP.

Of the countries monitored in Conjoncture in France, Germany and Japan are highly exposed to Chinese activity

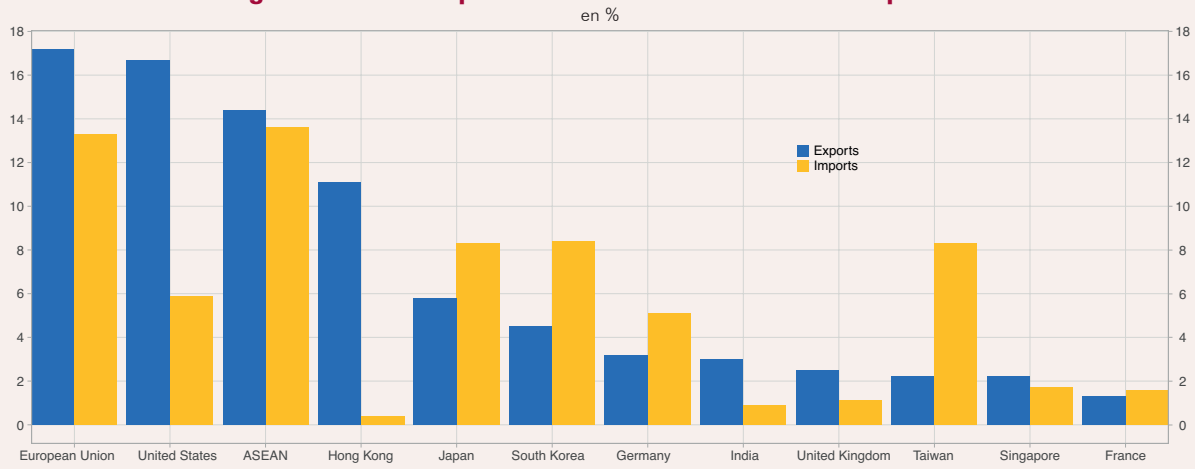
By reversing the Inter-Country Input-Output (ICIO) tables, the value-added content of direct exports to China can also be calculated for a large number of countries[4] (*Graph 22*). Among the countries monitored, those incorporating most value-added in their exports to China are Germany (about 2.5% of German GDP), then Japan (2.1% of Japanese GDP).

The ICIO tables can also be used to calculate the value-added produced by the different countries and contained in Chinese domestic final demand (*Graph 3*). On this basis, the countries most exposed would appear to be Taiwan (10.0% of GDP), South Korea (6.9%) and Germany (2.8%). According to this calculation, 1.1% of French GDP would be serving Chinese final demand.

The coronavirus pandemic has therefore come at a time of fragility in the Chinese economy and represents an additional negative economic shock, in a context already affected by trade tensions with the United States. In contrast to 2008-2009, when the economic recovery after the crisis was sustained in part by Chinese demand and the stimulus package introduced by the Chinese authorities, an economic crisis in China or a change in the Chinese economic model could hamper the economies of its partners. ■

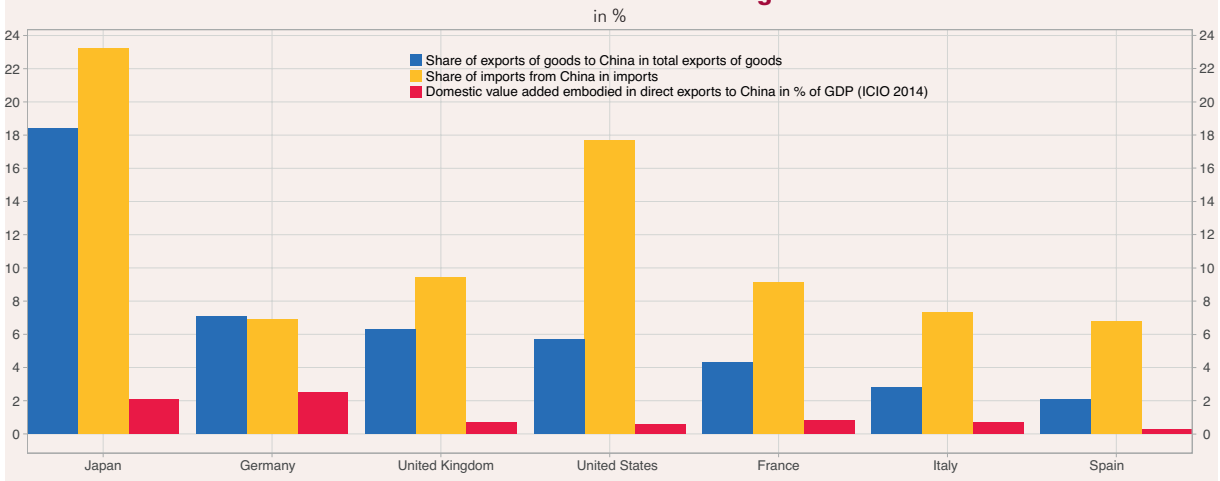
4. For a description of the method, see for example the article, "Assessing the impact of Brexit on the economic activity of the UK's closest partners: the trade channel", in INSEE's Conjoncture in France, March 2019.

21 - Origin of Chinese imports and destination of Chinese exports in 2019



How to read it: on average in 2019, the European Union represented 17.2% of Chinese exports and supplied 13.3% of Chinese imports.
Source: GACC, NBSC

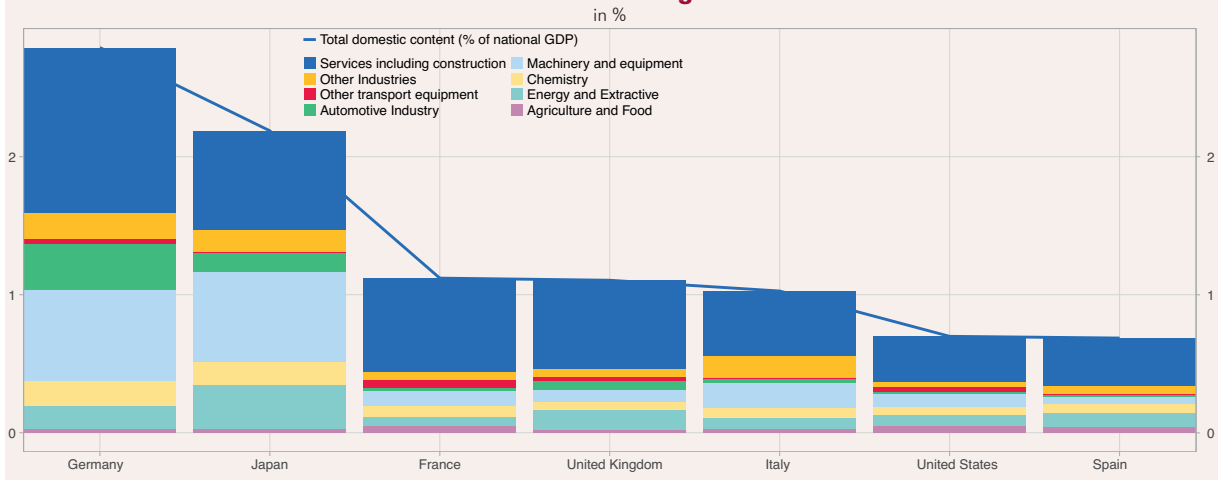
22 - Share of bilateral trade with China in the foreign trade of other countries



How to read it: In 2014, the amount of domestic value-added in French exports to China was 0.8% of French GDP

Source: Eurostat, ministère de l'Économie et des Finances du Japon, OCDE, ONS, Bureau of Economic Analysis, WIOD, INSEE calculations

23 - Share of Chinese final demand in the national gross value-added of different countries



Source: WIOD 2014, calculs Insee