



KfW Research

»»» KfW Internationalisation Report 2022

Ukraine conflict exacerbates
global supply bottlenecks and
jeopardises recovery of
German SMEs' foreign
business

Imprint

Published by

KfW
KfW Research
Palmengartenstrasse 5-9
60325 Frankfurt / Main
Phone +49 69 7431-0, Fax +49 69 7431-2944
www.kfw.de

Edited by

KfW
KfW Research
research@kfw.de

Dr Jennifer Abel-Koch
Phone +49 69 7431-9592

Copyright title image
Source: Thinkstock/iStock / Rrrainbow

Frankfurt / Main, May 2022

Internationalisation Report 2022: Ukraine conflict exacerbates global supply bottlenecks and jeopardises recovery of German SMEs' foreign business

Russia's attack on Ukraine has caused new disruptions to global supply chains, which were already under severe pressure from the coronavirus pandemic. Small and medium-sized enterprises also remain under great strain from supply bottlenecks. The share of SMEs affected by material shortages has now fallen to 42 from 48% last September but this drop is due solely to the services sector. In manufacturing and construction, 78% of all enterprises continue to be affected by supply bottlenecks, and in wholesale and retail the share has even increased by five percentage points to 68%, as revealed by the most recent supplementary survey to the KfW SME Panel.

Roughly three in ten of the 3.8 million SMEs in Germany source raw materials, intermediate inputs or services from abroad. They are being hit particularly hard by the disruptions to global value chains. SMEs that procure inputs from the United Kingdom, China or Russia are even more affected than those that import from other European countries. The share of enterprises that depend on Russian inputs, however, is a low 3%.

The most common result of material shortages in the German SME sector is price adjustments, which wholesalers and retailers are also increasingly forced to make. Overall, one in four SMEs have recently raised their prices. Thus, along with energy prices, supply bottlenecks remain a major driver of inflation. By contrast, the impact of supply bottlenecks on employment remains limited and is concentrated in the construction and manufacturing sectors.

In the past two years, the pandemic and supply chain disruptions have also made a mark on Germany's exports and thus on the international turnover of small and medium-sized enterprises. In 2020 it plummeted by EUR 63 billion, or around 11%, on the previous year. To be sure, the decline was slightly less dramatic than expected but at EUR 533 billion in the first year of the pandemic, SMEs' foreign turnover was at the lowest level in more than ten years. Manufacturing lost its position as the driver of SME exports in 2020 but the falls in the services sector were particularly massive. The change occurred mainly in the average foreign

turnover of internationally active enterprises. This fell sharply while the share of internationally active enterprises among all SMEs remained steady overall at around 21%.

SMEs' international sales are likely to have recovered somewhat in 2021. Preliminary estimates put the increase at a good 6% to EUR 566 billion. They have not yet returned to the pre-crisis level, however. It is difficult to predict how the international operations of small and medium-sized enterprises will develop in the course of 2022, as there is great uncertainty as to how long the disruptions to global supply chains will last. Russia's attack on Ukraine and the sanctions imposed in response also pose risks. To be sure, hardly more than 2% of SMEs export to Russia and even fewer to Ukraine. But a sharp economic downturn in Europe would significantly affect foreign demand for products or services from Germany's SMEs. Uncertainty also remains with a view to the pandemic. The year 2022 is therefore likely to be challenging again for internationally oriented small and medium-sized enterprises in Germany.

The war in Ukraine is hurting the global economy

Russia's attack on Ukraine and the sanctions imposed in response to the aggression have gripped the world economy which is still reeling from the coronavirus crisis. As the conflict drags on and intensifies, the economic outlook is dimming, particularly in Europe. At the moment it is nearly impossible to predict how the war in Ukraine will affect the German economy. Leading economic research institutes recently downgraded their forecasts significantly for 2022.¹ Energy prices, which are climbing to new highs and driving inflation, are a major burden. New disruptions to global supply chains and looming supply bottlenecks for major commodities, however, are also dampening growth expectations.

Global supply bottlenecks are worsening

More and more suppliers in Ukraine are being immediately affected by acts of war and can no longer continue production. As a result, the German automotive industry is missing vital components such as cable harnesses and on-board power systems. Russia for its part extracts important minerals such as palladium, titanium, nickel and platinum. Concerns over

shortages of these commodities as a result of sanctions have already led to soaring prices in the global markets. Wheat shortages are also being expected to be imminent, however, because Russia and Ukraine are among the world's largest wheat exporters.

Major transport routes have also been shut down. The closure of Russia's airspace for European carriers is extending flight times to Asia.² Railroad transport between Europe and Asia is also affected.³ The transport of goods across the Black Sea has stalled after the Russian Navy fired upon foreign merchant ships and blockaded major seaports such as Odessa.⁴ Crew shortages are looming in international freight shipping as well. Many freight forwarders in Eastern Europe who also handle part of the movement of goods within Germany employ drivers from Ukraine who are now missing.⁵ Customs inspections have had to be stepped up at borders to enforce sanctions against Russia, causing further delays and rising transport costs.

Global supply chains are already under pressure, not least as a result of China's strict COVID-19 policy. The country is not just Germany's most important trading partner⁶ but a global export power.⁷ Seven of the world's ten largest seaports are located there.⁸ Strict COVID-19 protocols for loading and unloading and the complete closure of seaports in China have led to significant delays in international freight shipping. At the beginning of April 2022, over 12% of the world's cargo was stuck on ships waiting offshore.⁹ As around 90% of all international freight is shipped by ocean,¹⁰ this situation is affecting all global trade and throwing global supply chains into disarray.

The more infectious Omicron variant recently caused a rapid rise in infection rates, including in the industrial centres of Shenzhen and Shanghai, which are important for the manufacturing and shipping of exports. While China succeeded in containing previous outbreaks relatively quickly with targeted measures, the risk for international value chains is now much higher.

Capacity constraints and demand shifts as a result of the coronavirus crisis

Besides logistical problems, the imbalances that continue to exist between supply and demand as a result of the coronavirus crisis are also affecting the availability of raw materials and intermediate inputs. Many businesses scaled back their capacities when the coronavirus pandemic broke out and can now expand them again only slowly. Measures adopted to contain the spread of the virus and the absence of workers due

to sickness or quarantine are also hampering production. At the same time, demand for contact-intensive services has shifted towards durable consumer goods.¹¹ Economic stimulus programmes in Germany and abroad as well as the persistent low interest rate level have also led to greater investment in infrastructure and property projects, leading to higher demand for construction material in particular.¹²

German SMEs are experiencing constant heavy pressure

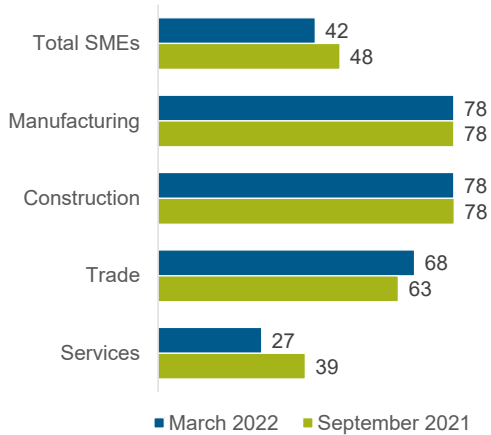
Logistical challenges, capacity constraints and demand shifts have resulted in ongoing global supply bottlenecks for a number of raw materials and intermediate inputs, some of which are being further exacerbated by the war in Ukraine. A current supplementary survey conducted as part of the KfW SME Panel shows that material shortages continue to put great pressure on German SMEs.

Thus, around 42% of all small and medium-sized enterprises in Germany were affected by supply bottlenecks in March 2022 (Figure 1). If we include only those SMEs that procure a significant volume of raw materials or intermediate inputs, as many as around seven in ten SMEs were affected by supply bottlenecks. Although this indicates a slight easing of the situation compared with last autumn, with around 48% of SMEs still affected by material bottlenecks in the month of September 2021, this development is solely attributable to an improvement of the situation in the services sector, which makes up more than two thirds of all small and medium-sized enterprises. Here, the share of SMEs affected by supply bottlenecks fell by 12 percentage points to now 27%. The fact that this proportion of the services sector is clearly lower than in other sectors is mainly due to the fact that many of these businesses are not dependent on raw materials or intermediate inputs.

By contrast, the share of enterprises affected by supply bottlenecks in the manufacturing and construction sector remains at a high 78%. The situation in wholesale and retail has even worsened. The share of enterprises that are unable to obtain stock rose from 63% in September 2021 to 68% in March 2022 (Figure 1). Disruptions to production and delays in the delivery of manufactured goods are spreading across the value chain with a time lag and are increasingly reaching wholesalers and retailers.

Figure 1: SMEs remain affected by supply bottlenecks

Percentage of enterprises affected by supply bottlenecks.



Note: Values extrapolated on the basis of the number of enterprises.

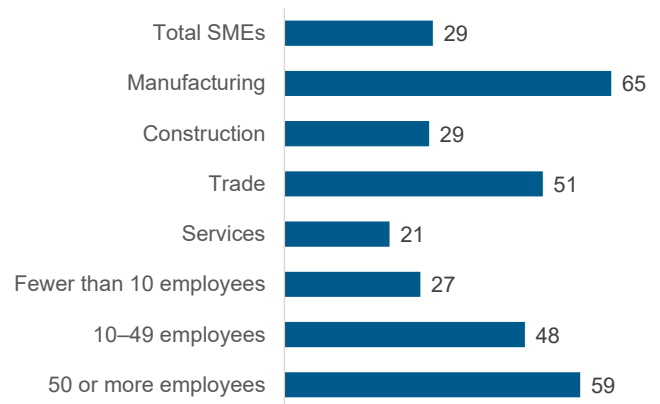
Source: Supplementary survey to the KfW SME Panel in September 2021 and March 2022.

Global supply bottlenecks have hit importing SMEs with full force

Around three in ten small and medium-sized enterprises source raw materials, intermediate inputs or services from outside Germany, with significant differences between firms of different sectors and size classes (Figure 2). The share of enterprises that are reliant on foreign inputs is highest in the manufacturing sector. However, more than half of all wholesalers and retailers procure goods from abroad – either directly or indirectly through importing suppliers in Germany. Foreign procurements in the construction and services sector are slightly less common. The larger the business, the greater the proportion of inputs procured from abroad.

Figure 2: Three in ten SMEs rely on inputs from abroad

Percentage of enterprises that (also) procure raw materials, intermediate inputs or services from abroad



Note: Values extrapolated on the basis of the number of enterprises.

Source: Supplementary survey to the KfW SME Panel in March 2022.

SMEs that procure inputs from abroad have been hit by the disruptions in global supply chains with full force. Some 79% of them are currently affected by material bottlenecks compared with around 46% of firms that procure inputs exclusively in the domestic market (Figure 3). The fact that businesses which procure inputs from abroad are more likely to be affected by supply bottlenecks is also corroborated by multivariate analyses. Thus, the result is not attributable to sectoral effects but rather occurs across all sectors.

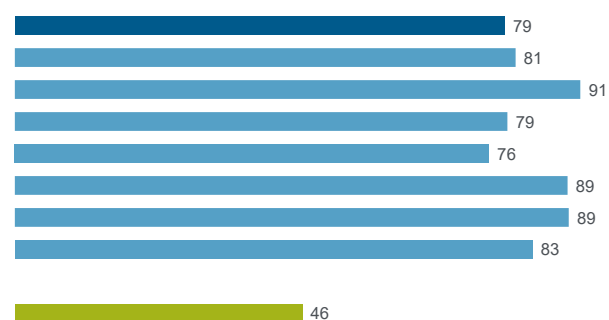
Delays in international freight transport, production losses as a result of China's zero-COVID policy and disruptions to global commodity markets from the Ukraine conflict – all of this is directly affecting

Figure 3: Origin of inputs crucially determines the impact of supply bottlenecks

Share of enterprises (in per cent), that import commodities, inputs or services ...



... share thereof of enterprises (in per cent) that are affected by supply bottlenecks



Note: Values extrapolated on the basis of the number of enterprises. Multiple responses were possible for regions outside Germany.

Source: Supplementary survey to the KfW SME Panel in March 2022.

importing SMEs. It makes a difference from which regions they procure commodities and inputs.

Imports from Russia, China and the United Kingdom are a particular challenge

Small and medium-sized enterprises in Germany import most raw materials, intermediate inputs or services from other European countries (Figure 3). Around 24% of the 3.8 million SMEs have suppliers there. A share of 11% obtain inputs from China, so that this country plays a much larger role for German SMEs' procurements than for their sales.¹³ Around 7% procure inputs from other Asian countries. A similar share obtain a portion of their inputs from the US. A small proportion of 3.1% of SMEs maintain import trade relations with the United Kingdom. An even smaller share of 2.6% obtain raw materials or intermediate inputs from Russia.

Given the complexity of some value chains, these percentages likely provide only a rough estimate of German SMEs' dependencies on other countries for raw materials, intermediate inputs and services. But they highlight the fact that Russia in particular plays only a minor role for the procurement of raw materials and intermediate inputs for German SMEs. Thus, the direct effects of sanctions against Russia are likely to affect only few small and medium-sized enterprises in Germany.¹⁴

They, however, will have to pay much more to trade with Russia as the financial sanctions make both the provision of liquidity and the settlement of transactions more difficult.¹⁵ In other words, supply bottlenecks hit them even harder than companies that procure their inputs from other countries such as the US or other European nations. This is also indicated by the findings of the supplementary survey to the KfW SME Panel (Figure 3).

SMEs that import goods from China or the United Kingdom have also been affected more than average by supply bottlenecks. China's strict zero-COVID policy and Brexit, which has significantly complicated trade relations between the EU and the United Kingdom, are having an immediate effect on them. But even those SMEs that procure their commodities and goods in the domestic market are not fully immune to developments in global markets, as rising prices of wheat also affect the local bakery, which purchases its ingredients from the nearest wholesaler. Production losses and logistical difficulties in other parts of the world ultimately make their way into European businesses and German SMEs through the various stages of the value chain.

One quarter of all small and medium-sized enterprises are adjusting their prices

Price changes are the main consequence of supply bottlenecks in SMEs. Nearly one in four companies in Germany are currently forced to pass the price increases of commodities and inputs on to their customers (Figure 4). This is particularly the case in the manufacturing sector, where price adjustments are unavoidable for half of all enterprises. But in the construction sector, too, some 43% of companies have recently raised their prices to cover increased material costs.

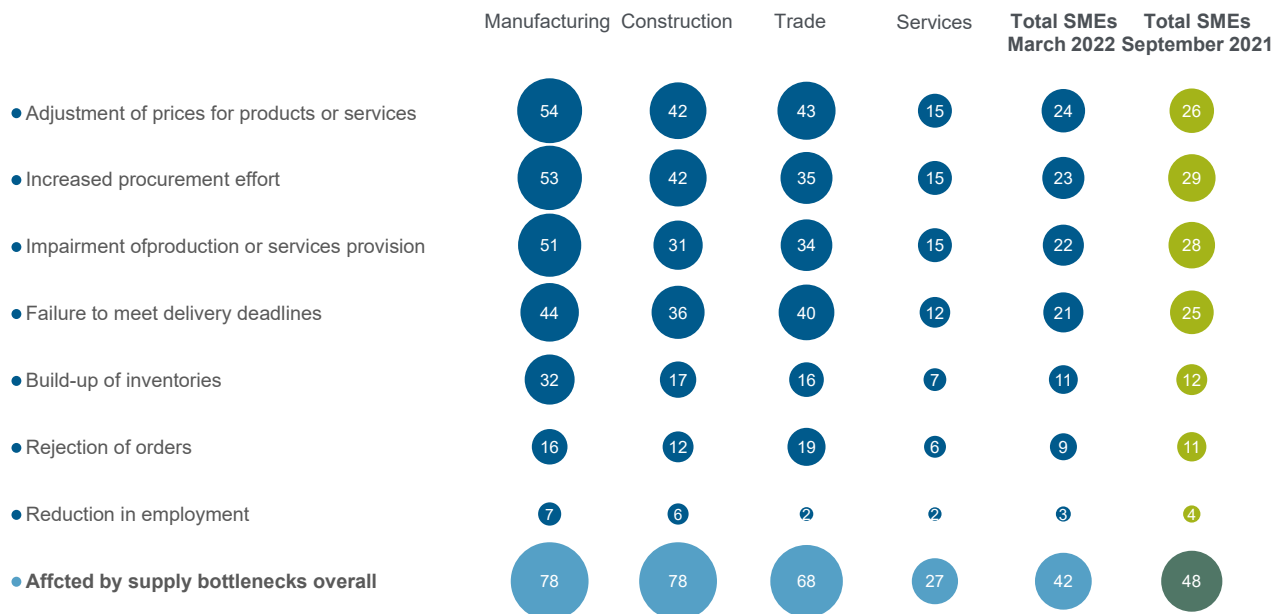
In some cases, price increases for inputs, to which businesses are forced to respond, are considerable. Thus, in February 2022 pig iron and steel cost a good 49% more and aluminium a good 52% more than in the same month of the previous year. The price of coniferous timber rose by around 54% within a year. Packaging materials from wood, paper and cardboard have also become much more expensive. The prices of newsprint paper, for example, rose by more than 80% between February 2021 and February 2022. Overall, the prices of inputs were around 21% higher year on year in February 2022. Since the survey was conducted as of the reference date 15 February 2022, it does not yet reflect the impact of the Ukraine war.¹⁶

Price increases are also being passed on along the value chain, as are supply delays. Around 43% of small and medium-sized retailers currently have no option but to adjust the prices of their products – around 10 percentage points more than in September 2021. The services sector is under less pressure to make adjustments, with only around 15% of enterprises currently raising their prices.

Supply bottlenecks therefore remain a significant driver of inflation besides rising energy prices, which have surged again as a result of the Ukraine war and uncertainty over future gas and oil supplies from Russia. Forecasts put the inflation rate for the year 2022 at 6.1%. But significantly higher inflation rates are possible if the situation worsens, especially if gas and oil supplies from Russia stop.¹⁷ Since price increases are passed on to subsequent value chain stages with a delay, there is nothing to suggest that consumer prices will stop rising any time soon.

Figure 4: Price adjustments are the main consequence of supply bottlenecks

Percentage of enterprises affected by supply bottlenecks in the following ways:



Note: Values extrapolated on the basis of the number of enterprises.

Source: Supplementary survey to the KfW SME Panel in September 2021 and March 2022.

For many SMEs, procurement remains problematic – and production disrupted

Ultimately, the prices of products or services could also reflect higher procurement costs, which affect some 23% of SMEs (Figure 4). Supply bottlenecks are a particular challenge for procurement in manufacturing, affecting more than half of businesses. But many construction firms, wholesalers and retailers must also make a greater effort to obtain the materials they need.

Their production is disrupted if they cannot obtain them in sufficient quantities – as is currently the case in half of all SMEs in manufacturing and one third of SMEs in construction or wholesale and retail. While production disruptions have fallen slightly in manufacturing (-4 percentage points) and significantly in construction (-18 percentage points) since September 2021, the share of wholesalers and retailers with impaired service provision has grown further (+ 8 percentage points).

Growing number of traders unable to meet delivery deadlines

The fact that supply bottlenecks are reaching more and more downstream stages of the value chain is also evident from the delays in delivery in wholesale and retail trade. Some 40% of SME wholesalers and retailers are currently unable to meet their delivery deadlines – around 4 percentage points more than in September 2021. An ifo economic survey in February

2022 revealed that supply bottlenecks were particularly pronounced for bicycles, toys, automobiles and furniture but also for electrical household appliances and computers.¹⁸

The proportion of businesses that cannot meet their delivery deadlines is also high in manufacturing (44%) and construction (36%). Unlike in retail, however, that proportion has fallen significantly since autumn in both manufacturing (-6 percentage points) and construction (-17 percentage points).¹⁹ This is also likely due in part to the fact that more and more companies are taking the bottlenecks in the supply of commodities and inputs into account and negotiating longer delivery periods with their customers for new orders – if they do not turn them down entirely.

Around 11% of all SMEs currently have to turn down orders from customers because of supply bottlenecks. In trade that share is even 19% – higher not just than last September (+3 percentage points) but higher than in all other sectors as well.

Impact on employment remains limited

The impact of supply bottlenecks on employment remains limited in the German SME sector and is concentrated in the construction and manufacturing sectors. Up to 7% of businesses here have recently had to reduce their workforce as a result of reduced

production due to material shortages. Across the entire SME sector, only around 3% of businesses were forced to reduce their employment numbers by granting leave, compensating for overtime hours accrued, putting workers on short-time work or through dismissals. For one thing, well-filled order books should act as a counterweight, with the stock of orders in manufacturing 20.9% higher year-on-year in January 2022.²⁰ These orders must now be processed successively. For another, services businesses as well as manufacturers have reported significant worker shortages.²¹ Around four in ten SMEs see the growing skills shortage as a significant risk to the development of their business operations in the next twelve months. Replacing skilled workers dismissed today with qualified personnel in the future is likely to be a problem for many enterprises. At the same time, short-time work – which can be made use of under eased conditions up to the end of June 2022 – is a tool that enables businesses to reduce their employment levels temporarily. Against this backdrop there is little risk of a loss of jobs across the broad SME sector as a result of persistent material bottlenecks.

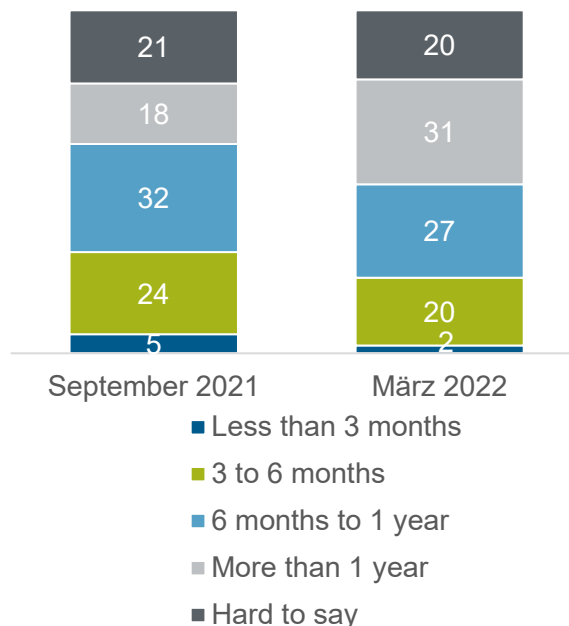
The outlook for a swift resolution has deteriorated further

The high uncertainty about the further development of the Ukraine conflict and the pandemic make it difficult to predict how long the supply bottlenecks will last. Nor can many SMEs – 20% of affected enterprises overall – provide an estimate as to how long the supply chain disruptions will continue. (Figure 5). Well over half the affected businesses expect the material shortages to continue for more than six months and around 31% expect more than a year – 12 percentage points more than in September 2021. Only around 22% believe it is realistic that the supply bottlenecks will ease significantly within a few months. The prospects for a swift resolution of the supply bottlenecks have thus deteriorated further.

The German Council of Economic Experts expects production disruptions resulting from supply bottlenecks to last at least until early summer of 2022 but also underscores that the further development is difficult to predict.²² Particularly in the automotive industry, inventories have been largely depleted and the missing suppliers of complex components such as cable harnesses, which were previously manufactured in Ukraine, can hardly be replaced in the short term.²³

Figure 5: Very few SMEs predict a swift resolution

Estimated time until resolution of supply bottlenecks calculated from time of survey, percentage of affected enterprises



Note: Values extrapolated on the basis of the number of enterprises.

Source: Supplementary survey to the KfW SME Panel in September 2021 and March 2022.

Coronavirus crisis and supply bottlenecks are also reflected in Germany's export growth...

In the past two years the coronavirus crisis and the continuing supply bottlenecks have also left a deep imprint on Germany's foreign trade. After a sharp drop in exports at the beginning of the pandemic, with exports plunging by 11.8% in March 2020 and by a further 23.7% in April month on month, an initially rapid and subsequently slightly slower recovery began (Figure 6).

Overall, however, exports in 2020 did not match the previous year's level, dropping 9.1% on the year 2019 to around EUR 1,207 billion. Imports were also on the previous year's level, falling by roughly 7% to EUR 1,027 billion. The effects of the coronavirus crisis and the resulting travel and contact restrictions were even more obvious in trade with services. Thus, services exports in 2020 decreased by around 12.4% and services imports even fell by 17.9% on the previous year.²⁴

Germany's foreign trade continued to recover at the beginning of 2021. Exports exceeded February 2020 pre-crisis levels again for the first time in June 2021. In the second half of 2021, however, the development of Germany's exports was increasingly dominated by worsening global supply problems. In the automotive industry, for example, which was severely affected by

the semiconductor shortage, car exports fell significantly.²⁵ This was also reflected in total German exports, which decreased slightly month on month in both August and September 2021 (Figure 6).

Exports increased again in nominal terms from October 2021 onwards. But that increase was due not so much to a growing volume of goods traded as to rising export prices as a result of persistent material bottlenecks. Thus, export prices were 9.5% higher year on year in October, 9.9% higher in November and as much as 10.9% higher in December 2021.²⁶ The increase in import prices was even more significant, mostly driven by prices of energy but also of inputs.²⁷

The value of German goods exports for all of 2021 was EUR 1,376 billion – around 14% higher than in 2020 and 3.6% below the pre-crisis level of 2019. In 2021 exports were 17.1% higher than in the previous year and 8.9% higher than in 2019, the year before the pandemic.²⁸ Trade in services has also grown again. Services exports were at EUR 328 billion, which was 17.5% above the value of 2020 and thus moderately above the pre-crisis level of 2019. Services imports exceeded the previous year's level by 18.5% to reach EUR 327 billion, just slightly below the value of 2019.²⁹

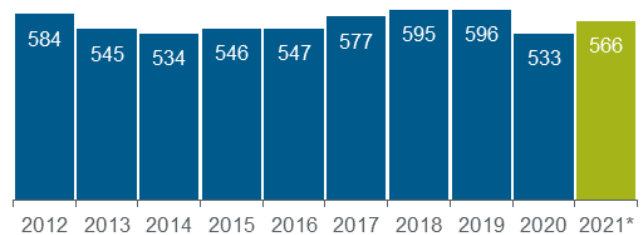
... and hampering SME exports

The development of German goods and services exports since the beginning of the coronavirus crisis is also reflected in the foreign turnover of German SMEs. In 2020 it plunged by EUR 63 billion or 10.5% on the

previous year. The decline was thus slightly less dramatic than what small and medium-sized enterprises had expected in September 2020.³⁰ Nonetheless, in the first year of the pandemic the foreign turnover of SMEs dropped to EUR 533 billion, the lowest level in more than ten years (Figure 7).

Figure 7: SMEs' foreign turnover plunged in 2020

SMEs' total international turnover in EUR billions

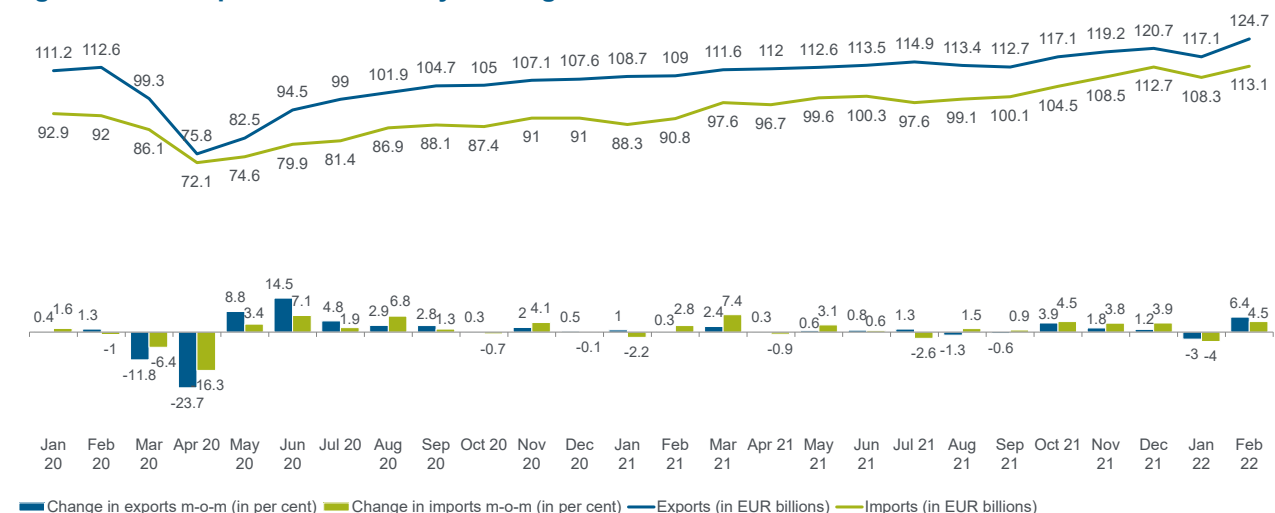


Note: Values extrapolated on the basis of the number of employees. Value for 2021 estimated. Source: KfW SME Panel 2012–2021, supplementary survey to the KfW SME Panel in March 2022.

Estimates made on the basis of the supplementary survey to the KfW SME Panel conducted in March 2022 suggest that international business likely recovered in the SME sector as well in 2021. The international turnover of SMEs was estimated to have grown by a good 6% to EUR 566 billion in 2021.

The fact that the foreign turnover of SMEs grew at a slower pace in 2021 than all of Germany's exports (+14%) is primarily due to smaller SMEs. Of the enterprises with fewer than ten employees, around 20% reported declines in foreign turnover while only 13% reported increases in 2021 on the previous year.

Figure 6: Development of Germany's foreign trade



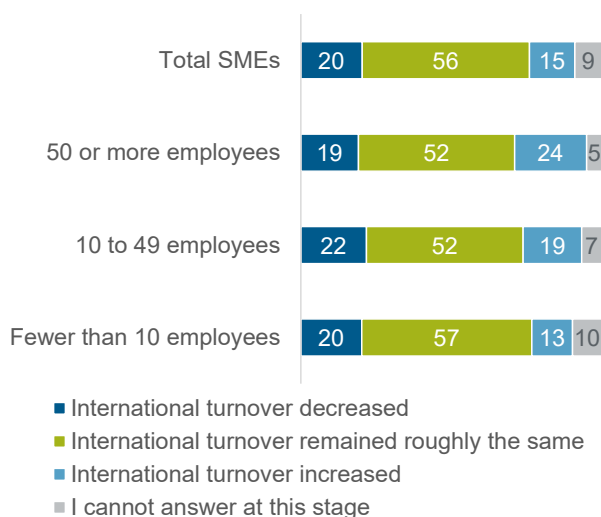
Note: Goods trade, calendar- and seasonally adjusted data.

Source: Federal Statistical Office.

Turnover increased primarily among larger SMEs with 50 and more employees (Figure 8), many of which are manufacturers. They make up less than 5% of all internationally active SMEs but generate nearly two thirds of the total volume of SMEs' foreign turnover.

Figure 8: Development of international turnover in 2021 on the previous year

Percentage of internationally active enterprises



Note: Values extrapolated on basis of the number of enterprises.

Source: Supplementary survey to the KfW SME Panel in March 2022

Non-European turnover slumped with the outbreak of the pandemic

A more differentiated analysis of the impact of the coronavirus crisis on the international activities of German SMEs can be performed for the year 2020 on the basis of the primary survey of the KfW SME Panel. The larger sample of the primary survey compared with the supplementary survey also enables an evaluation to be performed for individual SME segments and provides an insight into the regional distribution of foreign turnover.

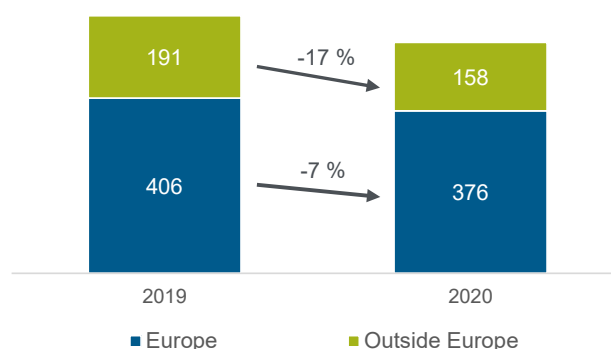
The findings show that SMEs' European business has navigated the coronavirus crisis with relatively few bruises. To be sure, turnover generated in European countries fell by 7% to EUR 376 billion in the year 2020, a slightly sharper drop than the decline in domestic turnover in the SME sector, which contracted by around 5.3% overall. However, the declines in turnover outside Europe were much more significant and amounted to EUR 33 billion or around 17% (Figure 9). That caused the share of European turnover in SMEs' total turnover to exceed 70% for the first time.

When demand in a foreign sales market slumps it may turn out that it is not worthwhile to keep serving that

market. This is particularly the case when the market in question is already more difficult to serve because of its geographical distance or legal and economic environment. Transport costs and customs duties, for example, weigh much more heavily in exports outside Europe³¹ and require appropriate export turnover. Moreover, for many SME exporters the turnover they generate outside Europe is likely concentrated in a handful of customers. Losing them means losing all the turnover in that market.

Figure 9: Turnover outside Europe has dropped most sharply

SMEs' foreign turnover in Europe and outside Europe in EUR billions



Note: Values extrapolated on basis of the number of employees.

Source: KfW SME Panel 2020–2021.

Manufacturing lost its role as a driver of SMEs' foreign turnover

Traditionally, the greatest share of foreign turnover in the SME sector – up to 50% – is earned in manufacturing. In the coronavirus year 2020, however, manufacturing failed as a driver of exports. Foreign turnover of small and medium-sized manufacturing enterprises dropped from around EUR 261 billion to roughly EUR 229 billion. It also fell in relation to total turnover of internationally active SMEs, falling from 37% in 2019 to 35% in 2020 (Figure 10).

Small and medium-sized suppliers for the automotive industry probably accounted for a major share of this drop. Here as well, the decline of total German exports was very substantial, with exports of vehicles and vehicle parts declining by more than 16% in 2020.³² The pharmaceutical industry was the only manufacturing segment to achieve significant export growth in 2020 but it accounts for a mere 7% of German goods exports.

Massive slump in the services sector

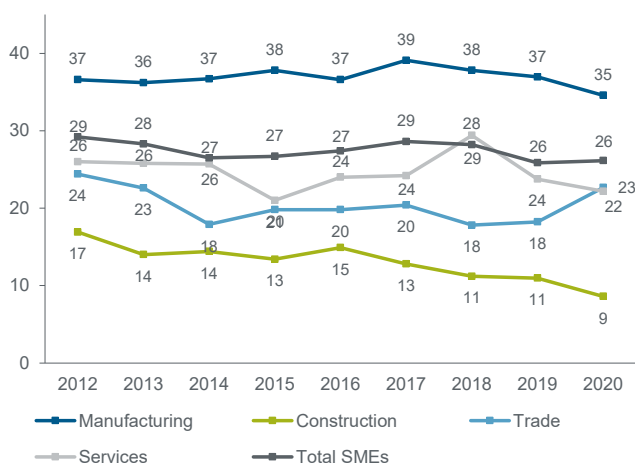
Foreign turnover of small and medium-sized services businesses fell even more dramatically than in manufacturing, slipping more than 21% from EUR 191 billion

in the pre-crisis year 2019 to EUR 152 billion in 2020. Foreign turnover of internationally active services businesses also decreased slightly relative to their total turnover, by around 2 percentage points.

This development was probably brought about primarily by tourism businesses, which had been very heavily affected by travel and contact restrictions imposed to contain the pandemic. The export of travel services collapsed by 48% in Germany in 2020. Transport services, however, also suffered a sharp drop of more than 23%. This has probably affected many small transport and logistics firms as well.

Figure 10: Share of export turnover in aggregate turnover

Percentage of international in total turnover



Note: Only internationally active enterprises. Values extrapolated on basis of the number of employees.

Source: KfW SME Panel 2012–2020.

Growth in wholesale and retail

International turnover in the trade sector turned out surprisingly positive in the coronavirus crisis. Unlike enterprises of other sectors, SME wholesalers and retailers were able to increase their foreign turnover by EUR 12 billion to EUR 152 billion in 2020. International turnover in trade also grew in relation to total turnover, to around 22%. This reflects a shift in consumption from contact-intensive services to durable consumer goods, which benefited some merchants – for example of furniture, IT equipment and bicycles.

The development and expansion of digital sales channels has probably played a significant role in this development as well. In the coronavirus year 2020 the e-commerce turnover of German SMEs grew by more than 24% on the previous year.³³ A stronger presence on the web also promotes international business. In addition to traders who actively sell their products or

services abroad through digital sales channels, many traders do not pursue an explicit internationalisation strategy but nonetheless take orders from abroad through their German online shop or marketplace presence. Customers from neighbouring countries such as Austria, Switzerland, the Netherlands and France are of particular relevance to them.³⁴ A growing share of international e-commerce in global online turnover was forecast already before the outbreak of the pandemic.³⁵

Downward trend in foreign turnover in construction continues

Foreign turnover in the construction industry is already low and has declined further in recent years. In 2020 it generated only around EUR 3 billion in foreign turnover, which was around 9% of total turnover of all internationally active enterprises (Figure 10). Only around 3% of all small and medium-sized construction and handicrafts firms operate across borders to begin with. Not least, the continuing construction boom within Germany has likely contributed to declining international activities in that sector.

Overall, the foreign share of total turnover generated by Germany's SMEs fell slightly from 13.4% in 2019 to 12.6% in 2020. In the companies that operate internationally, the foreign share of total turnover was on a similar level in 2020 as before the pandemic, at around 26% (Figure 10). The coronavirus crisis thus hit internationally active businesses just as hard at home as in their foreign markets.

Percentage of internationally active enterprises has remained steady...

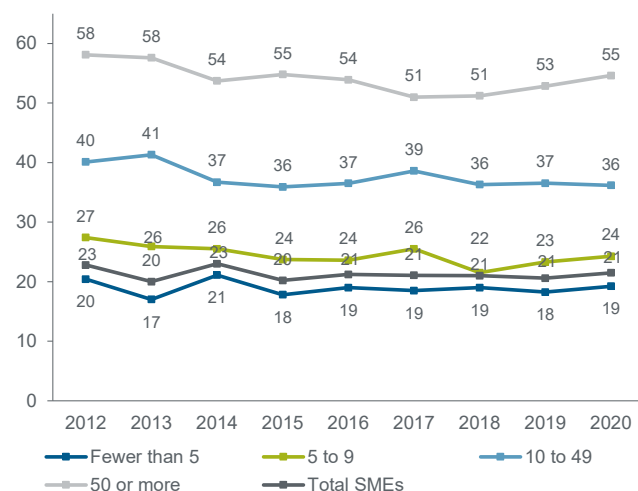
In 2020, some 816,000 SMEs generated turnover abroad, representing around 21% of the 3.8 million small and medium-sized enterprises in Germany (Figure 11). The share of internationally active SMEs has thus remained steady. The share of internationally active firms in individual size classes has also changed only moderately, by not more than 2 percentage points.

The fact that not much changed here in 2020 overall might reflect a split trend. While some internationally active SMEs stopped exporting to focus more strongly on the domestic market during the coronavirus crisis, others likely attempted to open up new markets abroad in order to at least partly offset demand losses in the domestic market. Particularly for larger SMEs that have the necessary human and financial resources, the motive of spreading risks more evenly by increasing regional diversification may have played a role. With a view to the coming years, four in ten internationally

active businesses had recently announced their intention to focus more strongly on domestic customers. By contrast, more than two in ten internationally active firms wanted to diversify their sales markets more strongly and tap into new export markets.³⁶

Figure 11: Share of internationally active SMEs by size class

Percentage of enterprises which were internationally active



Note: Size classes by number of full-time equivalent employees. Figures extrapolated on the basis of the number of enterprises.

Source: KfW SME Panel 2012–2020.

What also needs to be considered, however, is that in many countries the pandemic did not prompt lockdowns and demand losses until March 2020. The enterprises that stopped exporting permanently in response to these developments are likely to still have earned foreign turnover at least in January and February. As such, they still counted as internationally active SMEs in 2020 and were not removed from this statistic until the following years.

... but average foreign turnover has dropped sharply

For a virtually unchanged percentage of internationally active enterprises, the decline in foreign turnover occurred particularly at the intensive margin, with average foreign turnover per internationally active enterprise dropping significantly. In 2020, internationally active enterprises on average generated around EUR 650,000 in foreign turnover – more than EUR 100,000 less than in the pre-crisis year 2019.

To the extent that existing sales structures remain in place in foreign sales markets and the customers in those markets get through the coronavirus crisis largely unscathed, foreign turnover of SMEs is likely to pick up again quickly if the economic recovery in the most

important trading partner countries continues. Preliminary figures for the year 2021 would give cause for cautious optimism in this regard. The ongoing Ukraine conflict, however, could change the outlook for SMEs.

The war in Ukraine jeopardises the recovery of SMEs' foreign business

Russia and Ukraine are of rather minor importance for German exports. In 2021, only around 1.9% of German goods exports went to Russia and less than 0.4% to Ukraine. Russia plays only a very small role as a sales market for German SMEs as well. In 2015, around 11% of all internationally active German businesses were operating in Russia, little more than 2% of all small and medium-sized enterprises. In the past years, that share is likely to have dropped even further because of the tense situation in eastern Ukraine. Furthermore, most German SMEs with business in Russia are relatively well diversified – more than 80% of them generate foreign turnover in at least two further regions – and can therefore more easily make up for losses in business with Russia. Not just Russia but Ukraine, too, is likely to be a relevant foreign market for only few small and medium-sized enterprises.

However, the war in Ukraine and the sanctions imposed against Russia are expected to significantly weigh on the economic recovery in Europe. This should have a noticeable effect on external demand for goods and services from German SMEs, which generate more than two thirds of foreign turnover in Europe. The export expectations of small and medium-sized manufacturers were accordingly negative in March 2022. Compared with February 2022 they fell by a substantial 17.5 points to a balance of -13.2, as illustrated by current figures of the KfW-ifo SME Barometer.³⁷

Current export statistics do not reflect this yet. But early indicators point to a 3.7% decline in German exports in March compared with February 2022.³⁸ It is difficult at this stage to predict the future development of the economy overall. The duration and intensity of the Ukraine conflict, the development of energy prices with the risk of a suspension of gas and oil supplies from Russia, the uncertainties of the pandemic and the threat of new mutations – all this is also creating great uncertainty among SMEs.

What is clear, however, is that the consequences of Russia's attack on Ukraine will be far bigger for Russia's external trade than for western countries. Estimates based on container movements in maritime trade already reveal noticeable effects. Findings show that Russian exports in March 2022 decreased by 5.0%

and imports by 9.7% on the previous month.³⁹ Exclusion from trade relations with western countries will also hit Russia much harder in the long term than European countries or the US.⁴⁰ To what extent the massive economic damage caused by the sanctions and voluntary restraint on the part of companies will influence Putin's political rationale and bring about a rapid end to the war is very hard to assess.

Businesses and policymakers must adapt to the changed external environment

Integration into global value chains continues to provide cost advantages which enterprises that compete internationally can hardly afford to miss. But after the experience of the pandemic and with a view to the Ukraine war, businesses are likely to attach greater value not just to efficiency but to supply chain resilience as well. With regard to energy imports, it has just become drastically clear that excessive dependence on a single supplier – in this case Russia – makes businesses more vulnerable to crises and restricts their scope of action. This means enterprises once again need to reassess their value chains and adjust them where necessary. They also need to weigh the costs and benefits of greater diversification – on both the procurement and the sales side.

As before, an important field of action for policymakers will be to ensure a reliable external trade environment. After the trade policy conflicts of the past years, the time has come to return to a more rules-based trading system. The structure of trade relations – particularly with China and the US – must also take into account strategic interests. Europe will continue to be of crucial importance for the foreign business activities of SMEs. If the unity among the member states of the European Union on the Ukraine crisis provides impetus for improved cooperation in other policy areas as well, such as the creation of a digital internal market and further liberalisation of trade in services, SMEs will stand to benefit.

In addition, despite all the risks, the Ukraine conflict and the related sanctions against Russia offer the opportunity to accelerate the exit from fossil energy. This will require increased investment, among other things in energy efficiency technologies. It can generate new growth potentials for German enterprises, which are in a good starting position in the field of environmental and climate technologies.⁴¹ By creating a suitable framework and providing innovation and investment incentives, policymakers can contribute to further enhancing the technological strengths of German enterprises and help businesses overcome the reluctance to invest due to the high level of uncertainty.

KfW SME Panel

The KfW SME Panel (KfW-Mittelstandspanel) has been conducted since 2003 as a recurring postal survey of small and medium-sized enterprises in Germany with annual turnover of up to EUR 500 million.

With data based on up to 15,000 companies a year, the KfW SME Panel is the only representative survey of the German SME sector, making it the most important source of data on issues relevant to the SME sector. As it is representative of all SMEs of all sizes and across all industries in Germany, the KfW SME Panel offers the possibility to conduct projections for micro-businesses with fewer than five employees as well. A total of 11,403 SMEs took part in the current wave.

Analyses of long-term structural developments in the SME sector are performed on the basis of the KfW SME Panel. It gives a representative picture of the current situation and the needs and plans of SMEs in Germany. It focuses on annually recurring information on companies' performance, investment activity and financing structure. This tool is the only way of determining quantitative key figures for SMEs such as investment spending, loan demand and equity ratios.

The basic population used for the KfW SME Panel comprises all SMEs in Germany. These include private-sector companies from all sectors of the economy with annual turnover of not more than EUR 500 million. The population does not include the public sector, banks or non-profit organisations. Currently there are no official statistics providing adequate information on the number of SMEs or the number of people they employ. In order to determine the population of SMEs for 2020 and the population of employees at SMEs in 2020, the German Company Register (Unternehmensregister) and the official employment statistics (Erwerbstätigenrechnung) were used as a starting point for the 2021 survey.

The KfW SME Panel sample is designed in such a way that it can generate representative and reliable data. The sample is split into four groups: type of promotion, branches, firm size as measured by the number of employees, and region. In order to draw conclusions on the basic population based on the sample, the results of the survey are weighted. The four main group characteristics are used to determine the extrapolation factors. These factors look at the distribution in the net sample (in line with the four group characteristics) in relation to their distribution in the population as a whole. Overall, two extrapolation factors are determined: an unlinked factor for extrapolating qualitative parameters to the number of SMEs in Germany, and a linked factor for extrapolating quantitative parameters to the number of employees in SMEs in Germany.

The survey is conducted by the Financial Services Division of GfK SE on behalf of KfW Group. The project received expert advice from the Centre for European Economic Research (ZEW) in Mannheim. The main survey of the 19th wave of the KfW SME Panel was conducted in the period from 15 February 2021 to 25 June 2021.

Supplementary surveys as part of the KfW SME Panel

The analyses undertaken to determine the effect of supply bottlenecks on SMEs are based on two supplementary surveys conducted as part of the KfW SME Panel. To this end, the Financial Services Division of GfK SE conducted a representative online survey of small and medium-sized enterprises on the current impacts of supply bottlenecks on behalf of KfW Group (1–10 September 2021 and 7–14 March 2022).

All enterprises that had already participated in an earlier wave of the KfW SME Panel and had provided a valid email address were interviewed. Responses from around 2,400 enterprises were evaluated in the September 2021 survey and from more than 2,200 enterprises in the March 2022 survey. As the supplementary survey was linked to the main database of the KfW SME Panel, its results provide a representative picture of the current impact of supply bottlenecks.

Further information can be obtained at www.kfw-mittelstandspanel.de.

¹ Cf. i. a. Wollmershäuser, T., Ederer, S., Fourné, F., Lay, M., Lehmann, R., Link, S., Möhrle, S., Šauer, R., Wohlrabe, K. and Zarges, L. (2022): ifo Economic Forecast Spring 2022: Consequences of the Russian-Ukrainian War Slow the German Economy, Munich; Ademmer, M., Jens Boysen-Hogrefe, J., Groll, D., Jannsen, N., Kooths, S., Meuchelböck, S. and Sonnenberg, N. (2022): Recovery at risk – Soaring Inflation, Kiel Institute Economic Outlook Germany, No. 89, Kiel.

² Cf. Flottau, J. (2022): Lufthansa plant 2022 mit 70 Prozent der Vorkrisen-Nachfrage (*Lufthansa plans to operate at 70 per cent of pre-crisis demand* – our title translation, in German only), Süddeutsche Zeitung dated 3 January 2022.

³ Cf. Clinknick, R. (2022): Ukraine invasion impacts Asia-Europe freight flows, International Railway Journal vom 25.03.2022.

⁴ Cf. Demircan, O. (2022): Exporte von Öl, Getreide, Stahl – Das Schwarze Meer wird zum Nadelöhr für die Weltwirtschaft, (*Exports of oil, cereals and steel – the Black Sea is becoming a bottleneck for the global economy* – our title translation, in German only), Handelsblatt dated 2 March 2022.

⁵ Cf. Schlautmann, C. and Koenen, J. (2022): Gestörte Zugstrecken, Lkw-Engpässe, gesperrter Luftraum: Ukraine-Krieg bedroht deutsche Versorgungswege, (*Disrupted railways, trucking bottlenecks, closed airspace: Ukraine war threatens German supply routes* – our title translation, in German only), Handelsblatt dated 28 February 2022.

⁶ Cf. Destatis (2021): Foreign trade – Ranking of Germany's trading partners in foreign trade, Fachserie 7, Reihe 1, Wiesbaden.

⁷ Cf. World Trade Organization (2021): World Trade Statistical Review 2021, Genf.

⁸ Cf. Mendelson, B. (2021): Die größten Containerhäfen der Welt 2021, (*The world's largest container ports in 2021* – our title translation, in German only), Handelsblatt dated 30 March 2021.

⁹ Cf. Kiel Institute for the World Economy (2022): Kiel Trade Indicator: Freight on stationary ships, as at 20 March 2022.

¹⁰ Cf. OECD (2022): Ocean shipping and shipbuilding, retrieved on 4 April 2022.

¹¹ In Germany, for example, household consumption expenditure on hospitality and accommodation in 2020 was 35% below the previous year's level, while expenditure on interior decoration and fittings and household appliances rose by 13%. Cf. Destatis (2022) Household final consumption expenditure down by nearly 3% in 2020, Press release No. 531 from 22 November 2021, Wiesbaden.

¹² Cf. also Treier, V. and Herweg, C. (2022): Global supply chains are under pressure (in German), ifo Schnelldienst 1/2022, p. 8–11, Munich.

¹³ Only a good 2% of all SMEs generate foreign turnover in China. Cf. Abel-Koch, J. (2017): The world is not a village – geographic proximity to export markets is crucial to SMEs, Focus on Economics No. 182, KfW Research

¹⁴ Cf. Abel-Koch, J. (2022): Der Ukraine-Konflikt birgt Risiken - auch für den deutschen Mittelstand (*The Ukraine conflict harbours risks - also for German SMEs* - in German only), Economics in Brief No. 220, KfW Research.

¹⁵ Cf. German Council of Economic Experts (2022): Updated economic outlook for 2022 and 2023 (in German), Wiesbaden.

¹⁶ Cf. Destatis (2022), Producer prices in February 2022: +25.9% on February 2021, press release No. 123 dated 21 March 2022, Wiesbaden.

¹⁷ Cf. German Council of Economic Experts (2022): loc. cit.

¹⁸ Cf. ifo Institute (2022): Supply Problems Worsening Again in German Retail, press release dated 1 March 2022, Munich.

¹⁹ Cf. Abel-Koch, J. (2021): Supply bottlenecks are significantly impacting all areas of the SME sector, Focus on Economics No. 351, KfW Research.

²⁰ Cf. Destatis (2022): Manufacturing in January 2022: unfilled orders -1.3% on the previous month, press release No. 119 dated 18 March 2022, Wiesbaden.

²¹ Thus, 26% of services enterprises and 25% of manufacturing firms recently described skills shortages as a factor that limited production, cf. Services Survey and Industry Survey of the European Commission.

²² Cf. German Council of Economic Experts (2022): loc. cit.

²³ Cf. VDA (2022): Unterstützung der Sanktionen - erhebliche Auswirkungen des Krieges, (*Supporting the sanctions – significant impact of the war* – our title translation, in German only) retrieved on 4 April 2022. One way out is for suppliers to move their production facilities. However, this is often costly and time-consuming and can hardly be managed by suppliers without support from off-takers. It would also require official approvals from Ukraine. Cf. Fasse, M., Höpner, A., Hubik, F., Menzel, S. and Schütze A. (2022): Autohersteller helfen Zulieferern bei Verlagerung der Produktion, (*Automakers help suppliers move production* – our title translation, in German only) Handelsblatt dated 15 March 2022.

²⁴ Including freight and insurance costs of exports, cf. balance of payments statistics of the Deutsche Bundesbank

²⁵ Cf. Destatis (2022): Exports of passenger cars down 17.2% in the 3rd quarter of 2021 year on year, press release No. 540 dated 29 November 2021.

²⁶ Cf. Destatis (2022), Index of export prices, as at 3 February 2022, Wiesbaden.

²⁷ Cf. Destatis (2022): Import prices in December 2021: +24.0% on December 2020, press release No. 038 dated 28 January 2022, Wiesbaden.

²⁸ Cf. Destatis (2022): Exports in December 2021: +0.9% on November 2021, press release No. 052 dated 9 February 2022, Wiesbaden.

²⁹ Cf. Including freight and insurance costs of exports, cf. balance of payments statistics of the Deutsche Bundesbank

³⁰ Cf. Abel-Koch, J. (2021): KfW Internationalisation Report 2021 – Coronavirus crisis sends SMEs' international business tumbling, KfW Research.

³¹ Cf. Abel-Koch, J. (2020) KfW Internationalisation Report 2020 – German SMEs' foreign trade – economic impact of coronavirus crisis eclipses concern over trade conflicts, KfW Research.

³² Cf. Destatis (2022): German car exports below pre-crisis level in 2021, press release No. N 009 dated 24 February 2022, Wiesbaden.

³³ Cf. Schwartz, M. (2021): KfW SME Panel 2021 – SMEs have shown adaptability in the coronavirus crisis but cracks are appearing in the foundations of small businesses, KfW Research.

³⁴ Cf. ibi research (2019): Internationaler E-Commerce – Chancen und Herausforderungen aus Händlersicht (*International e-commerce – opportunities and challenges for traders – our title translation, in German only*), Regensburg.

³⁵ Cf. i.a. ibi research (2020): Internationaler Online-Handel: Erfolgsfaktoren bei der Erschließung internationaler Märkte (*International online trade: success factors for tapping into international markets – our title translation, in German only*), Regensburg; European Commission (2019): Development of Cross-border E-commerce through Parcel Delivery, Brussels.

³⁶ Cf. Abel-Koch, J. (2021): loc. cit.

³⁷ Cf. Scheuermeyer, P. (2022) KfW-ifo SME Barometer March 2022 – Attack on Ukraine has sent business expectations into a tailspin, KfW Research.

³⁸ Cf. Kiel Institute for the World Economy (2022): Kiel Trade Indicator, as at 6 April 2022.

³⁹ Cf. Kiel Institute for the World Economy (2022): loc. cit.

⁴⁰ Cf. Felbermayr, G, Mahlkow, H. and Sandkamp, A. (2022): Cutting through the Value Chain: The Long-Run Effects of Decoupling the East from the West, Kiel Working Paper No. 2210, Kiel.

⁴¹ Cf. Prognos (2021): Globalisierung in der Krise – Die deutschen Unternehmen brauchen neue Wachstumsstrategien (*Globalisation in crisis – German enterprises need new growth strategies – our title translation, in German only*), Basel, as well as Abel-Koch, J. and Ullrich, K. (2021): Low globalisation momentum requires adjustment of German companies' growth strategies, Focus on Economics No. 349, KfW Research.