



KfW Research

# »»» KfW Internationalisation Report 2023

Many SMEs currently perform better than their foreign competitors but see need for action to secure their future competitiveness

## **Imprint**

### **Published by**

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Frankfurt / Main, July 2023

## Many SMEs currently perform better than their foreign competitors but see need for action to secure their future competitiveness

The international turnover of German SMEs has rebounded from the COVID-19 crisis. In 2021 it amounted to EUR 617 billion, which was not just more than the previous year but well above the pre-crisis level. In terms of both international turnover and the number of internationally active companies, SMEs continue to make an important contribution to Germany's total exports. But the war in Ukraine presents new challenges for SMEs. Rising energy costs, high inflation and persistent supply bottlenecks clouded export expectations in 2022. Given the weak economy in Europe and the slowdown of global economic growth, export demand is likely to remain subdued this year as well.

In the long term, the development of international turnover in the SME sector and, with it, the success of Germany's export-oriented economy will depend less on cyclical fluctuations than on the ability of businesses to hold their own in global competition. Measured against the total number of 3.8 million SMEs that exist in Germany, the 10% of small and medium-sized enterprises competing internationally is a modest share. However, a disproportionately large share of these consists of larger manufacturing firms that are heavily geared towards foreign markets. They are among the main drivers of turnover, employment and investment in the SME sector.

For SMEs, international competition primarily means European competition. Major foreign competitors of around 60% of the 380,000 small and medium-sized enterprises are located in Europe. Outside Europe, China is the main source of competition. Businesses from the US and the United Kingdom play a role particularly for services enterprises.

SMEs currently see themselves as being well-positioned in international competition in many respects. Skilled workers and the positive 'Made in Germany' image still represent key strengths in global competition. Many manufacturing firms are able to score points with innovative products of high quality despite growing competition, particularly from China. Many SMEs also believe they are better off than their foreign competitors with regard to the cost of labour, raw materials and inputs as well as energy. With regard to the integration of digital technologies, there are a number of latecomers, especially in the manufacturing sector, but at least as many trailblazers. Overall, the current situation is thus

more positive than the public debate suggests.

The majority of businesses are also optimistic about their future competitive position. Around half of SMEs expect to be able to maintain their position in international competition. Roughly one third even expect to move up. But one fifth of those small and medium-sized enterprises that have important competitors abroad are concerned that their own competitive position may deteriorate. Energy-intensive enterprises in particular are pessimistic in this respect.

Nevertheless, Germany's SMEs believe high energy costs are neither the only risk nor the greatest risk. They are worried about bureaucracy more than anything else. Around 48% of all SMEs with major foreign competitors see it as a high risk to their future competitiveness at their German location. They regard taxes and levies as well as environmental and climate regulations as slightly less of a problem. The shortage of skilled workers and inadequate digital infrastructure pose more of a risk to manufacturing firms. The supply of raw materials and inputs, which many SMEs regard as being under threat or even in considerable danger, is also in need of attention.

These findings provide important starting points for policymakers, who can create the enabling conditions and thereby contribute to securing and expanding Germany's international competitiveness and attractiveness as a business location. However, businesses have to take responsibility as well, as they must adapt to a changing global competitive environment and to the challenges facing Germany and need to take appropriate measures aimed at mitigating possible risks.

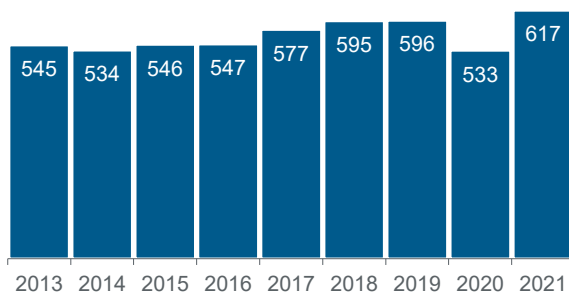
### After recovering from the COVID-19 crisis, SMEs' international operations are feeling the effects of the Ukraine war

The pandemic caused the foreign turnover of Germany's SMEs to plunge to EUR 533 billion in 2020 – the lowest level in more than ten years. Since then, SMEs' international turnover has rebounded noticeably from this shock (Figure 1). In 2021 it amounted to EUR 617 billion, which was not just well above the previous year's figure but above the pre-crisis level of EUR 596 billion in 2019. The international turnover generated by German SMEs thus represented around 36.1% of Germany's total goods and services exports

in 2021 – a similar share as before the COVID-19 crisis.<sup>1</sup> The share of SMEs that generated international turnover hardly changed as well, reaching just under 21% in 2021. Around 790,000 of the 3.8 million SMEs exported their products or services, while a significantly lower number sold them abroad through a foreign sales subsidiary. It is true that among large enterprises – defined as those with an annual turnover in excess of EUR 500 million – the share of companies with international operations was much higher in 2021, at around 61%. But there are only around 1,800 large enterprises in Germany and, hence, only just 1,100 large enterprises with international turnover.<sup>2</sup> In terms of both international turnover and the number of internationally active companies, SMEs thus continue to make an important contribution to Germany's total exports.

**Figure 1: SMEs' international turnover rebounded from the COVID-19 shock**

SMEs' total international turnover in EUR billions



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

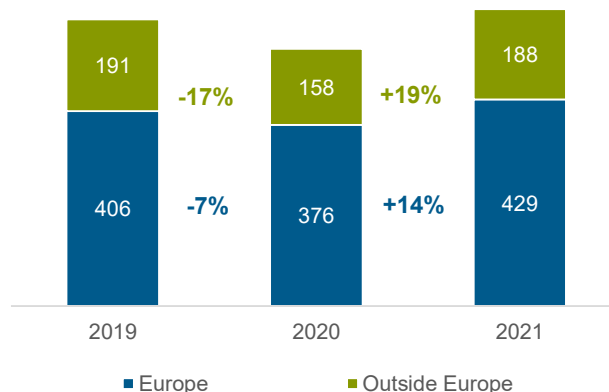
Source: KfW SME Panel 2014–2022

The rebound of SMEs' international turnover has benefited particularly from the growth of turnover generated in Europe (Figure 2). After plummeting by some 7% in 2020, it rose by 14% to EUR 429 billion in 2021 – roughly EUR 23 billion more than in 2019, before the outbreak of the COVID-19 pandemic. Turnover generated by SMEs outside Europe, which fell particularly steeply in the first crisis year 2020, also recovered significantly in 2021. At EUR 188 billion, however, it was still slightly below the pre-COVID-19 crisis level.

International turnover is a nominal figure that must be seen against the backdrop of rising prices. Up to the year 2021, however, inflation was relatively low. That means the international business operations of German SMEs are likely to have largely digested the economic impact of the COVID-19 pandemic.

**Figure 2: European business operations surpass pre-crisis level**

SMEs' international turnover in and outside Europe in EUR billions



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

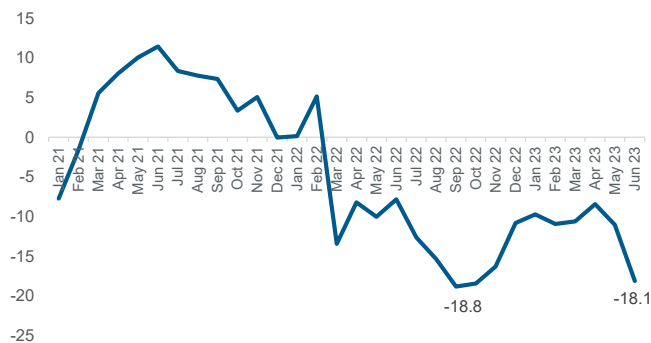
Source: KfW SME Panel 2020–2021

But Russia's ongoing war in Ukraine since February 2022 presents new challenges for SMEs. Rising energy costs, high inflation, persistent supply bottlenecks and the associated weak economic performance in Germany and Europe are also hampering the international business of small and medium-sized enterprises. According to the KfW-ifo SME Barometer, SMEs' export expectations deteriorated significantly with the start of the war, dropping to a new low of -18.8 points in September 2022 (Figure 3). In the same month, in a supplementary survey to the KfW SME Panel, around 13% of SME exporters in Germany reported declines in turnover due to falling international demand.<sup>3</sup>

To be sure, export expectations brightened again into spring as a result of easing burdens from the energy crisis and material bottlenecks.<sup>4</sup> However, they recently declined sharply again as a result of the disappointing development of China's economy and the technical recession in the US, again reaching a mere -18.1 balance points in June 2023.<sup>5</sup> Against this backdrop, the development of SMEs' international turnover in the past months has likely been roughly as mixed as the development of Germany's overall exports.

The European Central Bank's restrictive monetary policy is likely to continue having a dampening effect on the euro area business cycle. The outlook for the global economy has also dimmed. KfW Research currently expects gross domestic product to grow by -0.3% in Germany and 0.8% in the euro area on a price-adjusted basis in 2023. Its forecast for real global GDP growth is 2.8%. Demand for German export goods is therefore likely to remain subdued in the coming months as well.<sup>6</sup>

**Figure 3: KfW ifo Export Expectations of the SME manufacturing sector**



Note: Balance (in percentage points) of percentages of positive and negative responses on export expectations for the coming three months (seasonally and mean adjusted). Enterprises are generally classed as small to medium-sized if they employ a workforce of not more than 500 and record an annual turnover not exceeding EUR 50 million.

Source: KfW Research, Ifo Institute

### International competitiveness is decisive for the success of the German economy

In the long term, the development of international turnover in the SME sector and, with it, the success of Germany's export-oriented economy will depend less on cyclical fluctuations than on the ability of businesses to hold their own against their foreign competitors in the global markets. Concerns that the international competitiveness of German enterprises might erode and Germany might become less attractive as a business location in the future have recently been exacerbated again by rising energy prices resulting from the suspension of Russian gas supplies. The geopolitical shifts reflected by Russia's invasion of Ukraine, but also by the tense relationship between some western industrialised countries and China, have highlighted Germany's heavy dependence on energy and raw materials imports. There are also concerns that state subsidies in third countries may create unfair competitive conditions that can lead to disadvantages for German enterprises. In this context, the US Inflation Reduction Act recently created a stir in Europe.

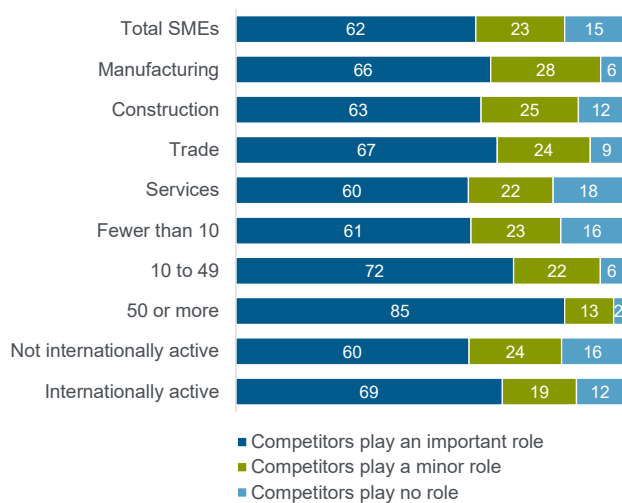
Are the concerns of SMEs over international competitiveness justified? How heavily are SMEs actually involved in international competition? How well-positioned do small and medium-sized enterprises feel they are compared with their foreign competitors and how can their competitive position be expected to develop? In what areas do SMEs believe there is a particular need for action to safeguard competitiveness at their German location? These questions are the focus of this year's KfW Internationalisation Report, for which we evaluated findings from a supplementary survey to the KfW SME Panel in March 2023. More than 2,200 enterprises participated. The findings are representative of the German SME sector and paint a differentiated picture of the international competitiveness of small and medium-sized enterprises in Germany which informs the debate around the future attractiveness of the country as a business location.

### Large SMEs are more likely to experience competition in sales markets

Irrespective of the origin of possible rivals, competition in sales markets is a relevant topic for most SMEs. Around 62% of all small and medium-sized enterprises in Germany have major competitors in their domestic and international sales markets. Competitors play only a minor role for around 23% and no role at all for a further 15% (Figure 4). Competitive pressure is relatively high in manufacturing and commerce. It is slightly lower in the services sector, where four in ten businesses have no major competitors. Competitors play an increasingly important role as the size of the enterprise grows – and with it, the size of the sales region. This is also reflected in the higher share of internationally active enterprises that are under competitive pressure. Around 69% of them have major competitors, compared with 60% of companies that do not operate abroad.

**Figure 4: Competitive pressure grows with enterprise size**

Percentage of enterprises



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

Source: Supplementary survey to the KfW SME Panel in March 2023

### Germany's SMEs have a strong regional focus...

The sales markets of small and medium-sized enterprises are often located in their region. Nine in ten SMEs generate turnover within a radius of up to 50 km around their headquarters. Only half of them supply more distant domestic sales markets, and only around one fifth generate turnover outside Germany.<sup>7</sup>

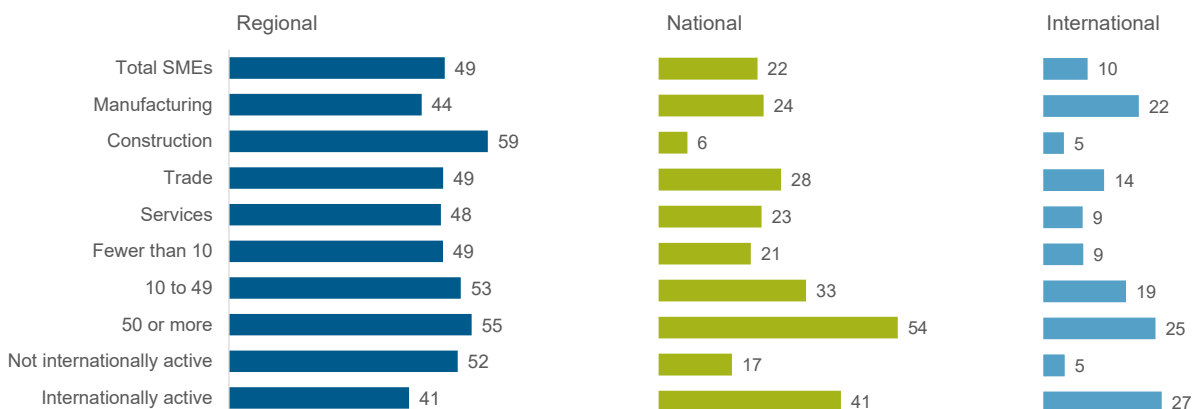
Accordingly, the competitors of SMEs are mostly situated within the same region (Figure 5). Thus, competitors from the immediate vicinity play a major role for 49% of small and medium-sized enterprises. Domestic rivals situated further away are relevant competitors for customers and market share for only 22% of SMEs and only one in ten SMEs have important competitors from outside Germany. That means around 380,000 small and medium-sized enterprises in Germany compete directly with international counterparts.

### ... as the majority of enterprises are small...

The strong regional focus of German SMEs is primarily explained by the fact that the vast majority of businesses is very small. In the year 2021, around 91% of the 3.8 million SMEs had fewer than ten employees, roughly 7% had between ten and 49 employees and only around 2% had 50 or more employees.<sup>8</sup> The smaller the enterprise size class, the lower the share of international activities (Figure 6). Thus, in 2021 around 52% of businesses with 50 and more employees were exporters but only 37% of companies with ten to 49 employees. The share of internationally active small businesses with five to nine employees recently stood at 25% and among those with fewer than five employees it was even a mere 18%.

**Figure 5: Most competitors of SMEs are located regionally**

Percentage of enterprises for which regional, national and international play an important role, by sector, size class and international activity. Multiple answers were possible.

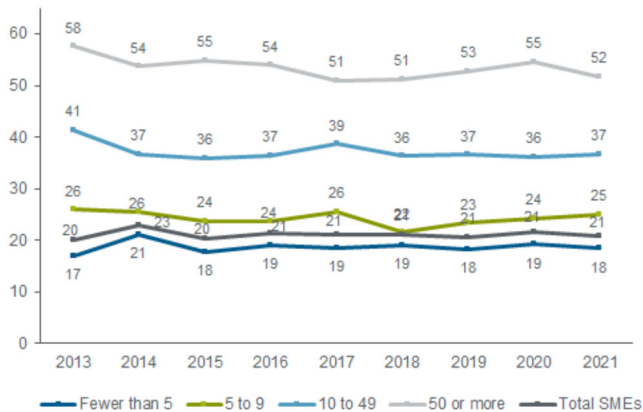


Note: Regional means within Germany, situated up to 50 km away from the corporate headquarters. National refers to all remaining areas within Germany. Size classes by number of full-time equivalent employees. Internationally active enterprises are all SMEs that generated international turnover in the year 2021. Figures extrapolated on the basis of the number of enterprises.

Source: Supplementary survey to the KfW SME Panel in March 2023

**Figure 6: Share of internationally active SMEs by size class**

Percentage of internationally active enterprises



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

Source: KfW SME Panel 2014–2022

Small businesses are also less likely to be in direct competition with foreign rivals in the domestic sales market either. Overall, international competitors therefore play an important role for only 9% of enterprises with fewer than ten employees.

International competitors are much more relevant for larger SMEs, with around 25% of businesses with 50 and more employees facing important competitors from abroad. Their share in all SMEs competing internationally is therefore disproportionately high. At the same time, large SMEs carry enormous economic weight, even if they account for only a small portion of 2% of all SMEs. In 2021 they generated around 44% of all turnover in the SME sector and employed some 51% of all workers on the payrolls of small and medium-sized enterprises. They were also responsible for a significant 43% of new investments by SMEs that same year.<sup>9</sup>

### ... and operate in the services sector

Another reason SMEs generally do not compete more on the international stage is the high proportion of service providers among them. They include, for example, restaurants and hotels, transport service providers, architecture and engineering firms, law firms, tax and business consulting firms, as well as companies in education, healthcare, culture and the arts. They account for around 64% of all SMEs but only a small portion of them face major competition from abroad (Figure 5). Foreign competitors are more relevant in areas where services can be delivered more easily across borders, for example in the transport sector or in research and development, where ideas, concepts and results are shared mostly digitally.

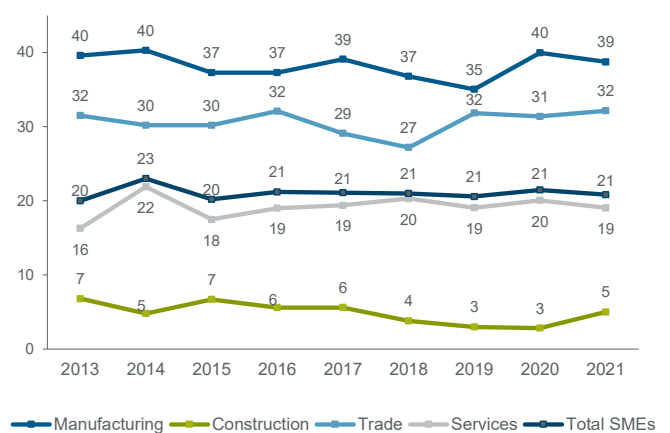
Only construction firms are even less likely to compete internationally than service providers. Factors that likely play a role here include the fact that services usually need to be rendered at the building site, making it difficult for providers from more distant domestic areas or from abroad to compete with local SMEs. By contrast, around 15% of wholesalers and retailers have major international competitors. Not least, this is likely due to the growing importance of digital sales channels, which are making it easier not just for German enterprises to do business internationally but for foreign competitors to access the German market.

### Manufacturing sector faces the most international competition

Manufacturing SMEs are most likely, by far, to face competitors from abroad. They play an important role for 22% of them. By contrast, the share of businesses that have important competitors in their region stands at 44%, which is lower than in other sectors (Figure 5). The greater competitive pressure from abroad can be attributed not least to the high share of internationally active manufacturers. In 2021, that share was 39% (Figure 7). In the services sector it was only 19% and in construction only 5%.

**Figure 7: Share of internationally active SMEs by sector**

Percentage of internationally active enterprises



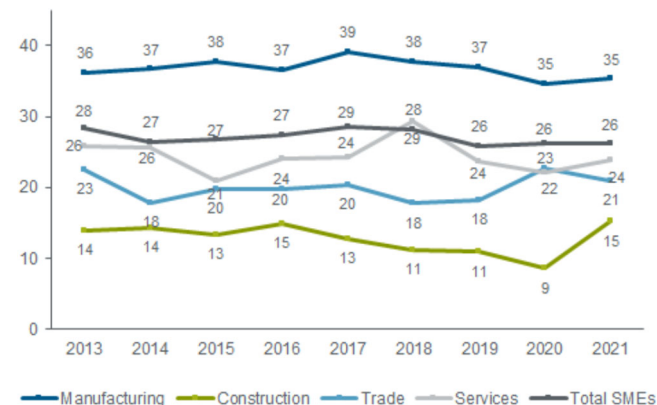
Note: Figures extrapolated on the basis of the number of enterprises

Source: KfW SME Panel 2014–2022

In manufacturing, not only is the share of internationally active SMEs significantly higher than in other sectors but so is the share of international turnover in overall turnover (Figure 8). Thus, internationally active manufacturers generated more than one third of their total turnover abroad in 2021, as they did in previous years. That share was only one quarter in the services sector and a mere one fifth in wholesale and retail trade.

**Figure 8: Share of international turnover in total turnover by sector**

Percentage of international in total turnover



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

Source: KfW SME Panel 2014–2022

Manufacturers thus make up less than 6% of the 3.8 million small and medium-sized enterprises in Germany but more than 12% of all SMEs that compete internationally. Manufacturing contributes disproportionately to total turnover in the SME sector as well as to employment and investment – as is the case with the segment of large SMEs.<sup>10</sup> Furthermore, business service providers, which represent around 32% of all SMEs, also depend heavily on the manufacturing sector. The debate around the international competitiveness of Germany's economy and its future as a business location typically focuses on the manufacturing sector. That is why this sector also receives special attention in the analysis of the competitiveness of SMEs.

In summary, only a moderate number of SMEs directly compete internationally – barely 10% of the 3.8 million small and medium-sized enterprises in Germany. However, a disproportionately large share of them is made up of larger corporations and manufacturing firms that are heavily geared towards foreign markets and are among the main drivers of turnover, employment and investment in the SME sector. Their position in global competition thus exerts a significant influence on the development of SMEs and, hence, on growth and prosperity in Germany.

### Foreign competitors come mainly from Europe – but also from China

For German SMEs, international competition primarily means European competition. Major foreign competitors of around 60% of the 380,000 small and medium-sized enterprises are located in Europe (Figure 9). This closely correlates with the export activities of German SMEs, which generate nearly 70% of all their international turnover within Europe. Their most important export markets lie in neighbouring countries – primarily in Austria and Switzerland, the Benelux countries and France.<sup>11</sup> There, German exporters compete closely with local businesses.

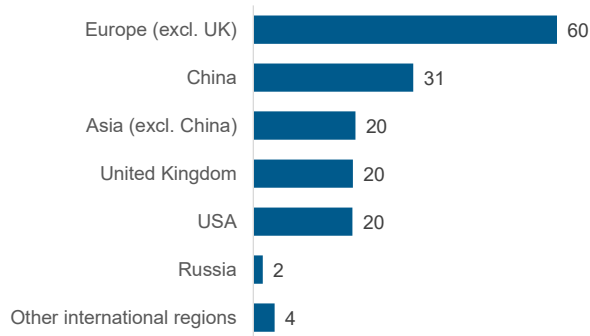
When an SME sends exports to a particular country, however, that does not always imply that the businesses domiciled there also become important competitors. After all, the export turnover an SME generates in another country is often low compared with its turnover in Germany and so is the significance of competitors from that country. This also explains why foreign competitors play an important role for only 27% of all internationally active companies, not for all of them.

Conversely, a number of SMEs that have no international business also face competition from abroad. They feel competitive pressure from imports. The sample size is limited, but the findings indicate that competitors from China and other Asian countries – and for services primarily from the United Kingdom – are more relevant for these SMEs than for exporting SMEs.

Taking into account all SMEs that compete internationally – both exporters and non-exporters – around 30% have major competitors from China (Figure 9). That makes China the main source of competition outside Europe. Competitors from China play a key role primarily for manufacturers but also for commerce. Other regions of Asia are the source of competition for a further 20% of small and medium-sized enterprises. For another one fifth, competitors are domiciled in the United Kingdom or the US. Competitors from these countries are particularly relevant for service providers. Russia does not play an important role for SMEs – at least not as a competitor for market share in the sales markets that are of relevance for them.

**Figure 9: Origin of major international competitors**

Percentage of enterprises for which competitors from the respective region play an important role in all enterprises for which competitors from abroad play an important role



Note: Figures extrapolated on the basis of the number of enterprises

Source: Supplementary survey to the KfW SME Panel in March 2023.

### Increasing competitive pressure from China

In recent years, competition from Chinese enterprises has increasingly come into the spotlight of public debate in Germany. Importantly, the debate points to the extensive and opaque subsidies provided to Chinese enterprises, for example through direct financial assistance, low-cost loans or tax benefits. According to estimates by Prognos, China's subsidies are three to four times as high as in Germany in relation to gross domestic product.<sup>12</sup> The fact that competitive pressure from China has increased is evident not just in business surveys.<sup>13</sup> Foreign trade statistics also contain some indications. Thus, the share of goods imports from China to the European Union increased significantly in the period from 2000 to 2019, whereas Germany's shares have trended downward since 2005, even though the exchange rate-driven competitiveness on price has tended to improve.

At the same time, Chinese exports have very clearly shifted towards high-quality industrial goods.<sup>14</sup> That means China is no longer the world's workbench but is becoming a leading high-tech player in areas such as artificial intelligence, autonomous driving and battery technology. The demand of German businesses for fair competitive conditions is therefore understandable from the perspective of SMEs as well. The German Federal Government's new China strategy recognises this and is pledging political support to German enterprises in dealing with instances of discrimination.<sup>15</sup>

### SMEs perform well in many aspects of international competitiveness

German SMEs currently see themselves as performing well in many aspects of international competitiveness. Besides clear strengths, however, they also have some weaknesses. Particularly in manufacturing, some firms are positioned less favourably in some aspects than their international competitors.

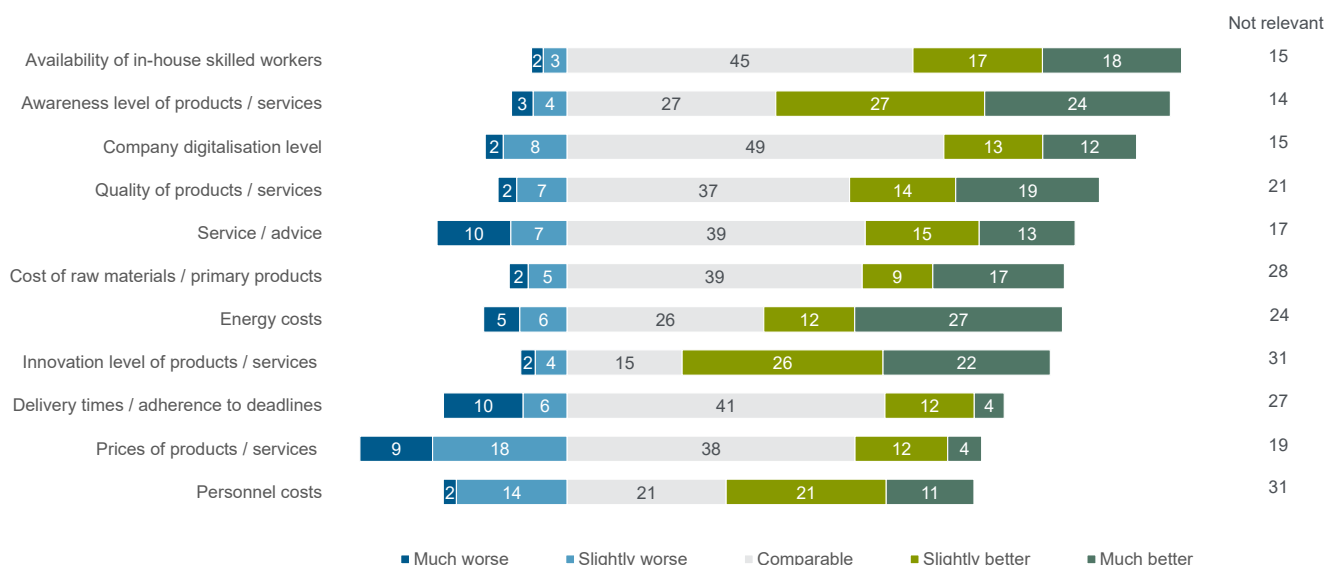
### Small and medium-sized enterprises see their skilled workers as a clear competitive advantage

Germany's SMEs still regard skilled workers as a major competitive advantage (Figure 10). In terms of availability of skilled workers within the enterprise, 17% of all SMEs competing internationally perform slightly better and another 18% even significantly better than their most important competitors. Almost half regard their supply of skilled labour to be at least comparable. A mere 5% of all SMEs believe they are less well staffed with skilled workers than major international competitors.

The current situation for manufacturers is similarly positive (Figure 11). A notable 30% of all SMEs in this sector are significantly better equipped with skilled workers than their competitors. Nevertheless, around 14% of businesses also rate their staffing level less favourably than that of their most important competitors.

**Figure 10: How do German SMEs view their international competitiveness?**

Percentage of enterprises that see their performance in the respective aspect as much worse / slightly worse / comparable / slightly better / much better than that of their most important competitors



Note: Only enterprises for which international competitors play an important role. Figures extrapolated on the basis of the number of enterprises

Source: Supplementary survey to the KfW SME Panel in March 2023

### With respect to labour costs, SMEs believe they are slightly less well positioned

Qualified workers cause high labour costs – especially when they are in short supply in the labour market. Accordingly, businesses rate their labour cost situation less positively than their availability of skilled labour. While 80% of businesses believe they are in a comparable or better position with regard to the availability of skilled labour, only 53% think the same about their labour costs. Manufacturing SMEs competing internationally, too, perform less well with respect to labour costs compared to other business factors.

This is hardly surprising as Germany is among the EU countries with the highest labour costs. In 2022, manufacturing enterprises paid an average EUR 44 per hour worked, 44% more than the EU average. Labour costs in Germany's services sector were also 26% above the EU average.<sup>16</sup> Labour costs are also well above the level in China, although they have risen significantly there since 2010.<sup>17</sup> To be sure, the productivity level in Germany is high by international standards. But it is not sufficiently high to cancel out the disadvantage in labour costs. As a result, Germany is also above the level of major European and non-European competitors in regard to unit labour costs – labour costs per unit of value-added, which are decisive for price competitiveness.<sup>18</sup>

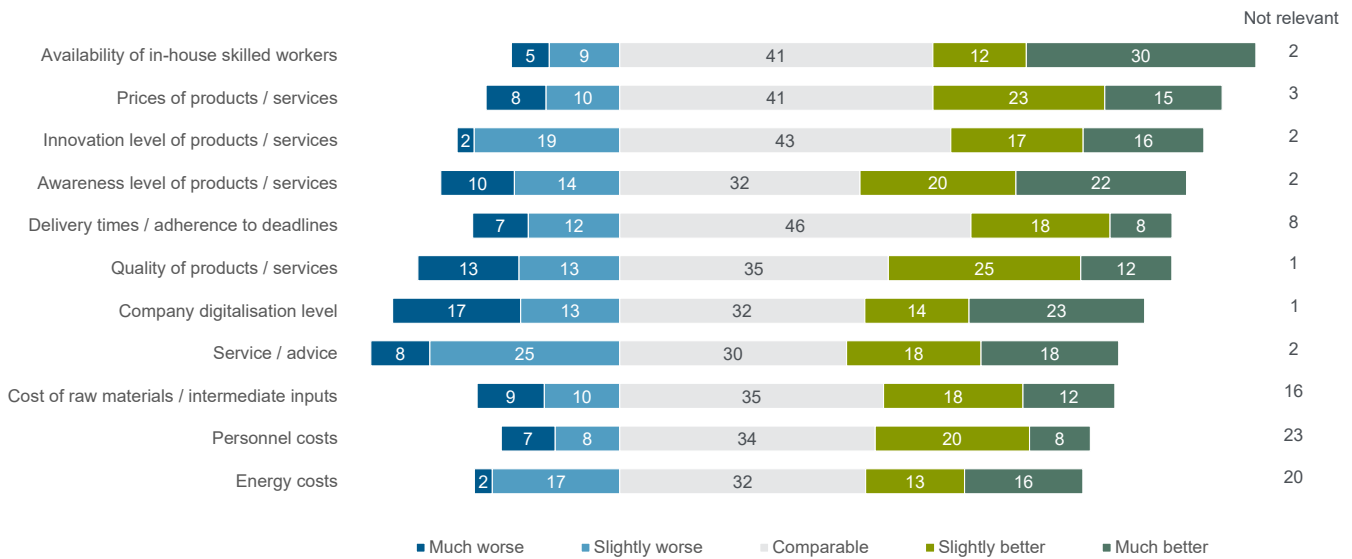
### Costs of raw materials hamper competitiveness primarily in manufacturing

Raw materials and intermediate inputs are a further cost factor that is decisive for international competitiveness, particularly in manufacturing. Small and medium-sized manufacturing firms are still performing relatively well in this respect. Around two thirds consider themselves to be in a comparable or even better position than their foreign competitors with regard to the costs of raw materials and intermediate inputs (Figure 11). However, the share of industrial firms with important foreign competitors that see themselves as being at a disadvantage sits at around 19%.

The costs and availability of raw materials and intermediate inputs have acquired new relevance as a result of the supply bottlenecks caused by the COVID-19 pandemic.<sup>19</sup> Russia's attack on Ukraine and the suspension of Russian natural gas supplies in the wake of western sanctions have highlighted the consequences of excessive dependence on individual countries. Like the production of natural gas, the extraction and processing of mineral resources, too, is concentrated in only a few countries, primarily China and Australia, but also Brazil, Russia, Chile and the USA.

**Figure 11: How do manufacturing SMEs view their international competitiveness?**

Percentage of enterprises that see their performance in the respective aspect as much worse / slightly worse / comparable / slightly better / much better than that of their most important competitors



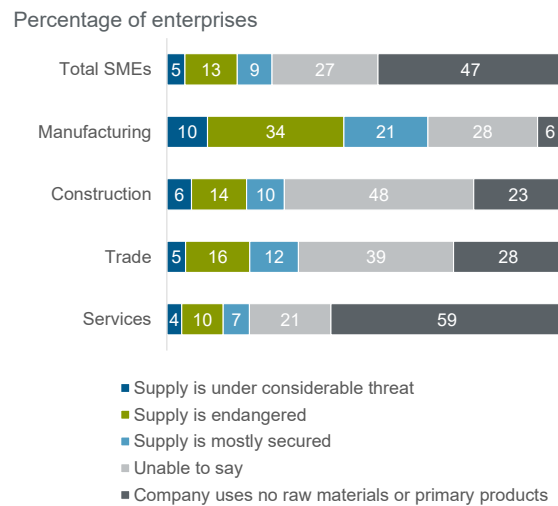
Note: Only manufacturing enterprises for which international competitors play an important role. Figures extrapolated on the basis of the number of enterprises.

Source: Supplementary survey to the KfW SME Panel in March 2023.

This leads to price and procurement risks that can adversely impact the competitiveness of German firms – particularly in comparison with their Chinese rivals, as many European competitors also depend on raw materials imports from extractive countries.<sup>20</sup>

### Some SMEs fear their future supply of raw materials is severely at risk

The findings of an earlier supplementary survey to the KfW SME Panel in September 2022 revealed that these risks also exist for small and medium-sized enterprises. It is true that around 47% of them are not dependent on raw materials and intermediate inputs due to the strong services orientation of the SME sector. Among the remaining 53%, however, a significant proportion of businesses regard their supply of raw materials and inputs as being endangered or even under considerable threat in the medium term (Figure 12). The issue of supply security of raw materials and intermediate inputs therefore commands close attention particularly in the manufacturing sector.

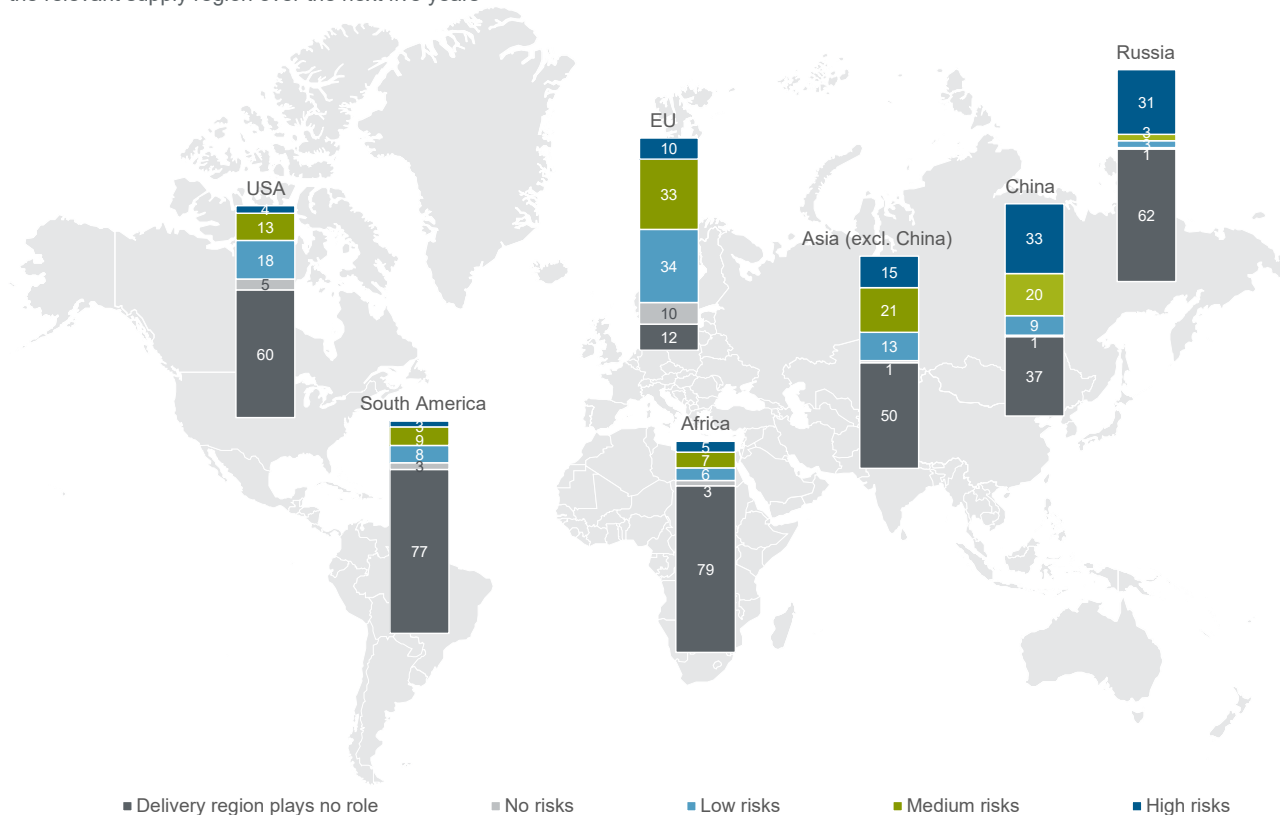
**Figure 12: Risks to the supply security of raw materials for SMEs in the next five years**

Note: Figures extrapolated on the basis of the number of enterprises

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

**Figure 13: SMEs see high risks to the supply of raw materials and inputs from China**

Percentage of enterprises that see high / medium / low / no risks to the supply of raw materials and intermediate inputs for their business from the relevant supply region over the next five years



Note: Only enterprises that procure raw materials or intermediate inputs. Figures extrapolated on the basis of the number of enterprises.

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

### China and Russia are seen as particularly risky suppliers

China in particular could become a problem in the next five years. After all, China is a major non-European procurement market but one which SMEs perceive as posing considerable risks. It plays a role as a potential supplier for 63% of all SMEs that are dependent on raw materials and inputs. More than half of them – 33% in total – view the supply of inputs from China as a high risk for their business (Figure 13).

SMEs also see high risks in Russia, even though dependencies on that country have likely fallen significantly already as a result of the war in Ukraine. For 62% of SMEs, Russia will not be of relevance to their supply of raw materials or inputs in the medium term either.

SMEs view Asia – not counting China – as a region that poses only moderate supply risks. They are even less critical of Africa, South America and the USA. In any case, these regions play a role as possible suppliers of raw materials and inputs for only few businesses.

Europe is not a major mining region but plays a key role for German SMEs as a supply region for intermediate inputs. Many small and medium-sized enterprises in Germany depend directly or indirectly on suppliers from other European countries through complex value chain relations.<sup>21</sup> In recent months, the supply bottlenecks in the German SME sector have clearly shown that these relations are not immune to disruptions.<sup>22</sup> Nevertheless, only a relatively small share of 10% of SMEs that procure inputs see high risks to their supply of raw materials and intermediate inputs from Europe. Around 44% – more than half of all enterprises for which Europe plays a role as a potential procurement market – perceive these risks as being low or non-existent.

**Figure 14: Measures adopted by SMEs to secure raw material supplies**

Percentage of enterprises that have implemented or plan to implement the relevant measure to secure their supplies of raw materials and intermediate inputs



Note: Only enterprises that procure raw materials or intermediate inputs. Figures extrapolated on the basis of the number of enterprises.

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

### Many SMEs are already taking steps to reduce the risk of raw material shortages

In order to reduce price and procurement risks, SMEs are increasingly taking steps to secure their supplies of raw materials and intermediate inputs (Figure 14). Diversifying the supplier basis and increasing stockpiles are by far the most common measures being implemented or planned. Shifting capacity abroad in order to reduce the dependence on raw material imports, on the other hand, hardly plays a role. This is consistent with the generally very low foreign investment activity in the SME sector. During the 2012–2015 period, a mere 3.5% of all small and medium-sized enterprises invested abroad. In the small and medium-sized manufacturing segment, too, which is traditionally more internationally active, only 4.6% of businesses made cross-border investments in the years 2012 to 2015.<sup>23</sup>

### SMEs perform better than expected on energy costs

The public debate often portrays high energy costs in Germany as a significant locational disadvantage in international competition. For the broad SME sector, however, they do not present a serious competitive disadvantage. Only around 11% of German SMEs believe they perform worse than their foreign competitors on energy costs, with 39% even seeing themselves better positioned than their most important competitors. For around 24% of all enterprises, energy costs are not a relevant factor at all in international

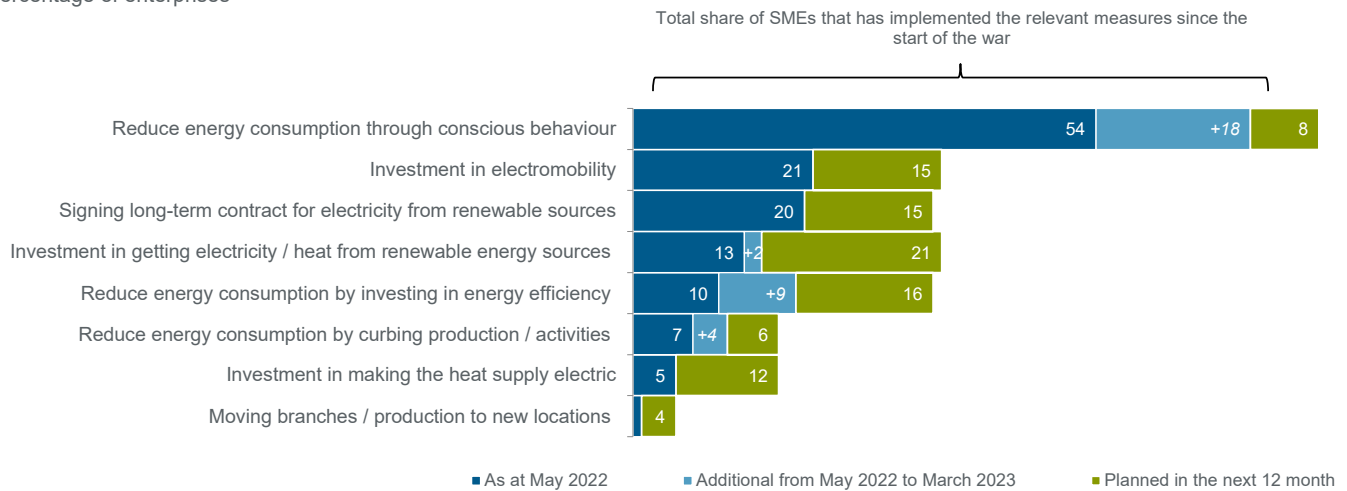
competition (Figure 10). The views of manufacturers are somewhat less positive than those broadly held across the SME sector, with 19% indeed seeing themselves worse and only 29% better positioned than their competitors (Figure 11).

This perception is consistent with the relative energy cost burdens, which are higher in manufacturing than in the overall SME sector. In March 2023, energy costs made up more than 10% of total costs in 29% of all manufacturing SMEs but in only 18% of SMEs overall. At the same time, energy costs accounted for less than 2% in only 14% of all manufacturing enterprises but in 25% of all SMEs taken together.<sup>24</sup>

The relative burden of energy costs has grown noticeably since 2021, particularly in manufacturing. Still, most SMEs believe that energy costs on the level of March 2023 are manageable even the longer term – despite the added burden they place on them.<sup>25</sup> This applies in particular to enterprises that compete internationally.

**Figure 15: Measures adopted by SMEs in response to the Ukraine war**

Percentage of enterprises



Note: Multiple responses were possible. Figures extrapolated on the basis of the number of enterprises

Source: Grewenig, E. and Schwartz, M. (2023), Supplementary survey to the KfW SME Panel in May 2022 and March 2023

The fact that businesses view the high energy prices as manageable and do not perform worse than their international peers is probably due not least to the adaptation measures which they have taken to lower their energy consumption since the beginning of the Ukraine war (Figure 15). But German industry was already very energy-efficient in an international comparison even before Russia's invasion.<sup>26</sup>

### However many SMEs still lose out in price competition

Nonetheless, many SMEs believe they are not very competitive when it comes to the pricing of their products or services. Around 27% of all SMEs believe they perform slightly or even significantly worse than their foreign competitors (Figure 10). This finding is primarily attributable to the services sector, whereas manufacturing firms view their price competitiveness much more positively (Figure 11). Only 18% of those that compete internationally do not see themselves well-positioned on price. At the same time, a relatively high proportion of 38% do better on the price of their products than their main competitors.

One possible explanation for this finding is the development of productivity. In the services sector it is in any case weaker than in manufacturing, which is much more active in investing, innovating and research and development. In the past decades, labour productivity in knowledge-intensive business-related services even fell considerably – by more than 40% between 1995 and 2014 – and recovered only moderately thereafter. A major cause for this was the increase in inputs which

was not offset by a corresponding drop in employment.<sup>27</sup> Extensive regulation in Germany is also likely to play a role for self-employed service providers.<sup>28</sup>

In some of the other countries – especially in the United Kingdom and the US, where the competitors of many service providers are situated – labour productivity in business-related services has developed much more positively.<sup>29</sup> With labour costs there being similar or even slightly lower, this represents an advantage in price competition for the foreign competitors.

### Products and services offered by German SMEs are well-known

Many German SMEs have made a name for themselves with their achievements. More than half of small and medium-sized enterprises competing internationally do better than their competitors in terms of name recognition of products or services. 'Made in Germany' still counts in manufacturing, too. Nonetheless, 24% of all manufacturing SMEs believe that their competitors' products are more recognisable.

### Many products and services could be more innovative

There is also more potential with respect to the degree of innovativeness of products and services. To be sure, many SMEs believe they are better positioned here than their competitors. However, for a sizeable 31% of enterprises the aspect is not yet of relevance in international competition (Figure 10). For many service providers this may turn out to be a misconception,

especially given the weak productivity growth in the sector. In the manufacturing sector, almost all enterprises regard the degree of innovativeness of their products as an important criterion in international competition. However, around one fifth of them believe they cannot keep up with their competitors. In terms of the innovativeness of their products, 21% perform worse than their most important competitors.

Innovation is an important tool for enterprises to position themselves vis-a-vis their competitors. It opens up new sales potential and improves resource efficiency, thereby increasing their employment, turnover, profit margin and productivity. For the overall economy, it is an essential driver of growth and prosperity, especially in a highly developed and resource-poor economy such as Germany.<sup>30</sup>

Germany's innovation ecosystem is regarded as particularly efficient in international comparison.<sup>31</sup> Nevertheless, the share of innovators among SMEs has been on the decline for around one and a half decades now. The share of small and medium-sized enterprises with product innovations has dropped even more than that of SMEs with process innovations – from 35% in the 2004–2005 period to 16% in the 2017–2019 period. The downward trend was not broken during the COVID-19 crisis either. Innovation efforts are concentrated in increasingly fewer and primarily large enterprises. Major obstacles to innovation include high costs and risks, along with the associated funding difficulties, but also skilled labour shortages.<sup>32</sup>

### **Manufacturers still have the edge on quality**

For a long time, German manufacturers were seen as quality leaders in global competition. But the findings of the supplementary survey to the KfW SME Panel illustrate that this is anything but set in stone for the future. To be sure, 37% of small and medium-sized enterprises in the manufacturing sector still perform better on the quality of their products than their competitors (Figure 11). But the fact that one in four businesses believe they are behind in terms of product quality should set alarm bells ringing.

Competition for quality is on the rise, especially from China. While China used to stand for quantity, the country's 'Made in China 2025' strategy now aims for technological leadership in key areas such as information technology, robotics, artificial intelligence, aerospace, energy and pharmaceuticals and is vigorously driving innovation in these fields.<sup>33</sup> The fact that Germany is technologically falling behind China is particularly evident in the field of electric mobility. German manufacturers of electric vehicles can hardly

gain a foothold in China and even in Germany the largest rental car firm Sixt is offering electric cars from the Chinese manufacturer BYD.<sup>34</sup>

### **Customer service can be improved**

There is also significant room for improving customer service and advice in the manufacturing sector. In no other field do small and medium-sized industrial firms feel they perform worse in comparison to their foreign competitors. That view is slightly more positive across the broader SME sector. But here as well, customer service and advice are certainly not among the strengths of companies competing internationally. As digitalisation continues to advance, businesses are delegating more and more tasks to the customer, from product configuration to ordering and account settlement – not least because of cost pressure and staff shortages. Sooner or later, inadequate customer orientation will adversely impact on customer loyalty and send them into the arms of competitors.

### **Supply bottlenecks have left their mark – not just in the German SME sector**

As recently as a year ago, global supply shortages could be felt deep within the German SME sector. In March 2022, around 42% of all small and medium-sized enterprises in Germany were affected by material shortages. Raw materials and inputs were missing primarily in the manufacturing and construction sectors, but also in wholesale and retail. As a result, one in four SMEs were unable to meet their delivery deadlines.<sup>35</sup> Supply disruptions are now easing slowly, even though many businesses in the electronics, mechanical engineering and automotive industries continue to have major issues.<sup>36</sup>

As supply bottlenecks affected not just German enterprises but companies around the world, this problem did not grow into a serious competitive disadvantage for manufacturers. Around 72% of SMEs see themselves in a similar or even better position with regard to delivery times and punctuality than their competitors.

### **Many SMEs lag behind international competitors in digitalisation**

One important aspect of international competitiveness is digitalisation. It involves not just the development of technologies of the future such as artificial intelligence, blockchain or quantum computing but the integration of digital technologies into the processes, products or services of companies. Without appropriate digital skills, Germany's traditional technological strengths, for example in automotive and mechanical engineering, will not be sufficient for them to assert themselves in international competition.<sup>37</sup>

German SMEs do not see themselves as having a strong competitive advantage here but they can broadly keep up with their international competitors, as 49% of enterprises believe they have a similar degree of digitalisation. The international competitiveness of manufacturers in terms of integration of digital technologies can at best be described as mixed. While some 37% of SMEs believe they are better positioned than their competitors, 30% see themselves as being in a worse position and of these 17% in a much worse position – more than for any other aspect of international competitiveness.

The fact that digitalisation is not a strength of the German economy is also documented by rankings such as the European Union's Digital Economy and Society Index (Figure 16). Indeed, the share of SMEs with completed digitalisation projects decreased recently from 33 to 31%, with larger SMEs being much more active here than smaller businesses. Digitalisation expenditure has increased but also exhibits a widening gap between pioneers and latecomers.<sup>38</sup>

### **SMEs generally perform well in international competition...**

Overall, the findings presented here demonstrate that SMEs currently see themselves as being well-positioned in international competition in many respects. A highly qualified workforce, the positive image of Made in Germany and the high quality of products and services still represent key strengths in global competition. At the same time, the cost situation across the SME sector in many cases is better than expected, especially with a view to energy costs. Nonetheless, price competitiveness is still strikingly low, especially in the services sector, which is likely due not least to the low productivity growth of business services in particular. A relatively large number of SMEs also perform poorly on customer service and advice.

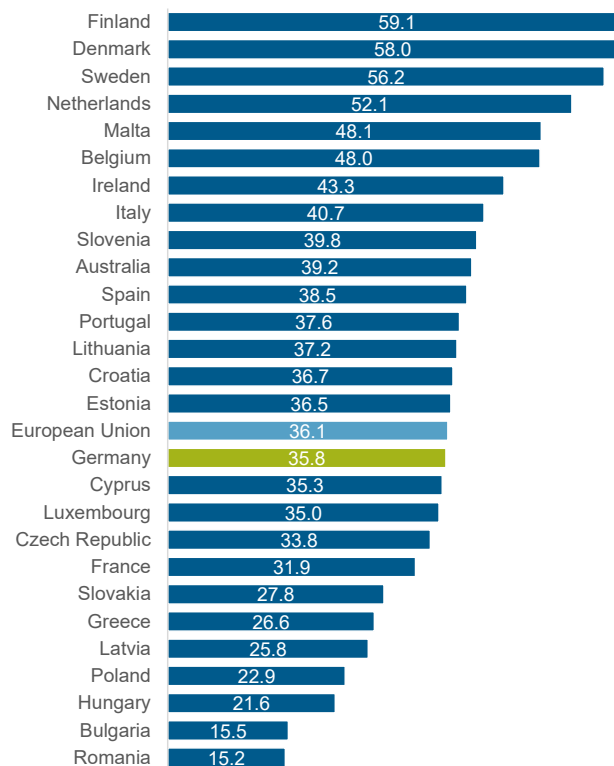
### **... but foreign competitors are catching up, especially in manufacturing**

The picture in the manufacturing sector is mixed. Here, too, SMEs describe their qualified workforce as a clear competitive advantage. Furthermore, many manufacturing firms are able to score points with innovative products of high quality. Nevertheless, competitors from abroad are catching up – particularly from China. The labour, energy and material costs in the manufacturing sector, however, are better than expected in many cases. And many enterprises believe they can also compete on the prices of their products, which often used to be a competitive disadvantage. In the field of digitalisation, there are some pioneers, but many latecomers are lagging behind their competitors

– an observation that is in line with the findings of other studies which have identified a clear need for Germany to play digital-catch up.

**Figure 16: Germany lags behind many EU countries in the digitalisation of the economy**

Score in the dimension 'Integration of digital technology' of the Digital Economy and Society Index 2022



Note: The dimension 'Integration of digital technology' comprises a total of 11 criteria that describe the integration of digital technologies in business activities, such as the uptake of technologies by enterprises such as big data, cloud or artificial intelligence and the share of small and medium-sized enterprises with online sales.

Source: EU Digital Economy and Society Index 2022

### **More SMEs view their future competitive position positively than negatively**

Most businesses are optimistic about their future competitive position. Around half of all SMEs competing internationally believe they can maintain their current competitive position. Overall, 35% of all SMEs even expect their competitive position to improve and 4% expect a significant improvement. At the same time, around 19% of all small and medium-sized enterprises that have important competitors abroad are concerned that their competitive position may deteriorate. A small proportion of 3% even expect their international competitiveness to deteriorate substantially in the next three years (Figure 17).

The situation is very similar in the manufacturing sector. Here as well, some 19% expect their competitive position to worsen. That means one in five SMEs expect their international competitiveness to decrease. At the same time, twice as many businesses expect their competitive position to improve or even improve significantly (Figure 18).

Multivariate analyses show that innovation activity has a positive effect on an enterprise's expected future competitive position. A company competing internationally that carried out product or process innovations during the period from 2019 to 2021 is significantly more likely to improve its competitive position in the coming three years. This underscores how important innovation is for the international competitiveness of an enterprise.

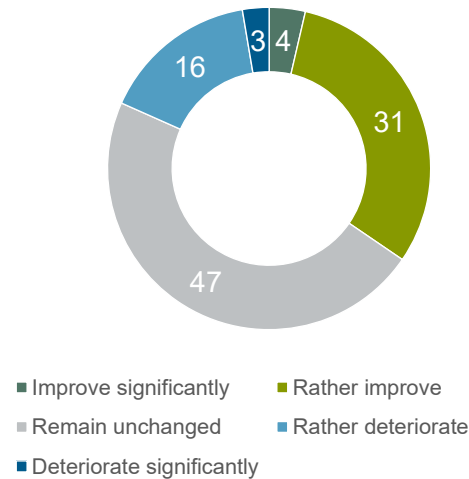
Conversely, the likelihood for an SME to anticipate a deterioration in its international competitive position is significantly higher when its energy costs represent a higher share in total costs. In manufacturing this is also immediately apparent in the share of enterprises that expect their competitive position to deteriorate. Whereas only around one in ten enterprises for which energy makes up less than 5% of total costs expect their competitive position to worsen in the coming three years, the same applies to one third of firms where energy accounts for more than 5% of total costs. Even though this finding is subject to some uncertainty because of the limited sample size, it does highlight the starting point of the debate: the concerns over a loss of international competitiveness as a result of rising energy costs.

### **SMEs see a variety of risks to their competitiveness in Germany**

High energy costs are neither the only risk nor the greatest risk identified by SMEs for their international competitiveness at their German location (Figure 19). This is primarily due to the fact that energy costs play only a minor role in the services sector. But even in the manufacturing sector, where one in three enterprises see energy costs as a high risk to competitiveness, they see other factors that represent a growing burden (Figure 20).

**Figure 17: Most SMEs are optimistic about their future competitive position**

Percentage of enterprises that expect their competitive position to deteriorate significantly / rather deteriorate / remain unchanged / rather improve / improve significantly in comparison with their most important competitors

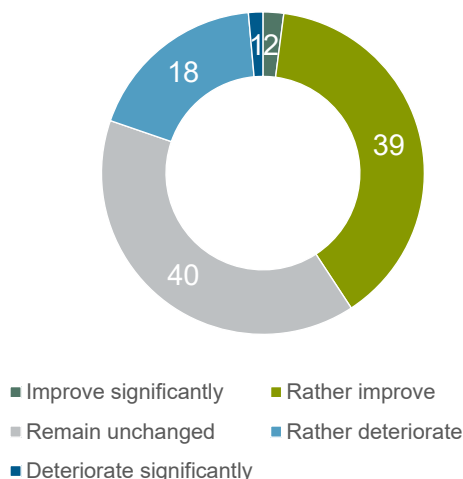


Note: Only enterprises for which international competitors play an important role. Figures extrapolated on the basis of the number of enterprises.

Source: Supplementary survey to the KfW SME Panel 2023

**Figure 18: Many manufacturing enterprises also expect their international competitive position to improve**

Percentage of enterprises that expect their competitive position to erode significantly / rather deteriorate / remain unchanged / rather improve / improve significantly in comparison with their most important competitors

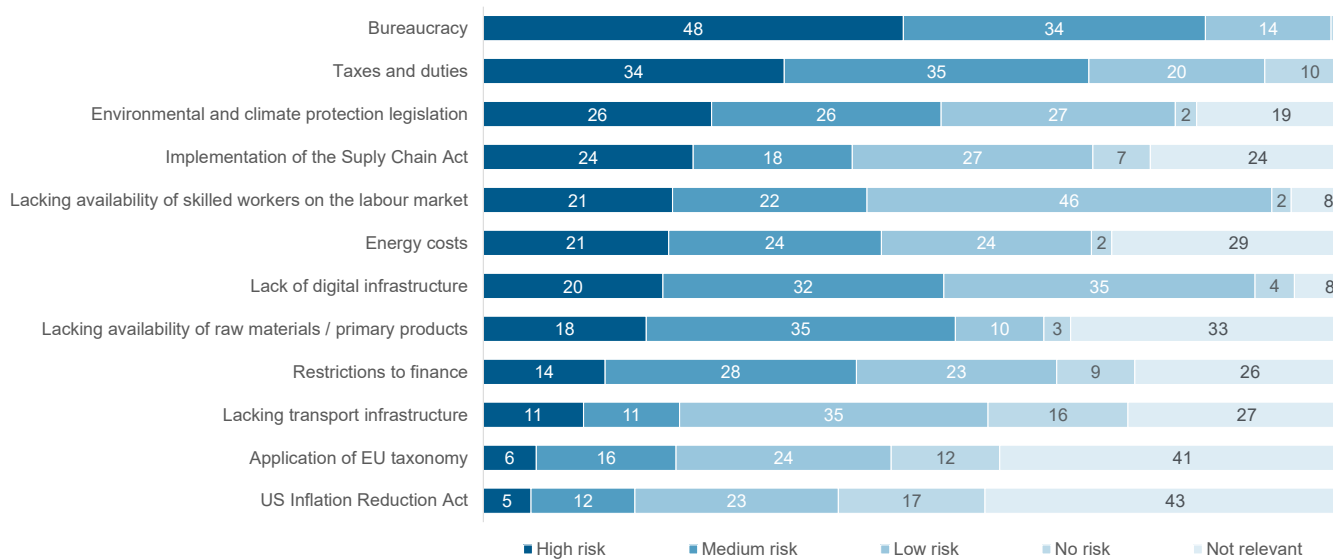


Note: Only manufacturing enterprises for which international competitors play an important role. Figures extrapolated on the basis of the number of enterprises

Source: Supplementary survey to the KfW SME Panel 2023

**Figure 19: SMEs' views of risks to their international competitiveness in Germany**

Percentages of enterprises that regard the listed factors in Germany as a high / medium / low / no risk to their competitiveness in the coming three years



Note: Figures extrapolated on the basis of the number of enterprises

Source: Supplementary survey to the KfW SME Panel in March 2023

### Burgeoning bureaucracy is the greatest cause for concern

SMEs are most worried about bureaucracy – across all sectors. Almost half of all SMEs with major foreign competitors see it as a high risk to their future international competitiveness. In manufacturing, the share is even higher, at 56%, with companies citing bureaucracy significantly more often as a high risk to their competitiveness at their German location than, for example, the availability of skilled labour, taxes and levies, or energy costs (Figure 20). SMEs that do not compete internationally are also worried about bureaucracy. Overall, around 37% of all 3.8 million SMEs regard bureaucracy as a high risk to their location in Germany over the next three years.

Bureaucracy is a prerequisite for rules-based trading that provides legal safety and enables fair economic management. The Federal Act on Corporate Due Diligence Obligations in Supply Chains, which addresses the responsibility of German enterprises to respect human rights in global supply chains, is a good example of this. So far, it applies only to enterprises with more than 3,000 employees but also impacts on small and medium-sized downstream suppliers. Another example is the use of EU Taxonomy, which formulates uniform criteria for sustainable economic management. In the future, credit institutions and other financial market participants will have to disclose to what extent their financing activities meet these criteria and obtain corresponding information from their bor-

rowers. Loans to small and medium-sized enterprises are exempted from the reporting obligations for the time being but extensive reporting obligations apply to larger SMEs. Seen individually, these initiatives pursue plausible goals. However, growing bureaucracy increases the risk that the costs outstrip the benefits.

### One in three enterprises view taxes and levies as a significant risk

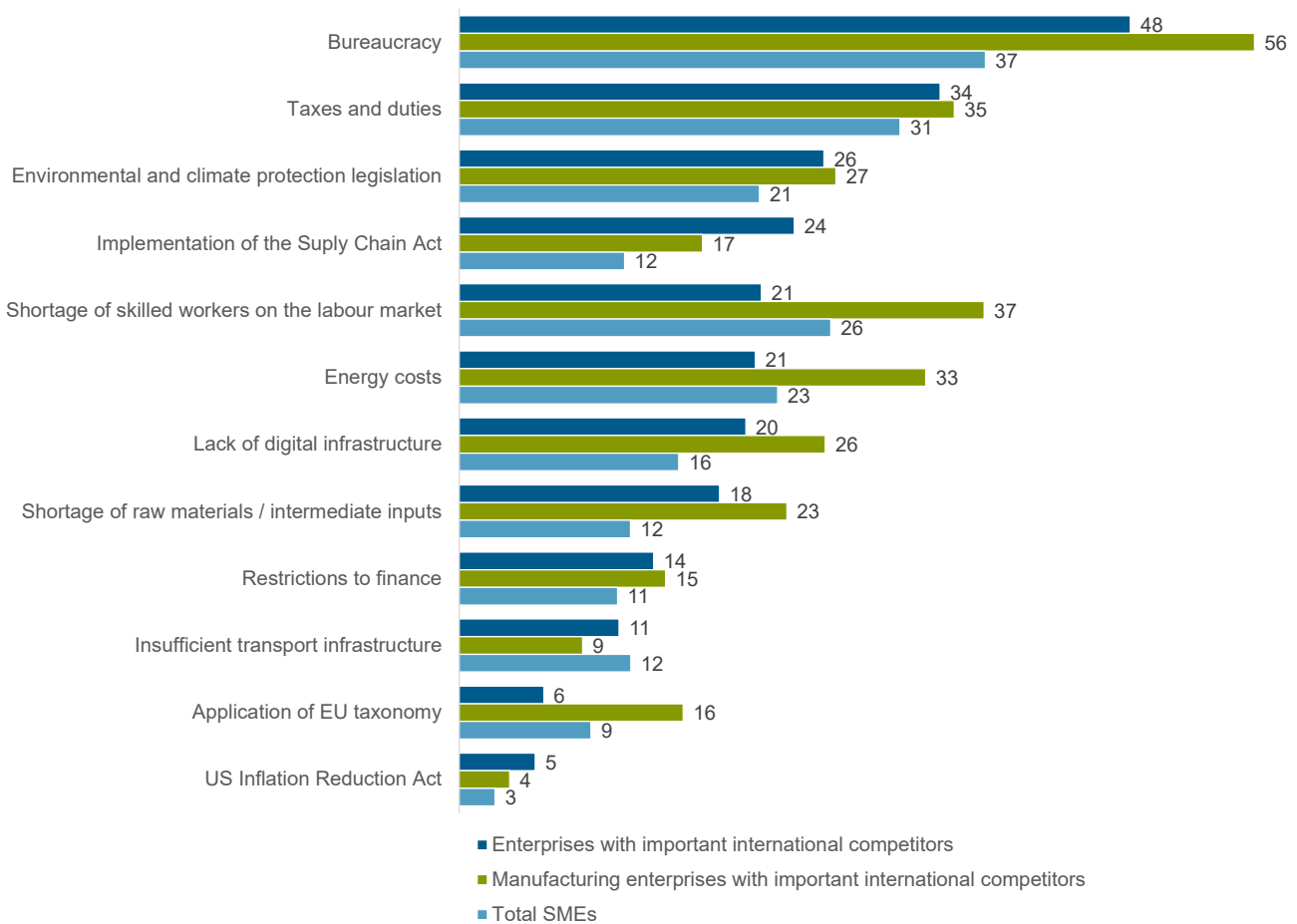
SMEs regard taxes and levies as a further risk to their international competitiveness at their German location (Figure 19). An international comparison of the tax burden on enterprises is complex and, not least, depends on which tax rates are analysed. Thus, an analysis of marginal tax rates currently sees Germany performing very well, according to the OECD. The effective average tax burden on investment projects in Germany, on the other hand, is above the international average. Germany also occupies the top medium range of 28 countries analysed for the tax and contribution ratio.<sup>39</sup> However, not just the actual tax rates but the complexity of the tax system cause Germany to fall behind in international rankings compared with countries such as the US, France, Belgium or Sweden, which have recently introduced extensive tax reforms.<sup>40</sup>

### Some SMEs are also critical of environmental and climate regulations

Environmental and climate regulations are also regarded by 26% of SMEs as a high risk to international competitiveness in Germany (Figure 19). Small and

**Figure 20: Manufacturers see higher risks**

Percentages of enterprises that regard the listed factors in Germany as a high risk to their competitiveness in the coming three years



Note: Only enterprises for which international competitors play an important role. Figures extrapolated on the basis of the number of enterprises.

Source: Supplementary survey to the KfW SME Panel in March 2023

medium-sized enterprises therefore appear to be slightly more sceptical towards the green transition overall than large enterprises.

A representative survey conducted as part of the KfW Climate Barometer among German companies with an annual turnover of more than EUR 500 million recently showed that 44% expect the transformation of the German economy to climate neutrality to have positive effects, 31% no effects and only 16% negative effects on their international competitiveness. The majority of large enterprises are also optimistic about the overall development of Germany as a business location. More than three quarters of them expect it to become more attractive as a result of the green transformation.<sup>41</sup>

The greater reservations expressed by SMEs are also reflected in the fact that they are less likely to have climate action set in their business strategy, less likely to carry out climate investments and less likely to see

climate action as an opportunity for tapping into new sales markets than large enterprises.<sup>42</sup>

### Skilled labour shortages jeopardise manufacturers' international competitiveness

One of the greatest strengths of German SMEs in international competition is that they can rely on a qualified workforce. Particularly in the manufacturing sector, skilled workers are an essential prerequisite for innovation and quality and therefore critical for future competitiveness in an environment characterised by growing competition – not just from China.

It is therefore all the more unsettling that four in ten SMEs from the manufacturing sector view the shortage of skilled workers in the German labour market as a high risk to their international competitiveness (Figure 20). And they have good reason to be concerned, as skills shortages have worsened noticeably in Germany over the past years. Whereas in 2009 only 10% of

enterprises reported that a lack of skilled workers was hampering their business operations, in April 2023 that figure was a good 42%. Demographic change has already filtered through to the labour market and is affecting all sectors of the economy.<sup>43</sup> One of the reasons that this development has not yet put most SMEs at a clear competitive disadvantage is likely the fact that skilled labour shortages are also a key problem in many other European countries and therefore affect important competitors of German SMEs as well.<sup>44</sup>

There is an urgent need to intervene to prevent the skilled labour shortage from worsening dramatically in the future – with a view to both the availability and the qualification of skilled workers. For one thing, in no other country will the employable workforce shrink as drastically by 2030 as in Germany. For another, the Pisa study places Germany in the upper midfield for scholastic achievement but well below the top-ranking countries. Internationally, Germany performs well in vocational education and training, but the share of tertiary degrees in Germany is below the OECD average. Professional development activities also lag behind needs.<sup>45</sup>

### **Supply of raw materials and intermediate inputs remains a risk**

It has become clear that insufficient availability of raw materials and intermediate inputs also poses a risk to international competitiveness and that a particular focus must be placed on China in this context. At the same time, raw materials requirements are set to change in the course of the green and digital transformation. While demand for fossil energy resources is on the decline, demand for metals such as copper, lithium, cobalt and rare earths, which are needed for the expansion of renewable energy technologies, the development of drive technologies and batteries for electric mobility and other digital technologies is growing strongly all over the world. The development of global mining capacity is unlikely to keep pace with growing raw materials requirements, so competition will tend to intensify. This competition will pose particular challenges for Germany and Europe, which are heavily dependent on raw materials imports.<sup>46</sup>

### **One in four SMEs competing internationally are concerned about lack of digital infrastructure**

Around 20% of all SMEs see a lack of digital infrastructure as a high risk. That means inadequate digital infrastructure is not among SMEs' greatest concerns, but nonetheless, its further expansion should not be neglected. After all, an efficient digital infrastructure

does not only support the development of the general population's digital literacy, which is also needed by businesses. It is a key requirement for the closer integration of digital technologies in business and has been demonstrated to have significant positive effects on economic growth, as has been proven for the expansion of broadband Internet.<sup>47</sup>

### **SMEs see transport infrastructure as less of a problem**

The quality of Germany's transport infrastructure lags behind that of neighbouring European countries such as the Netherlands, Austria and France.<sup>48</sup> The degree of modernity of roads, railways and waterways in Germany has declined continuously over the past years.<sup>49</sup> Businesses, too, often see their business operations hampered by transport infrastructure deficits.<sup>50</sup>

However, only 11% of all SMEs believe there is a high risk that an inadequate transport infrastructure in Germany could adversely impact their international competitiveness. Transport infrastructure thus plays a rather minor role compared with other factors.

### **One in seven businesses see limited access to finance as a risk to their competitiveness**

The same applies to restrictions on access to finance, which 14% of all SMEs with major foreign competitors regard as a risk to their competitiveness at their German location. To be sure, European monetary policy tightening has led to slightly less favourable financing conditions in Germany as well. Still, Germany continues to occupy a top position internationally – compared with not just European countries but also the US, Switzerland and Japan.<sup>51</sup>

### **US Inflation Reduction Act has hardly caused a stir among SMEs**

The US Inflation Reduction Act has been in force since 1 January 2023. Branded as a measure aimed at fighting inflation, it comprises the largest climate action package in US history. Tax incentives for businesses and households as well as subsidies linked to local-content requirements are intended to incentivise climate action investment and bolster the US economy. Thus, some large German corporations such as BASF, Audi, BMW, Linde, Evonik and Siemens recently announced their intention to increase their investment in the US.<sup>52</sup> According to a survey by the German American Chambers of Commerce, however, few German companies see lower energy costs and state investment incentives as a decisive argument for investing in the US. The main motive for investing continues to be market access.<sup>53</sup>

Setting up and expanding production or sales locations abroad is usually not attractive for small and medium-sized enterprises, unlike for large enterprises. Foreign investment requires vast financial and human resources and spreading production across multiple domestic and foreign locations is worthwhile only for large output volumes. Foreign investment therefore tends to be rather uncommon for SMEs overall. During the 2012–2015 period, a mere 3.5% of all small and medium-sized enterprises invested abroad, around 6% of them in the US.<sup>54</sup> The opportunities resulting from the US Inflation Reduction Act therefore are rather less important for small and medium-sized enterprises.

However, SMEs also do not see the US Inflation Reduction Act as a risk either. Only around 5% of all SMEs competing internationally view it as a threat to the future international competitiveness of their business at their German location. SMEs for which US competitors play a major role are also not more likely to see it as a risk than SMEs that compete with businesses from other countries.

### **Policymakers and businesses can help secure international competitiveness**

Views of their own international competitiveness, but also of future risks to Germany as a business location, are subjective but, when we compare the individual factors, illustrate where SMEs currently see the greatest need for action. They provide important starting points for economic policymakers, who can contribute to securing and improving the international competitiveness and attractiveness of Germany as a business location by creating the proper enabling conditions. However, businesses have to take responsibility too, as they must adapt to a changing global competitive environment and the challenges facing the country and need to take appropriate measures aimed at mitigating possible risks.

### **Vigorously driving forward the elimination of red tape and keeping an eye on the tax burden**

A long-standing task for policymakers continues to be the reduction of bureaucracy, which threatens to develop into an enormous burden not just for SMEs. In order to cut bureaucracy, there is a need to reduce complexity, increase speed, digitalise processes and improve the customer experience.<sup>55</sup> Information and reporting obligations must be examined for the burden they represent indirectly for small and medium-sized enterprises as well – irrespective of whether they formally apply only to larger enterprises. Simplifying and accelerating planning and approval processes is key to boosting investment – not just in the field of climate action<sup>56</sup>. Reducing bureaucracy is already

enshrined in the coalition agreement of the current federal government. This must be pushed forward with relentless efforts.

What is also important is to keep track of burdens from taxes and levies. This applies not just to nominal tax rates and the basis for assessment but to the complexity of the tax system as a whole. In this regard, Germany needs to reconcile competitiveness, financing requirements for public tasks and sound state finances. The law on growth opportunities being planned by the Federal Ministry of Finance aims to strengthen investment and innovation with tax policies, particularly in the area of climate action, in order to safeguard competitiveness. At the same time, it aims to further simplify and modernise the tax system.<sup>57</sup>

### **Securing the availability and qualification of skilled labour**

Qualified workers are a major strength of German enterprises in international competition, which is threatening to erode as a result of increasing skills shortages. The impacts of demographic change are becoming increasingly visible but so are the effects of the weaknesses in the German education system. The need to address this issue – availability and qualification of skilled workers – is urgent.

A range of measures are necessary to alleviate the skills shortage. This includes boosting the intake of skilled migrants, for which the federal government is creating important conditions through the further development of the German Skilled Labour Immigration Act. Furthermore, incentives must be set to increase the labour market participation of women and older workers in particular, including improved childcare and nursing care services. Needs-based training and continuing education are also necessary.<sup>58</sup> In order to eliminate the enormous backlog of investment, municipalities need more funds for the construction and equipment of schools.<sup>59</sup> At the same time, staff shortages at schools and kindergartens need to be addressed and curricula need to be modernised in order to provide junior professionals with the necessary skills for a green and digital transformation. In the area of continuing education, time for education needs to be set aside, financial support needs to be expanded and the quality of continuing education services improved.<sup>60</sup> At the same time, businesses need to invest and innovate more in order to increase labour productivity and reduce the need for skilled workers.

### **Making the green and digital transformation competition-friendly**

Germany has set itself the goal of becoming climate neutral by 2045. The resulting changes in the economic and regulatory environment are a particular challenge for businesses that compete internationally. Stricter climate regulations and rising carbon prices increase production costs and pose the risk of carbon leakage, the relocation of production facilities to countries with less restrictive climate regulations and lower carbon costs. Even if this risk is lower for SMEs than for large enterprises, it is important to effectively protect them from competitive disadvantages towards rivals from countries with a lower level of ambition in order to generate acceptance for the green transformation. The Carbon Border Adjustment Mechanism adopted by the EU and the planned contracts for difference – state subsidies to the operating costs of climate-friendly production processes – go in this direction.<sup>61</sup>

At the same time, the growing need for climate technologies and greenhouse gas-neutral products around the world also provides new opportunities in new sales markets. Being the world's second largest exporter of climate technology after China puts Germany in a good starting position.<sup>62</sup> Placing these opportunities within reach of small and medium-sized enterprises as well, for example by setting innovation and investment incentives and specifically promoting exports, can also help accompany SMEs on the path to achieving climate neutrality.

### **Reducing risks to the supply of raw materials and energy**

The German Federal Government refined the political framework for measures aimed at securing the supply of raw materials with the Raw Materials Strategy it presented in 2020. Key starting points consist in the diversification of procurement sources, the formation of strategic alliances with resource-rich countries, the expansion of raw materials extraction in Europe and greater financial participation by European companies in international mining projects or the processing of raw materials. Expanding the recycling industry and increasing stockpiles could also help reduce heavy dependencies, promote strategic autonomy and safeguard international competitiveness.<sup>63</sup> Efforts aimed at reducing the consumption of raw materials and securing raw materials supply can still be expanded significantly at company level as well.

Energy costs are an important locational factor particularly for energy-intensive manufacturing enterprises. Whether a subsidised industrial electricity price should be introduced for these companies in order to retain

industrial sectors that are important for the transformation in Germany is currently the subject of controversial debate. What is undisputed, however, is that the current geopolitical situation calls for a diversification of energy supplies. Expanding renewables will not only reduce the country's dependence on fossil energy imports and contribute to achieving the goal of climate neutrality. It can also contribute to lowering electricity prices for households and businesses. The cost of electricity generation from wind farms and solar power plants in Germany is already much lower than that of electricity generated by conventional power plants.<sup>64</sup> Furthermore, businesses themselves can reduce their energy costs by stepping up energy efficiency measures. They have demonstrated their adaptability on multiple occasions in the past.

### **Driving digitalisation forward and strengthening innovation**

Finally, in order to avoid falling behind in international competition, many enterprises must also expand their digitalisation efforts significantly. Economic policy-makers can support trailblazers and latecomers equally by creating suitable conditions, for example by expanding scientific research into digital technologies, setting standards or upgrading digital infrastructure. Developing digital literacy through expanded training and education offerings is also important.<sup>65</sup>

### **Transforming starting points into concrete measures**

Removing bureaucracy, addressing skilled labour shortages, creating acceptance for the green transformation by preventing competitive disadvantages, securing the supply of raw materials and energy and driving digitalisation forward – there are many starting points for maintaining and reinforcing the international competitiveness of German SMEs. Translating them into specific measures and implementing them is a joint task for policymakers and businesses.

### **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 10,796 SMEs took part in the current wave.

The KfW SME Panel is used as the basis for analyses of long-term structural developments in the SME sector. It provides 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 provides a unique 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 2021 and the population of employees at SMEs in 2021, 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/extrapolated. 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 20th wave was conducted in the period from 10 February to 17 June 2022.

### **Supplementary surveys as part of the KfW SME Panel**

The analyses on international competitiveness and the security of raw materials supply were 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 behalf of KfW Group in September 2022 and March 2023.

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 2,500 enterprises were evaluated in the September 2022 survey and from more than 2,200 enterprises in the March 2023 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](http://www.kfw-mittelstandspanel.de).



- <sup>1</sup> Cf. Destatis (2023): Außenhandel und Dienstleistungen der Bundesrepublik Deutschland mit dem Ausland (*Cross-border trade in goods and services of the Federal Republic of Germany* – our title translation, in German), Wiesbaden.
- <sup>2</sup> Cf. Abel-Koch, J., Brüggemann, A., Köhler-Geib, F., Kohn, K., Lo, V., Römer, D., Schwartz, M. and Schwarz, M. (2022): KfW Climate Barometer 2022: In 2021, German enterprises invested around EUR 55 billion in climate action – still too little to reach climate neutrality, KfW Research.
- <sup>3</sup> Because they are linked to the main dataset of the KfW SME Panel, findings of the supplementary survey are representative of the total population of small and medium-sized enterprises with annual turnover of up to EUR 500 million.
- <sup>4</sup> Cf. Grewenig, E. and Schwartz, M. (2023): Hohe Energiekosten im März 2023 für deutlich mehr Unternehmen im Mittelstand finanziell gut zu verkraften (*High energy costs in March 2023 easy to manage for significantly more SMEs in March 2023* – in German only), Focus on Economics No. 426, KfW Research and Scheuermeyer, P. (2023): SME business sentiment: situation OK, expectations more pessimistic again, KfW-ifo SME Barometer May 2023, KfW Research.
- <sup>5</sup> Cf. Scheuermeyer, P. (2023): Business sentiment in freefall, KfW-ifo SME Barometer June 2023, KfW Research.
- <sup>6</sup> Cf. Scheuermeyer, P., Borger, K. and Schoenwald, S. (2023): Economic recovery with one foot on the brake, KfW Business Cycle Compass May 2023, KfW Research.
- <sup>7</sup> Cf. Schwartz, M. (2022): KfW SME Panel 2022: SMEs have largely digested the pandemic, but the war in Ukraine and the energy crisis are clouding the business outlook, KfW Research.
- <sup>8</sup> Cf. Schwartz, M. (2022): KfW SME Panel 2022: SMEs have largely digested the pandemic, but the war in Ukraine and the energy crisis are clouding the business outlook, KfW Research.
- <sup>9</sup> Cf. Schwartz, M. (2022), loc. cit.
- <sup>10</sup> Cf. Grewenig, E. and Schwartz, M. (2023): loc. cit.
- <sup>11</sup> 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
- <sup>12</sup> Prognos (2023): Effekte der chinesischen Subventionspolitik auf Deutschland (*Effects of China's subsidy policy on Germany* – our title translation, in German), study for vbw Bayern, Munich.
- <sup>13</sup> Cf. Matthes, J. (2021): Wettbewerbsverzerrungen durch China (*Competitive distortions by China* – our title translation, in German), IW-Report 10/2021, Cologne.
- <sup>14</sup> Cf. Matthes, J. (2021): Konkurrenzdruck durch China auf dem EU-Markt (*Competitive pressure from China in the EU market* – our title translation, in German), IW-Report 30/2021, Cologne.
- <sup>15</sup> Cf. German Federal Foreign Office (ed.) (2023): China strategy of the German Federal Government (in German)
- <sup>16</sup> Cf. Destatis (2023): One hour worked cost an average of 39.50 euros in 2022, press release No. 164 of 26 April 2023, Wiesbaden.
- <sup>17</sup> Cf. Schröder, C. (2019): Industrielle Arbeitskosten im internationalen Vergleich (*International comparison of industrial labour costs* – our title translation, in German), IW-Trends – quarterly publication on empirical economic research, Cologne.
- <sup>18</sup> Cf. Schröder, C. (2022): An international comparison of unit labour costs: The cost competitiveness of German industry in times of multiple crises, IW-Trends 3/2022 (in German), Cologne.
- <sup>19</sup> Cf. Abel-Koch, J. (2022): KfW-Internationalisation Report 2022: Ukraine conflict exacerbates global supply bottlenecks and jeopardises recovery of German SMEs' foreign business, KfW Research
- <sup>20</sup> Brüggemann, A. and Levinger, H. (2022): Securing critical raw materials for the net zero and digital transformation, Focus on Economics No. 299, KfW Research.
- <sup>21</sup> Cf. Abel-Koch, J. (2016): SMEs' value chains are becoming more international – Europe remains key, Focus on Economics No. 137, KfW Research. and Ullrich, K. (2022): Germany's close integration into global trade and value chains, Focus on Economics No. 411, KfW Research.
- <sup>22</sup> Cf. Abel-Koch, J. (2022): loc. cit.
- <sup>23</sup> Cf. Abel-Koch, J. (2017): The happy few: German SMEs investing abroad, Focus on Economics No. 183, KfW Research.
- <sup>24</sup> Cf. Grewenig, E. and Schwartz, M. (2023): loc. cit.
- <sup>25</sup> Cf. Grewenig, E. and Schwartz, M. (2023): loc. cit.
- <sup>26</sup> Cf. Subramanian, S., Berg, W., Cooper, E., Waite, M., Jennings, B., Hoffmeister, A. and Fadie, B. (2022): 2022 State Energy Efficiency Scorecard, Washington, DC.
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- <sup>28</sup> Cf. Falck, O. and Wölfl, A. (2018): Productivity Weaknesses in the German Service Sector, ifo Schnelldienst, 71/2018.
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- <sup>30</sup> Cf. Zimmermann, V. (2021): Innovationen steigern Wachstum und Produktivität und verbessern die Qualifikationsstruktur der Beschäftigten in mittelständischen Unternehmen (*Innovation boosts growth and productivity and improves the structure of workforce qualifications in small and medium-sized enterprises* – in German), Focus on Economics No. 361, KfW Research and Zimmermann, V. (2021): KfW SME Innovation Report 2020 – Coronavirus crisis is slowing down innovation among SMEs, KfW Research.
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- <sup>33</sup> Cf. Kuntze, F. and Windels T. (2018): *Made in China 2025: Technologietransfer und Investitionen in ausländische Hochtechnologiefirmen (Technology transfer and investments in foreign high-technology firms – our title translation, in German)*, ifo Schnelldienst 14/2018, Munich, Zenglein, M. J. and Holzmann, A. (2019): *Evolving Made in China: China's Industrial Policy in the Quest for Global Tech Leadership*, Merics Papers on China No. 8, July 2019 and Groenewegen-Lau, J. and Laha, M. (2023): *Controlling the Innovation Chain: China's Strategy to Become a Science & Technology Superpower*, Merics Report, February 2023.
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- <sup>40</sup> Cf. Foundation for Family Businesses (ed.) (2023): *Country Index for Family Businesses*. 9th edition. Prepared by the ZWE – Leibniz Centre for European Economic Research GmbH, Mannheim.
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- <sup>43</sup> Cf. Müller, M. (2023): *KfW-ifo Skilled Labour Barometer June 2022: The skilled labour shortage: economic downturn instead of improved supply*, KfW Research and Peichl, A., Sauer, S. and Wohlrabe, K. (2022): *Fachkräftemangel in Deutschland und Europa – Historie, Status quo und was getan werden muss (Skills shortages in Germany and Europe – history, status quo and what needs to be done – our title translation, in German)*, ifo Schnelldienst 75/2022, Munich.
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- <sup>45</sup> Cf. Leifels, A. (2022): *Weiterbildung 2021: Teilnahme hängt vom sozialen Hintergrund ab. Onlinekurse sind plötzlich Normalität (Continuing education in 2021: participation depends on social background, online courses have suddenly become normal – in German)*, Focus on Economics No. 402, KfW Research.
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- <sup>47</sup> Cf. topic page of the Ifo Institute on *digital infrastructure*, retrieved on 28 June 2023, and Leifels, A. (2020): *Digital skills shortage is hampering German SMEs' digital transformation*, Focus on Economics No. 277, KfW Research.
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- <sup>49</sup> Cf. German Federal Ministry for Digital and Transport (ed.) (2022): *Verkehr in Zahlen 2022/2023*.
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