What explained the weakness in manufacturing in 2018-2019?

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Introduction

Global manufacturing confidence indicators reached a peak at the end of 2017 and started to fall thereafter, only to briefly recover at the end of 2019, before the world economy was hit by the impact of the Covid-19 pandemic[1]. The deterioration in manufacturing confidence was even more pronounced in the case of the euro area. While it is not unusual for the manufacturing industry to display a higher degree of cyclicality, the deceleration observed in 2018-2019 was amplified by a number of headwinds, including trade restrictions, heightened uncertainty and the rebalancing of the Chinese economy, as discussed in more detail in section 2. It seems that the euro area, in particular, bore the brunt of these headwinds, although idiosyncratic euro area factors have also been at play. Section 3 discusses the situation in the Belgian manufacturing industry, which remained more resilient, partly reflecting a more favourable (less cyclical) composition effect, but also a relative outperformance of specific industries relative to those in neighbouring countries and the euro area as a whole. Finally, section 4 briefly looks into the divergence between confidence in the manufacturing and services industries that was observed in the course of 2018 and 2019. However, this gap in confidence was largely reversed as a result of the Covid-19 pandemic and the containment measures, as the latter seem to be affecting services more than the manufacturing industry. Since structural factors were driving the weakness in manufacturing as of 2018, this analysis may still be relevant in the post-Covid-19 era. In the same vein, analysing possible spillovers and co-movements between industrial and services sectors remains highly informative.

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1 The analysis in this article was conducted ahead of the outbreak of Covid-19 outside China and will therefore be confined to a discussion of events up until the end of 2019.

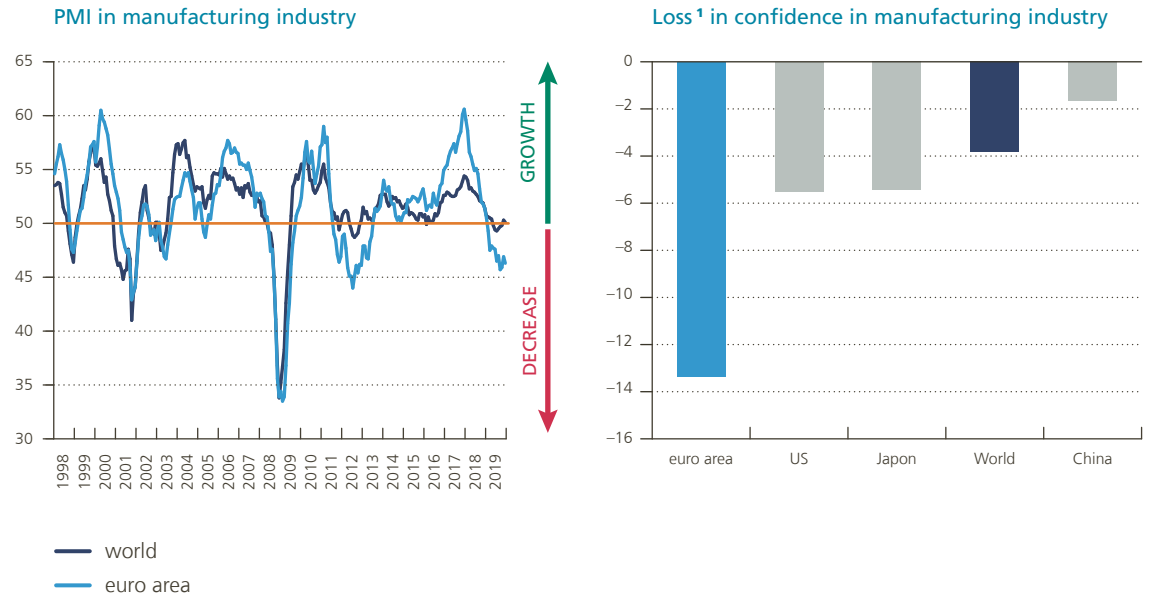
1. Manufacturing industry: shifting gears

1.1 Early signals coming from soft data

In early 2018, there was some optimism about the global growth momentum, following the broad-based upswing that had begun around mid-2016. Nonetheless, at about the same time, several short-term economic indicators displayed signs of levelling off and started to shift into lower gears. This was most notably the case for confidence indicators in the manufacturing industry, such as the global Purchasing Managers' Index (PMI)[1] that peaked in December 2017 before gradually moderating. The trend was even more pronounced for the euro area, where confidence in the manufacturing industry fell sharply as of early 2018. In February 2019, the euro area manufacturing PMI dipped below the key 50 mark, which is widely believed to indicate the threshold between an expansion or contraction compared to the previous month, and remained in 'negative' territory throughout 2019. This considerable drop of confidence in the euro area was even more remarkable when compared against the deterioration of confidence in other large countries and the world economy. Part of the relatively larger drop in euro area manufacturing confidence may be explained by the fact that the euro area PMI had risen significantly higher than the global indicator in preceding years, though.

Chart 1

Deterioration of confidence in the manufacturing industry is largest in the euro area



Source: Markit.

1 Difference between the highest point of the manufacturing PMI, converted into quarterly frequency, since 2017 and the lowest point since (before end-2019).

1 The PMI indicator is derived from monthly surveys of senior executives at private sector companies and aims to provide a timely insight into business conditions, tracking sub-indices such as output, new orders and employment. It is generally considered that a reading of 50 signals zero growth, whereas an indicator above (below) 50 would be an indication of an expansion (contraction).

1.2 Manufacturing recession also witnessed in the hard data

Obviously, the survey indicators only give an *idea* of the actual developments, through the assessment of respondents as regards what is happening or going to happen to the economy or, in this case, a specific industry. In order to see what has actually been happening, hard data such as the value added generated by the manufacturing industry or industrial production are required. Unfortunately, these are only available with a certain delay. Considering that, to the best of our knowledge, such hard indicators are not readily available on a global level, we will focus on developments in the main economies.

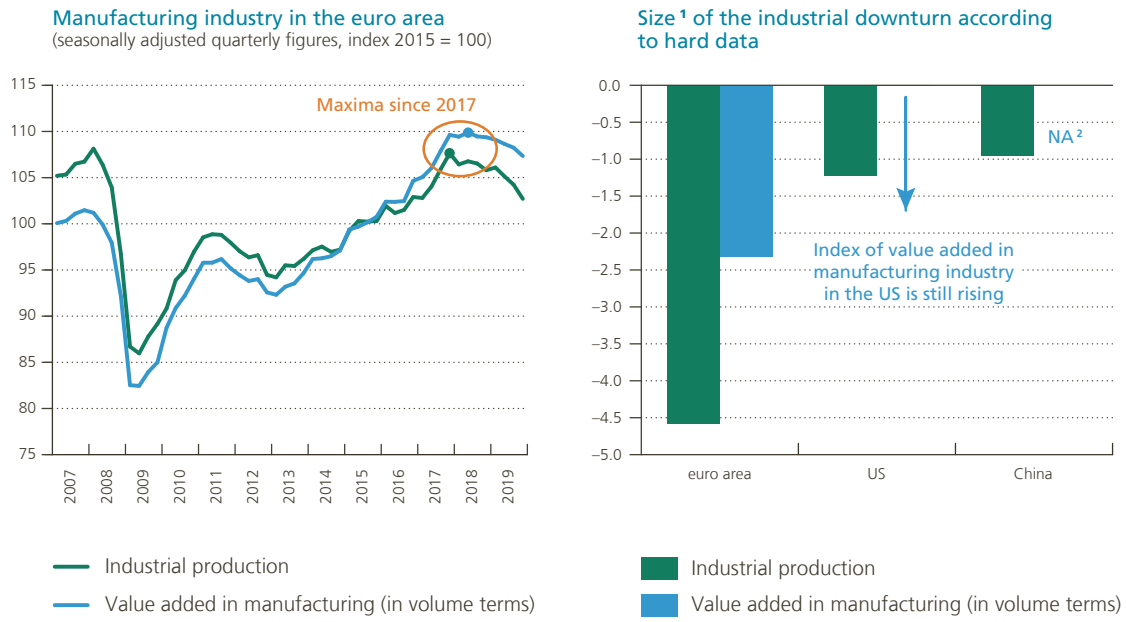
First, the PMI-based conclusion that the manufacturing industry was struggling since 2018, is largely confirmed by the hard indicators. Indeed, in the case of the euro area, both hard indicators, expressed as quarterly indices, reached their peak at about the same time, around early 2018. Value added generated by the manufacturing industry, in volume and seasonally-adjusted terms, has since been shrinking on a quarterly basis. As a result, the euro area manufacturing industry can be considered as being in a technical recession[1] since the second quarter of 2018. In cumulative terms, the industry lost over 2 % of its value added by the end of 2019. The decline that followed the peak was even more outspoken in the case of the industrial production index, as the latter points to a cumulative loss of nearly 5 %.

In addition, the observation that the manufacturing industry in the euro area suffered greater losses than, for example, the United States or China, does not only hold true in terms of soft indicators. A similar picture emerges when comparing the value added generated by the manufacturing industry or industrial production. The industrial production index dropped somewhat in the United States and in China, too, but the losses recorded until the end of 2019 were more contained than in the euro area's case. When it comes to value added in the manufacturing industry, the index in the United States barely dipped and had surpassed its earlier 2018 peak again by the end of 2019.

1 A technical recession is typically recognised as two consecutive quarters of economic decline.

Chart 2

Hard data confirm that the slump in manufacturing industry is more pronounced for the euro area



Sources: Eurostat, OECD, Refinitiv (Datastream).

1 Percentage difference between the peak identified for each quarterly index in the course of 2017-2019 and the latest observation (2019Q4).

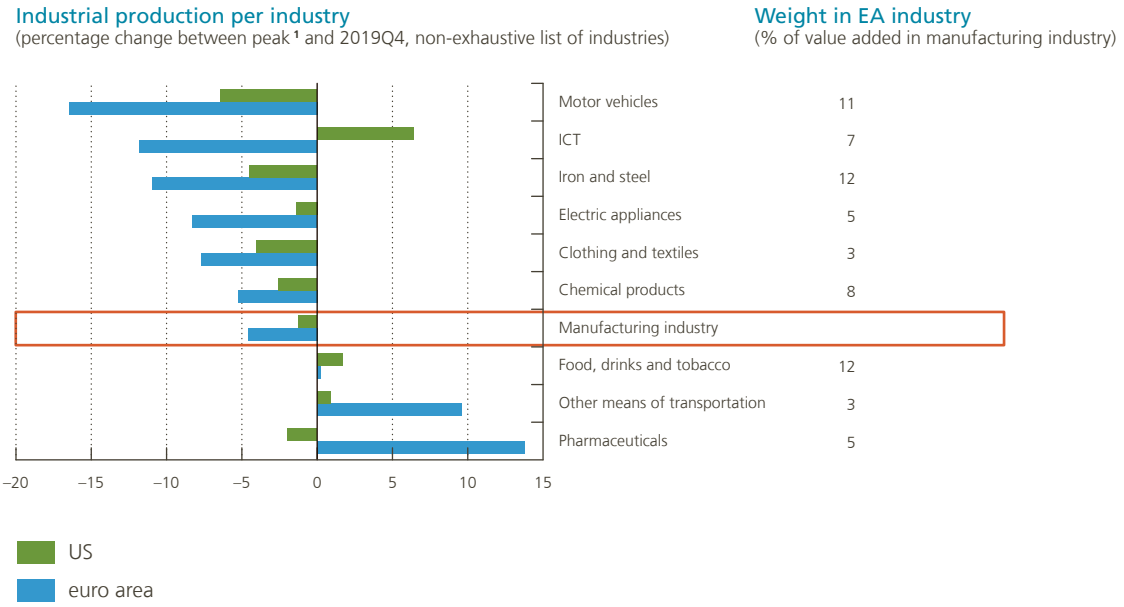
2 A quarterly index for value added in the Chinese manufacturing industry does not exist.

In the case of the euro area and the United States, data for industrial production are available on a monthly basis and can be broken down by branch, which allows to investigate if certain industries are hit substantially more than others [1]. The difficulties of the European motor vehicle industry over the course of the last year have been well-documented by the press and this industry is indeed characterised by the largest drop in industrial output within the euro area since the end of 2017. However, as shown by the percentage changes compared to the peak level of the overall industrial production index, there are plenty of other branches of the manufacturing industry for which the euro area is showing relatively greater losses than the United States. In fact, one could conclude that the relatively stronger setback in industrial production in the euro area is broad-based across industries.

1 While the overall industrial production index displays the same patterns as value added in the manufacturing industry, the correlation between these two indicators might be much lower for its sub-industries. However, the breakdown of the value added in the manufacturing industry over its sub-industries is only available on an annual basis and data referring to 2019 will only be published when annual national accounts become available, in October 2020.

Chart 3

The relatively stronger setback in industrial production in the euro area is broad-based across industries



Sources: Eurostat, Federal Reserve.

Note: Results are based on the standard industrial classification of economic activities, which may vary somewhat across countries or zones (NAICS for the United States, NACE for the euro area). Hence, comparisons for the same activity should be made with care, given that definitions could vary somewhat.

1 Percentage changes between 2019Q4 and 2018Q4 (peak for the US) or 2017Q4 (peak for the euro area).

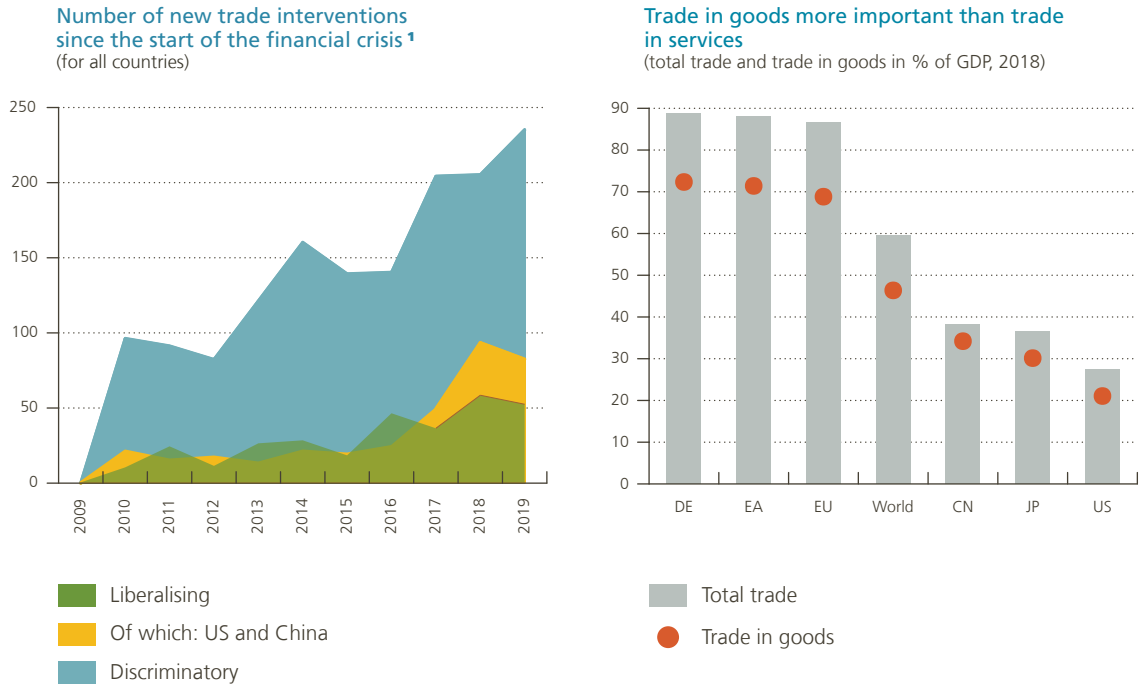
2. Causes of the slowdown of the manufacturing industry

The worsening of confidence and the decline in industrial production since the beginning of 2018 did not fall out of the sky: a number of factors induced this development and/or strengthened it when it appeared. The section below outlines a number of these causes and discusses why they had a stronger impact on industrial activity in the euro area than in other regions of the world.

2.1 Trade restrictions

Chart 4

Increase in trade restrictions and protectionism mostly hit the manufacturing industry



Sources: Global Trade Alert, World Bank.

1 Implemented government interventions that harm the commercial interests of other countries are classified as "harmful". Implemented government interventions that benefit the commercial interests of other countries are classified as "liberalising".

After the financial crisis, the number of trade restrictions and disputes soared. A major player in this resurgence of restrictive trade policies and a new deglobalisation wave was the United States' government. During his 2016 presidential campaign, the future US President Donald Trump had already been advocating higher trade tariffs and a stronger protectionist stance. After gaining office, the newly-elected President started to impose taxes on imports from China, Mexico, Canada and the EU, to which they all retaliated, strongly increasing the number of discriminatory measures in force around the world. The Trump Administration also withdrew from the Trans-Pacific Partnership Trade Pact in 2017, a striking change from the free trade policies that had governed the exchange of goods for decades, and opened renegotiation of the North American Free Trade Agreement.

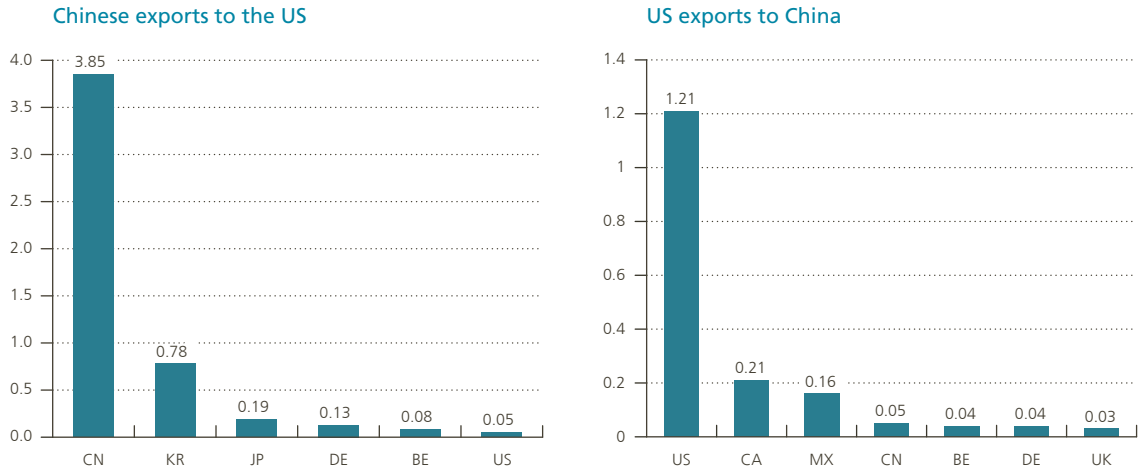
The conflict that attracted most interest in this context was the trade dispute between China and the United States, the world's two largest economies. The Trump Administration began setting new tariffs and other trade barriers on China in 2018 in order to put pressure on the Chinese authorities to change their trade practices which the US felt was unfair. China retaliated strongly, with tariffs ranging from 5 % to 25 % on US goods.

From September 2019 onwards, tensions gradually eased with the prospect of a partial trade agreement between China and the US. Although they reached a deal in December 2019 (the so-called Phase 1 deal), in which China pledged to boost US imports by $ 200 billion above 2017 levels and strengthen intellectual property rules while the US promised to halve its tariffs, negotiations to tackle the remaining issues are still ongoing and uncertainty around the United States' future stance with regard to trade policy remains high.

Chart 5

Direct impact of trade restrictions on economic activity of third countries is limited

(contributions to bilateral trade flows between China and the US, in % of total value added of the country concerned, 2015)



Sources: calculations by the NBB on the basis of the OECD's TiVA-database.

In a globalised world, in which goods are produced along strongly interconnected value chains, spillovers to the manufacturing industry in other countries are likely to occur. Nevertheless, according to calculations using the OECD's world input-output tables, the impact of the trade restrictions between China and the US on economic activity in third countries appears limited: the contributions of the latter to the bilateral trade flows between China and the US never exceed 1 % of those countries' total value added.

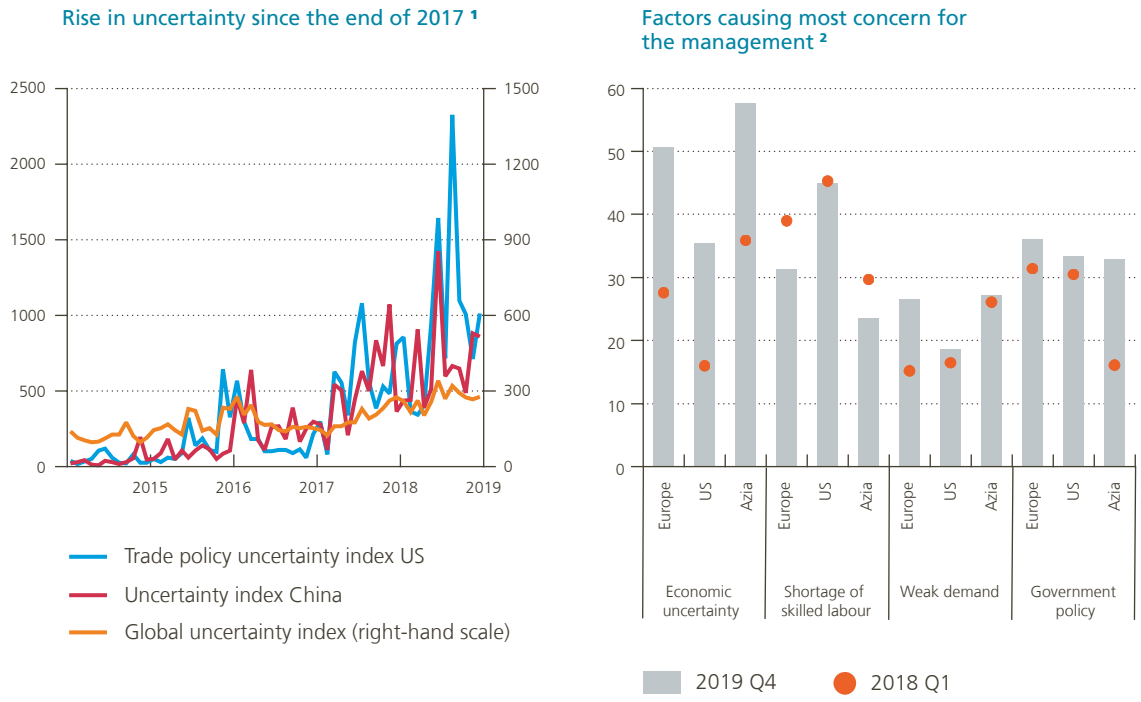
2.2 Uncertainty

In spite of the relatively small direct impact on economic activity of the trade partners in the countries imposing trade tariffs, these growing trade restrictions and the renewed sense of protectionism around the world raised uncertainty. An indicator that is often used in the economic literature to measure economic policy uncertainty

is the index by Baker *et al*. (2013)[1], based on newspaper articles. The trade policy uncertainty indicator for the US and the uncertainty index for China both show large increases in economic uncertainty from the beginning of 2018 onwards. Global uncertainty is also affected, albeit to a lesser extent. Besides trade restrictions, other factors have had their effect on economic policy uncertainty in the euro area and the world at large such as the Brexit negotiations, which did not follow a clear path until the beginning of this year, the change towards a new vehicle emission test standard (see below) and geopolitical tensions.

Chart 6

Economic and trade policy uncertainty rose rapidly when trade restrictions soared



Sources: Baker *et al*., Duke Fuqua CFO Global Business Outlook.

1 Normalised indices with an average of 100 over 2000-2018. The global economic policy uncertainty index is a GDP-weighted average of national EPU indices for 21 countries: Australia, Brazil, Canada, Chile, China, Colombia, France, Germany, Greece, India, Ireland, Italy, Japan, Mexico, the Netherlands, Russia, South Korea, Spain, Sweden, the United Kingdom, and the United States.

2 Share of firms citing the factors shown as the most pressing concern of senior management over the past quarter. Based on surveys from March 2018 and December 2019. Firms are allowed to choose more than one factor.

The increase in uncertainty was not only measurable in terms of indicators based on economic news, but several survey measures also reported spikes in economic uncertainty. Duke's CFO Global Business Outlook, for example, requests business leaders to indicate which factors they worry most about. Economic uncertainty was mentioned by a significantly larger share of business leaders at the end of 2019 than in the beginning of 2018. The economic literature (Ebeke *et al*. (2018), ECB (2016), Gulen *et al.* (2016), Drobetz *et al*. (2018)) has repeatedly shown that higher uncertainty causes deferrals or even cancellations of investment, as these decisions are often irreversible and financial means are locked in for some time during their implementation, having an effect on firms' liquidity position.

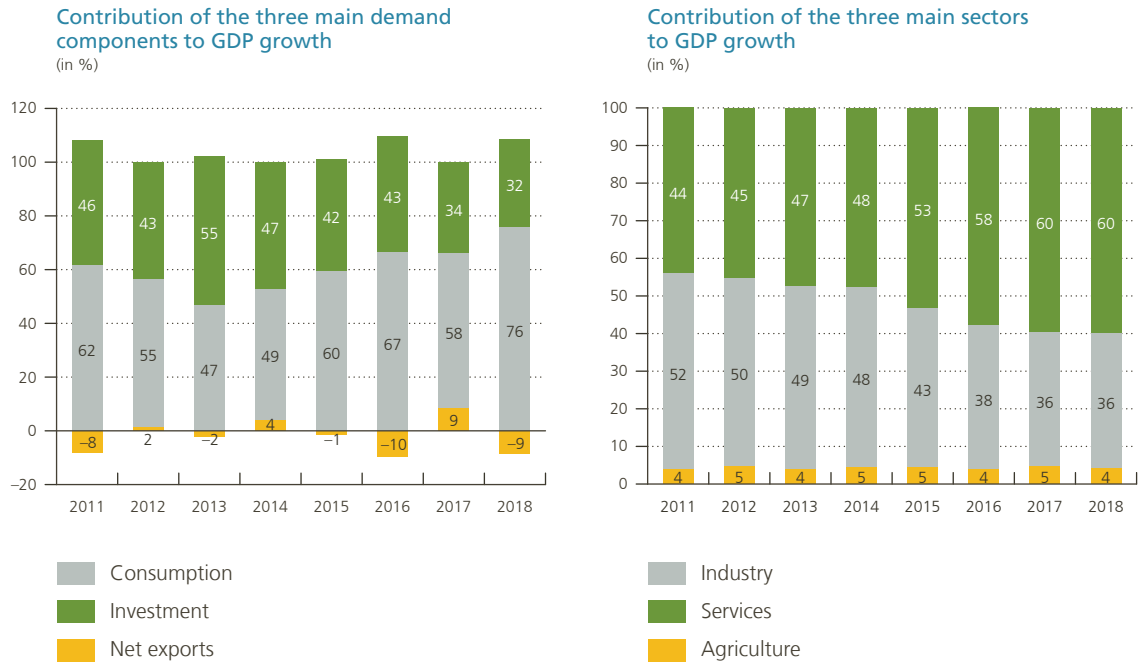
1 See https://www.policyuncertainty.com/ for latest numbers. Each national economic policy uncertainty index reflects the frequency of newspaper articles in that country which contain a trio of terms pertaining to the economy (E), policy (P) and uncertainty (U) spheres.

Accordingly, the impact of this heightened policy and business uncertainty is apparent in the slowing growth rates of investment in the largest economies since the beginning of 2018, despite record-low interest rates and high capacity utilisation rates. Investment growth has slowed in all large economies since the beginning of 2018. Investment has been shown to be a very trade-intensive component of expenditure (Bussière *et al*. (2013) and Martinez-Martin (2016)), further amplifying the effects of trade restrictions on global trade growth. The disruption to trade, investment and supply chains from rising trade tensions consequently constitutes a direct drag on demand, further adding to uncertainty about economic perspectives and reducing the incentives to invest. This reduced investment demand has affected industrial production in its turn. The slowdown of investment growth also harms supply and weakens medium-term growth prospects for growth.

2.3 China rebalancing

Chart 7

China's rebalancing towards consumption and the services sector slows down its import demand



Sources: CEIC, IMF.

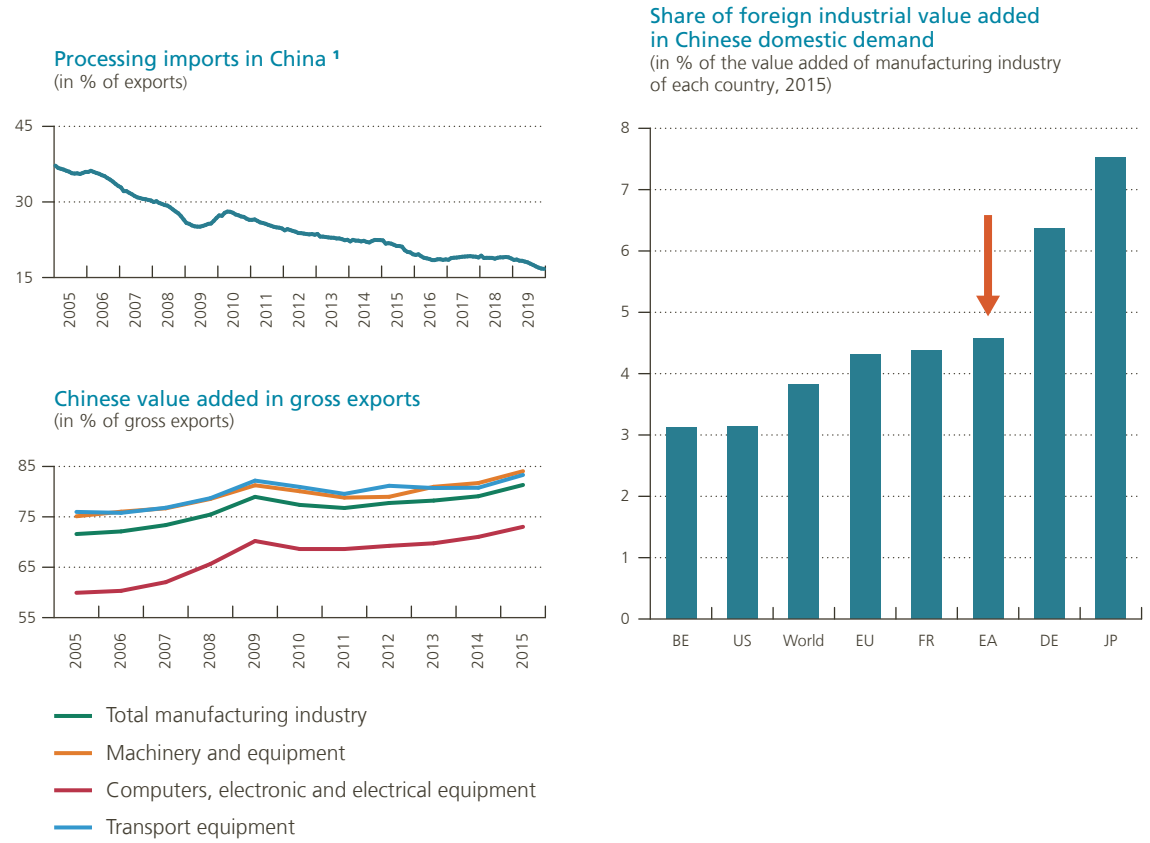
Another important factor leading to a decline in demand for European exports and, consequently, the manufacturing of – particularly intermediate and capital – goods is the rebalancing of China. Since its accession to the World Trade Organisation at the turn of the millennium, China's integration into the global economy had been growing consistently. Before the global financial crisis, China pursued an export-driven growth model, initially specialised in assembly operations. Its impressive export growth was supported by massive investment in expanding industrial production capacity and its underlying infrastructure, for which major imports in capital goods and commodities were required. Nevertheless, over the years, this resulted in large and growing imbalances in spending patterns and its economic structure. Consequently, the Chinese leadership shifted gears in the aftermath of the financial crisis as certain new vulnerabilities had emerged in response to their fiscal and

monetary stimulus programme to address weak demand in collapsing export markets. A bubble in the residential property market, excess capacity in some heavy industries, a rapid increase in corporate and local government debt ratios, uncontrolled expansion of the country's shadow banks and a growing share of less profitable investment had all added to doubts about the viability of the existing growth model. The Chinese government therefore started to advocate a transition to more moderate but also more balanced growth, with a greater contribution from consumption and services. The deliberate steering of the Chinese economy towards more consumption and services-led growth has slowed down overall growth rates, reduced Chinese demand for imported goods and raw materials and moderated investment activity, while the importance of the consumption component has been growing. In recent years, China's government has also been actively supporting consumption growth through its fiscal policy by implementing several tax incentives, supporting disposable incomes. The government's policy shift towards a more services-oriented economy and accommodating monetary conditions have fostered business investment in services as well, while investment in manufacturing has slowed significantly.

Besides China's overall rebalancing towards consumption and services, the Chinese government also launched a new industrial strategy in May 2015 ("Made in China 2025"). The goal of this long-term masterplan for economic and industrial modernisation is to re-establish China as one of the world's top manufacturing powerhouses and a technological leader by 2049. Its intermediate objective is to enhance the innovative capabilities of the country's manufacturing industry and to move China up the value chain by 2025. China wants to raise the domestic value added content in a number of targeted industries by moving into the more sophisticated parts of the value chain with the ultimate aim of replacing China's dependence on foreign high-technology imports and creating Chinese companies that can compete domestically as well as globally (Buysse and Essers, 2019, ISDP (2018), Wübbeke *et al*., (2016)).

Chart 8

China's declining import demand hits Europe's manufacturing industry relatively harder



Sources: CEIC, NBB calculations on the basis of the OECD's TiVA database.

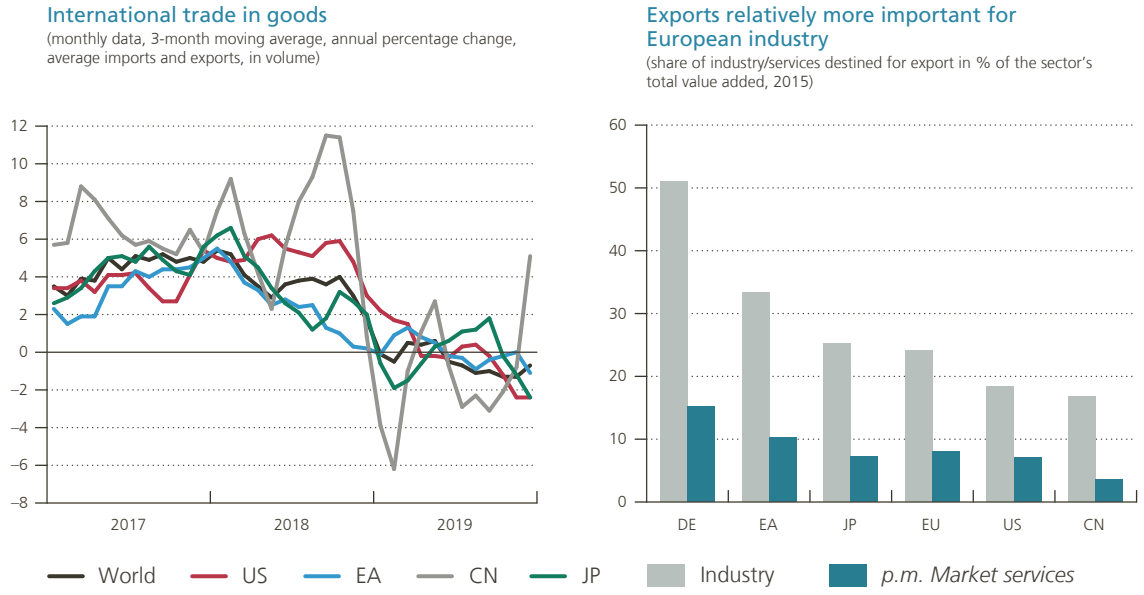
1 "Processing imports" are raw materials and intermediate goods imported for assembly and processing in China, but intended for export products. Expressed as a percentage to exports, this is a proxy for the level of import substitution in China, defined by the IMF in Kang, J.S. and W. Liao (2016), "Chinese Imports: What's Behind the Slowdown?", IMF Working Paper 16/106.

The effects of China's new growth paradigm are clear when analysing the evolution of the import of raw materials and intermediate goods imported for assembly and processing but intended for products destined for re-export. Expressed as a percentage of total exports, this is a proxy for the level of import substitution in China. Processing imports declined from over 37 % of GDP in 2005 to around 17 % by the end of 2019. It should be noted though that China has also lost some competitiveness in assembly activities and the production of less sophisticated goods to cheaper Asian producers due to rising wages at home. At the same time, the share of Chinese domestic value added in total gross exports has steadily grown in all manufacturing industries, with the strongest increase in the manufacturing of computers, electrical and electronic equipment.

When looking at the world's largest economies, the Japanese and European economies are more vulnerable to China's rebalancing and the import substitution process than the US. The shares of industrial value added contributing to Chinese domestic demand differ quite strongly between the economies studied: more than 6 % of German industrial value added is embodied in China's domestic demand, whereas it amounts to less than 3 % of Belgian industrial value added. The last two examples also show there is large heterogeneity within the euro area countries. The effects of China's rebalancing are therefore also felt in a differentiated way in the different euro area countries.

Chart 9

The euro area industry is vulnerable to a slowdown in global trade growth



Sources: CPB, NBB calculations on the basis of the OECD's TiVA database.

All factors cited above have contributed to a significant slowdown in global trade growth. While global trade growth was still at around 5 % at the end of 2017, it had even turned negative by the end of 2019. Moreover, the slowdown in trade growth was particularly strong for vehicles, electronics and capital goods, which are more frequently traded among nations. The euro area economy is more vulnerable to a slowdown in trade than other large economies, as a larger part of its value added is destined for exports, i.e. in the euro area, over 30 % of manufacturing value added compared to only 18 % in the US and 17 % in China.

Moreover, the euro area was hit by several, other idiosyncratic and structural shocks at the same time as global trade growth collapsed, leading to a reinforcement of the shock to the euro area's manufacturing industry.

2.4 Idiosyncratic and structural shocks

One of the factors that is discussed most in this context is the remarkable slowdown of the motor vehicle industry in 2018, driven by both supply and demand factors. Although the slowdown in vehicle production was a worldwide phenomenon (see chart 10), and the first of its kind since the global financial crisis, its occurrence can mainly be attributed to two large car-producing countries, namely Germany and China.

Chinese vehicle demand and production shrunk significantly in 2018 caused by the lifting of several tax breaks that had stimulated car purchases and production in the years before. In Europe, the car industry was hit by the rollout of new carbon emission tests (WLTP) in September 2018 for which some car producers had not prepared sufficiently in advance. In addition, several other specific factors affected the motor vehicle sector and created great uncertainty, such as the introduction of low emission zones in many European cities, prompting consumers to adopt a wait-and-see approach. Furthermore, in Germany in particular, the dry and hot summer of 2018 also led to very low water levels in the Rhine, making the transport of car parts and finished vehicles by inland waterways almost impossible.

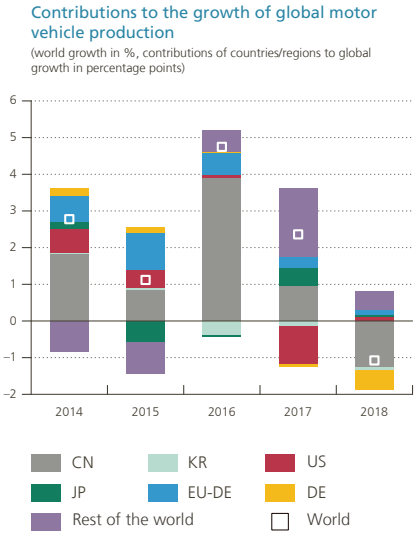
Within Europe, a structural demand shift has also been witnessed over the past few years, characterised by two opposite forces. On the one hand, consumers have chosen more and more electrical/hybrid cars and moved away from diesel cars in the aftermath of the so-called Dieselgate scandal. This mainly affected the German car industry, which is widely specialised in diesel vehicles. On the other hand, there has been a significant shift in consumer preferences towards SUV-like vehicles, a kind of car Germany is traditionally not specialised in either. Due to these consumer demand shifts, the strong slowdown in vehicle production in Germany in 2018 was partly offset by slight increases in most Central and Eastern European countries, where production is better tailored to changing demand. Nevertheless, considering the size of the German car industry, the overall evolution for car production in the euro area was negative over 2018.

The close integration of the motor vehicle industry in global, strongly interconnected value chains contributed to the spread of the malaise to other countries, industries and even certain branches of the services sector. In the euro area, for example, value added created by motor vehicle production originates from the transport equipment branch of activity (50 %), the services sector (27 %) and several other branches of activity, such as the metal industry (2 %), chemicals and non-metallic mineral products (5 %), among others. Consequently, while the car sector only represents about 6 % of global output, a global input-output framework based on Bems, Johnson, and Yi (2011) suggests that the sector may have subtracted as much as 0.5 of a percentage point from global trade in 2018, once these spillover effects are factored in (IMF, 2019b). The idiosyncratic shocks in Europe were amplified by the slowing global trade growth as a consequence of trade restrictions and rising uncertainty, as well as by the slowing import demand coming from China. This was a double hit for the German car industry, as 75 % of vehicles produced in Germany are exported and both China and the US figure in the top 5 export destinations[1] (Jannsen, 2019).

Chart 10

Contributions to growth of global vehicle production

(world growth in %, contributions of the countries/regions to world growth in percentage points)



Source: Verband der Automobilindustrie, International Organization of Motor Vehicle Manufacturers (OICA).

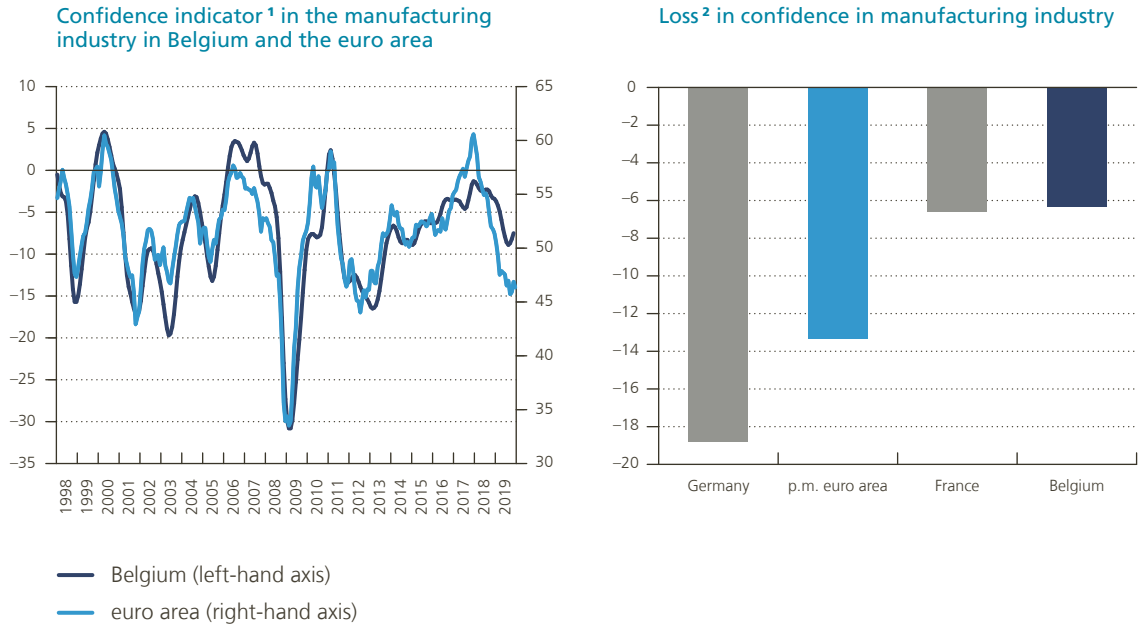
1 According to Jannsen, exports to the US constitute 11.4 % of total car exports and to China 10.8 % of total car exports.

3. Belgian manufacturing staying on track ?

In Belgium as well, confidence in the manufacturing industry started to worsen early 2018, but the deterioration was relatively limited compared to that in the euro area or in certain neighbouring countries.

Chart 11

Belgian manufacturers' confidence deteriorated, but less strongly than in the euro area



Sources: Markit, NBB.

Note: For Belgium, the graph shows the synthetic confidence indicator for the manufacturing industry, compiled by the NBB on a monthly basis. For the euro area, France and Germany, the PMI in manufacturing is used.

1 This indicator shows the net balance of positive and negative replies.

2 Difference between the highest point of the respective confidence index, converted into quarterly frequency, since 2017 and the lowest point since (before end-2019).

Comparing hard data, such as the overall industrial production index, Belgian manufacturing firms also outperformed those of the euro area, France and Germany. This relatively strong performance may be attributed, on the one hand, to the composition of the Belgian manufacturing industry, which is, to a larger extent than the French or German economies, geared towards branches that are less closely correlated with the business cycle, such as pharmaceuticals and food, drinks and tobacco. Moreover, only 4 % of the value added generated in the Belgian manufacturing industry depends on motor vehicle assembly, which was one of the industries across the euro area that has suffered the greatest drop in industrial production since 2018 (as shown earlier in chart 3).

While the composition effect leaves the Belgian manufacturing industry relatively less exposed to business cycle shocks, a second explanation for its resilience simply lies in the fact that industrial output in these specific industries grew more strongly (or declined less clearly) in Belgium, compared to the euro area and France or Germany.

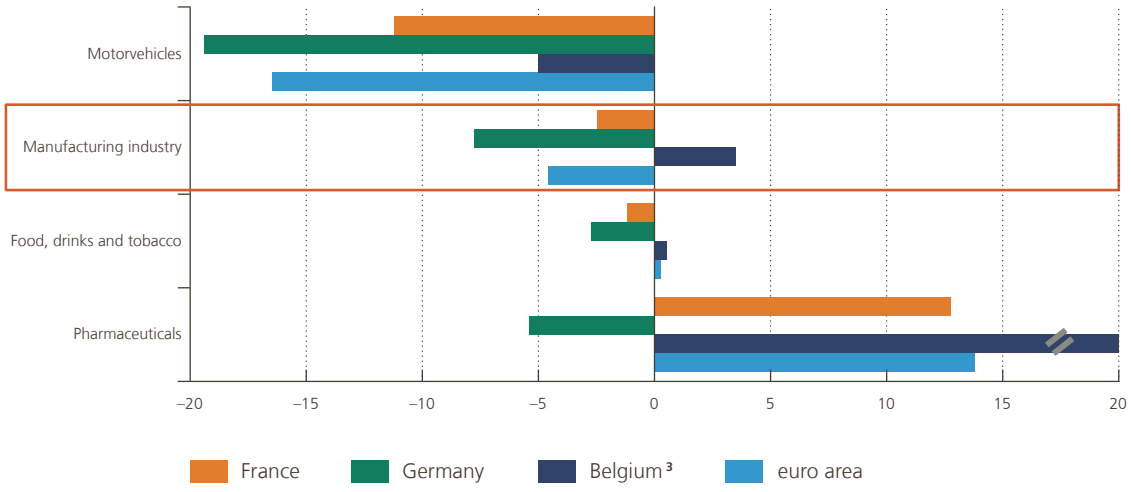
Chart 12

Belgian manufacturing industry has a more favourable composition and has shown stronger performance in specific sub-industries

Industry (non-exhaustive list)	Share in manufacturing industry (%)[1]				Correlation with EA GDP growth (%)[2]
	France	Germany	Euro area	Belgium	
Motor vehicles	6	21	11	4	67
Food, drinks and tobacco	19	7	12	15	45
Pharmaceuticals	5	3	5	13	40

Industrial production per industry

percentage change between 2017Q4 and 2019Q4, non-exhaustive list of industries



Source: Eurostat

1 In % of value added in the overall manufacturing industry, based on nominal annual figures for 2017 according to A64 classification.

2 Correlation between the volume growth of value added in this industry and volume GDP growth between 1996 and 2017. Calculations refer to the euro area only.

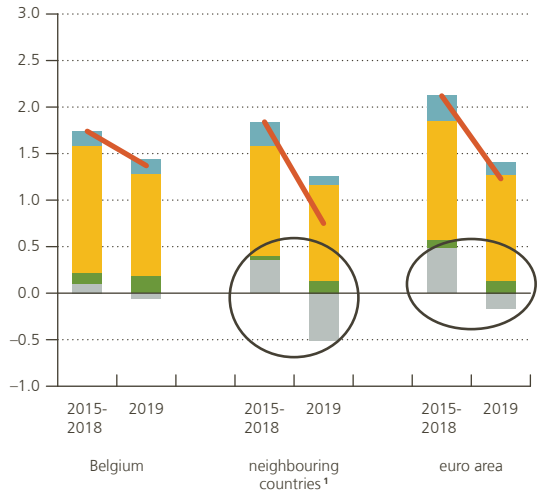
3 It should be noted that the graph does not show a decline for Belgian industrial production since end-2017, because the peak in the index was only found in 2019Q2. The increase in industrial output of "Basic pharmaceutical products and pharmaceutical preparations" has worked out at 76 % since end-2017 but this is not fully displayed on the graph in order to maintain readability. It should be kept in mind that the link between industrial production and value added in this specific sub-industry is found to be rather weak.

All in all, value added in the Belgian manufacturing industry barely slowed down at all in 2019, compared to earlier years. In the neighbouring countries and the euro area, on the other hand, value added in the manufacturing industry clearly declined. In these countries, manufacturing weighed on overall economic activity last year and seems to have been the main culprit behind the slowdown of GDP growth in the course of 2019. While GDP growth in 2019 remained positive in all euro area countries, it slowed almost everywhere in relation to the previous year(s) and most notably in Germany, the country with the largest share of industry in economic activity. As explained in section 2, the weaker international trade growth observed last year put a strain on the manufacturing industry, as it is by its very nature more export-oriented than the services industry. As a result, there is an obvious link between the share of industry in GDP and the observed slowdown in GDP growth among euro area countries. In the case of a worldwide upturn in trade flows, the opposite will most likely be observed as this would bring a relative advantage to those countries with a larger intensity of industrial activity.

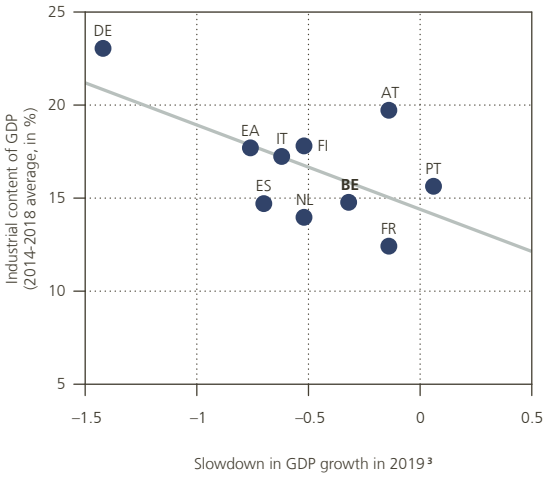
Chart 13

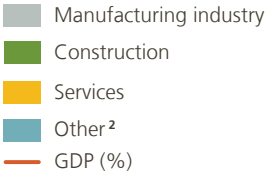
Belgian GDP growth remained resilient in 2019 as value added in manufacturing barely shrank; other countries with more important industrial activity were hit harder

GDP growth and contribution per industry
(percentage point contributions to annual real GDP growth, unless otherwise stated)



Link between importance of industry and the slowdown in GDP growth





Sources: Eurostat, NAI, NBB.
1 Weighted average for Germany, France and the Netherlands.
2 Notably the agriculture, forestry and fisheries sector and taxes on products minus subsidies on products.
3 Difference, in percentage points, between real GDP growth in 2019 and the average rate recorded in 2014-2018.

4. A tale of two industries

In this section, we will focus on euro area developments, although similar observations could be made for other economic zones. While the manufacturing industry dipped into recession in the course of 2018-2019, an overall economic recession was avoided thanks to the robust expansion of activity in the services industry. An important cause for concern was whether this divergence between the two industries could exist for a protracted period of time or whether the services industry would inevitably be susceptible to negative spillovers from manufacturing. Due to the outbreak of the Covid-19 virus, this question has been largely rendered irrelevant, considering that the impact of the virus and its containment measures are likely to take a heavy toll on both industries.

4.1 Pre-Covid-19 resilience of the services industry

The resilience in the services industry over the past few years can be attributed to robust domestic demand, supported notably by consumer spending, in turn boosted by the solid labour market that showed rising wages and a historically low rate of unemployment in 2019. Considering that the services industry is the most important industry in the euro area, a great deal of last year's attention was attributed to developments in this particular industry and whether or not it would be susceptible to spillovers from manufacturing (see, for example, Forsells, Kennedy and Timm, 2019).

First of all, a certain degree of divergence between developments in the manufacturing and services industry is not uncommon. On the side of soft data, the difference between the PMI in manufacturing and services has amounted, on average between 1999 and 2019, to –1.6 points, suggesting that the outlook for the manufacturing industry generally tends to be somewhat more pessimistic than what is reflected by the confidence indicator in the services industry. In the course of 2019, the difference between the two indicators surged to 6 points, similar to the gap observed during the great recession. However, in 2019, the two indicators were not only diverging in terms of the size of the signal, but also in terms of the signal itself, as the manufacturing PMI dipped into contractionary territory, i.e. below the 50 threshold, while the PMI for the services industry remained fairly constant at a level above 50.

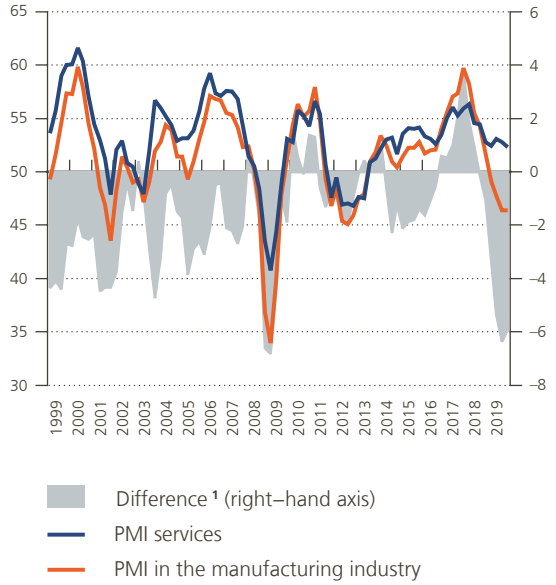
Despite the different signals provided by the two PMI indicators, there were no clear arguments to assume that the gap would close as a result of negative confidence spillovers running from manufacturing to services. For instance, an analysis by Buti et al. (2019) using the European Commission's survey indicators for manufacturing and services finds no lead-lag relationship between these two indicators. Similarly, when calculating the statistical correlation between the euro area PMI indicators in manufacturing and services, we found it was highest for the coincident PMI indicators, i.e. when no lags or leads were assumed.

On the side of hard data, the right-hand side of chart 14 shows the value added in both industries expressed as a quarterly volume index that equalled 100 in 1999. Since then, developments in value added in these two industries were quite similar up to the great recession, when the manufacturing industry was hit to a far greater extent. The industrial recovery in the following years was quite hesitant, with another fallback in 2012-2013, and the manufacturing industry only managed to catch up with services, in terms of cumulative generated value added, by 2017.

Chart 14

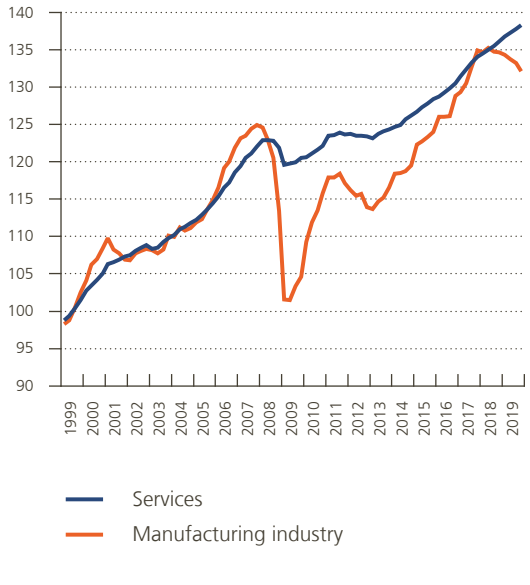
A certain degree of divergence between the manufacturing and services industry is not uncommon

PMI in the manufacturing industry and services in the euro area



Value added in euro area manufacturing and services

(index 1999=100, seasonally adjusted quarterly data)



Sources: Eurostat, Markit, OECD.

1 Difference between the euro area PMI in the manufacturing industry and services.

Obviously, the manufacturing and services industry are not completely independent. Businesses active in market services such as transport; information technology and service activities; professional, scientific and technical services; and some administrative and support services may depend on demand coming from manufacturing (Forsells *et al.*, 2019). However, the share of interdependence between the industries remains rather small. According to calculations using the TiVA[1] database, only about 7.5 % of the overall euro area's value added is thought to be generated by services provided to the manufacturing industry.

All in all, this section suggests that the initial evidence for direct or confidence spillovers from the manufacturing to the services industry is limited. Nevertheless, at the start of 2020, the relative resilience of the domestically oriented part of the euro area economy was strongly conditional on the ongoing solid performance of the labour market.

4.2 Recent events

In the early-2020 observations for the euro area PMI indicators, the manufacturing index seemed to be carefully bottoming out and was moving in the direction of the 50 threshold that would mark growth again. However, as of mid-February, the Covid-19 virus that had initially started in China also spread to Europe and the effect of this on euro area business confidence was reflected for the first time in the PMI reading for March as the

1 The TiVA (Trade in Value Added) database provides data on international trade, supply chains, component sourcing and global economic integration, using a methodology designed by the OECD and the WTO.

composite index fell to unprecedented lows. Contrary to what had been observed in 2018-2019, the bulk of the pessimism now seems to stem from respondents in the services industry. This is probably the result of the extraordinary measures undertaken by many European countries in order to limit the spread of the virus, which are largely focusing on customer-oriented services. In Belgium, for example, the lockdown ordered by the public authorities as of Wednesday 18 March involves the mandatory closure of restaurants, cafés and other non-essential shops. Moreover, the pandemic is also likely to have an important and possibly long-lasting effect on businesses providing leisure-based activities, as well as those active in the travel industry. Meanwhile, in manufacturing, the PMI index has also fallen back, but less strongly than for services, most likely because a larger share of them were recognised as essential businesses and were allowed to continue operating, as is the case in the food and drinks, pharmaceuticals, chemicals and plastics sectors.

Conclusion

In the course of 2018 and 2019, the global manufacturing industry struggled, as reflected by confidence indicators as well as by hard data such as industrial production or value added generated by manufacturing. Several international headwinds, such as mounting trade restrictions, heightened uncertainty and the rebalancing of the Chinese economy, were at play and had an impact on international trade flows. With trade consisting mostly of goods, rather than services, the global manufacturing industry was hit more severely than the services industry. Moreover, the euro area manufacturing industry, which is strongly export-oriented, suffered most from the overall slowdown in global trade growth. On top of that, it had to deal with some idiosyncratic factors, as the introduction of new vehicle emission tests as of September 2018 disrupted European car production and sales.

Focusing more specifically on Belgium, it seems that the manufacturing industry was relatively more resilient than that of the euro area as a whole, as its value added barely slowed at all. One the one hand, this performance reflects a more favourable (less cyclical) composition effect, as specific industries such as pharmaceuticals or food and drinks make up a relatively larger share of the overall manufacturing industry. On the other hand, these specific industries also managed to outperform their counterparts in neighbouring countries and the euro area.

When the analysis presented in this article was first conducted, there was still a notable divergence between the euro area manufacturing and services industry, to the advantage of the latter. As described earlier, this could be attributed to the nature of the shock (i.e. trade), as well as the healthy labour market, supporting domestic spending. The outbreak of the Covid-19 pandemic within the euro area as of mid-February 2020 has put an end to this divergence as the containment measures issued by most governments seem to be affecting services more than the manufacturing industry.

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