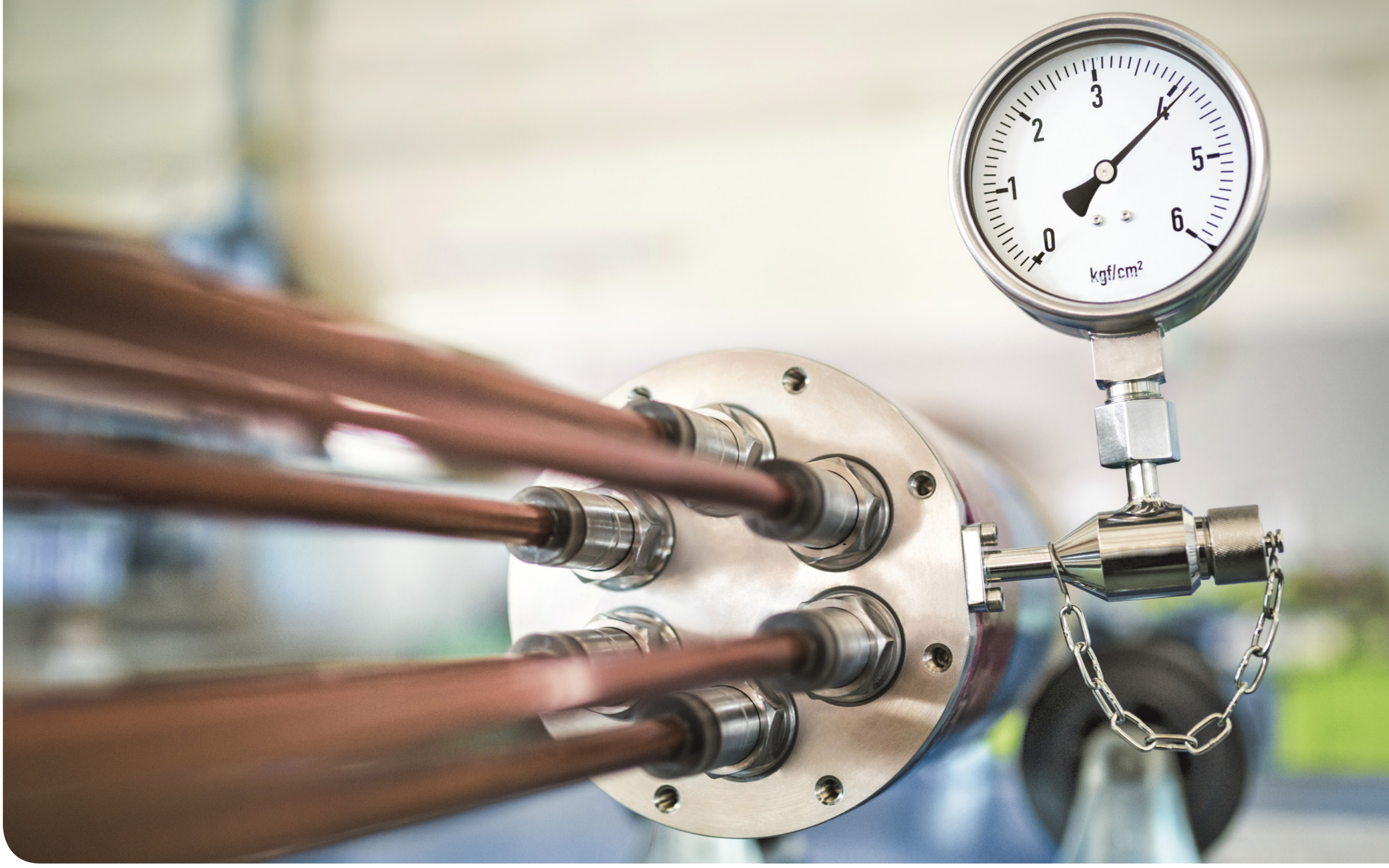

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KfW SME Panel 2019

After a record year, dark clouds are gathering – SMEs between all-time highs and recession fears

Annual analysis of the structure and development of SMEs in Germany

Imprint

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After a record year, dark clouds are gathering – SMEs between all-time highs and recession fears

Abstract

Germany's SMEs have broken one record after another. The strong domestic economy allowed small and medium-sized enterprises (SMEs) to grow at record pace again last year. The year 2018 saw their strongest turnover growth in seven years, another employment record and persistently high levels of investment. They continued to make an outstanding impression overall.

Specifically, the KfW SME Panel 2019 has shown that the services sector is the mainstay of persistent job growth, steadily growing in importance for the labour market. SMEs' overall turnover has continued to expand. The construction industry has posted particularly strong gains, while manufacturing is showing signs of weakness.

Profitability remains steady on a high level. However, large enterprises continue to have problems earning profits while micro-businesses are becoming more profitable. The equity ratio remains on a high level. The signs are growing that the long-running build-up of companies' equity ratio could come to an end.

Investment growth is continuing. New investment increased for the fifth year running. The number of SMEs undertaking investments is clearly growing. Capacity expansions continue on an above-average level. The average size of investment projects also remains on a high level and investment activity is heavily shaped by service providers.

Last year, the financing environment was reflected in investment finance activity more clearly than ever. Borrowing surged to an all-time high, driven by long-term bank loans. The number of borrowers remained constant, however, meaning the ticket size jumped accordingly. This was helped by an historically low application denial rate, as loan negotiations were highly successful. Micro-businesses are gaining strength. As borrowing increased, SMES have been using fewer of their own resources and retaining reserves they built up in the past.

A look at the past year once again reveals all-time highs. It is true that SMEs will continue on the growth path they embarked on in 2019 as well. Employment, turnover and investment will continue to expand amid continuing good financing conditions. But the momentum is slowing down noticeably as the long-running upturn appears to be gradually coming to an end. Moreover, trade conflicts harbour considerable downward risks to the business cycle and uncertainty is currently high.

Along with the significant cyclical slowdown in Germany, that forebodes the end of the record years for the SME sector, even if on a very high level for now. Nevertheless, the dark clouds on the horizon are now difficult to overlook.

Jobs in the SME sector: another record high

Employment in the SME sector has grown from strength to strength in the past years. This record-breaking run also continued in 2018. Small and medium-sized enterprises (SMEs) broke the employment record they set in the previous year and further expanded their relevance as employers for the overall economy. At the end of 2018, 31.7 million people were employed by small and medium-sized enterprises in Germany. That was an increase of 391,000 workers or 1.3% on the previous year (Figure 1).

In the aggregate economy, the workforce has now been growing for the past twelve years. At the end of 2018 a total of 45.1 million people were gainfully employed in Germany. That was 604,000 gainfully employed persons more than in the previous year, a 1.4% increase.[1] At the heart of this ongoing employment growth of the past years were, without a doubt, small and medium-sized enterprises, which recorded 5.5 million more employees since 2006.

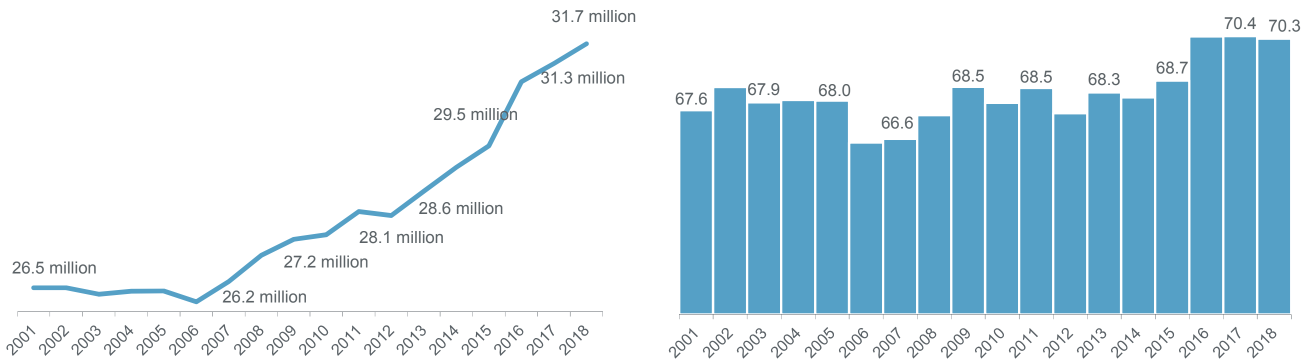
This strong dynamic has made SMEs increasingly important for the labour market in Germany. Their share in aggregate employment has grown gradually and is now at a very high 70.3% (Figure 1, right). The sideways movement over the past years is unsurprising given the high level already achieved.

Employment growth will not cease in 2019 either

SMEs will continue to hire workers for the remainder of this year as well and fulfil their role of job engine, as indicated by the employment expectations they have formulated: Around 17% of SMEs want to increase their workforce this year, as opposed to some 10% of SMEs planning redundancies. The balance is similar to that of previous years.

Figure 1: Employment in SMEs

Persons employed in the SME sector (left) / share of SME sector in aggregate employment in Germany in per cent (right)



Source: KfW SME Panel 2002–2019.

Aggregate employment growth in Germany was 0.8% year-on-year at the end of July 2019.[2] That was a workforce of around 45.1 million people and lower growth from the same time in the previous year (July 2018: 44.7 million / +1.3% year-on-year). In other words: The pace at which new jobs are being created is slowing down. Realistically, around 250,000 new jobs (net) can be expected in the SME sector in 2019. In all probability, the mark of 32 million workers will not be reached.

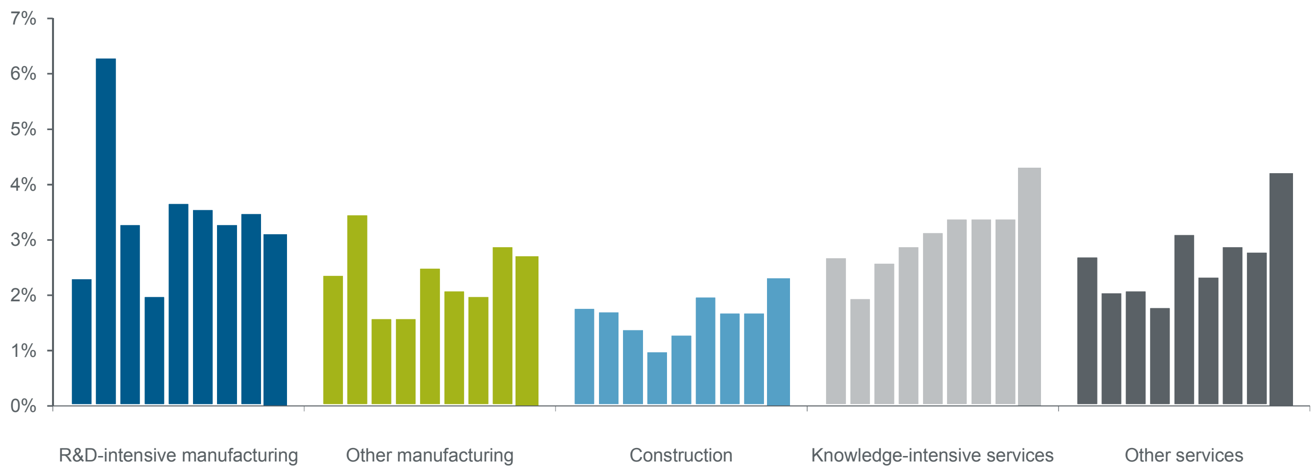
Services are the linchpin of the most recent jobs boom

Services were the cornerstone of employment growth in SMEs in 2018 (Figure 2). Both providers of knowledge-intensive services[3] (4.3%) and other services[4] (4.2%) achieved their highest employment growth in more than ten years in 2018. This drives the development in the entire SME sector. The full-time equivalent (FTE) employment growth rate[5] was 3.3% on average across the SME sector. That means the momentum has picked up once again from what have already been strong previous years (Figure 4).

One factor that contributed substantially to the stronger momentum last year was the 2.4% growth in full-time employment in the SME sector. By contrast, part-time employment in SMEs decreased by 1.6%. This is remarkable because part-time employment recently grew strongly several times, by 5% and 6% in the preceding years. The latest development is most likely just a snapshot.

In a more long-term perspective, however, it is clear that part-time employment has grown in importance in general (Figure 3, left). Between 2006 and 2018 – the period of the current employment boom – the number of part-time jobs increased by 52%. The number of full-time jobs grew by a mere 15% during the same period. This development is a reflection of a general trend in Germany. The number of hours worked has been decreasing in the long term (Figure 3, right) despite

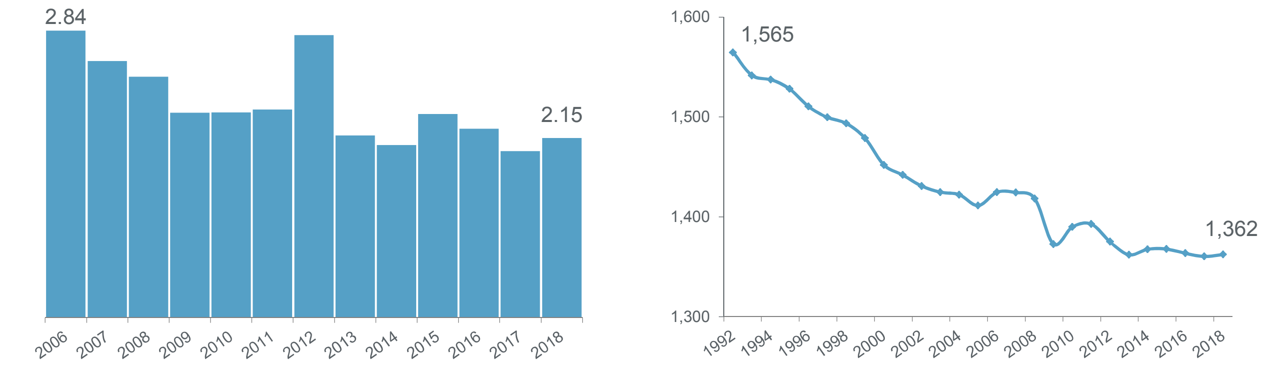
Figure 2: Annual employment growth in SMEs by sector since 2010



Source: KfW SME Panel 2011–2019.

Figure 3: Significance of employment arrangements and working hours

Left: Ratio of full-time equivalent jobs to part-time equivalent jobs in SMEs / right: Hours worked each year per worker in Germany



Sources: KfW SME Panel 2007–2019; national accounts.

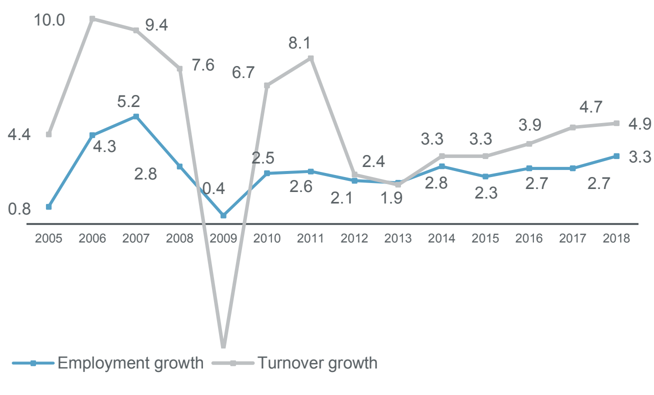
simultaneous employment growth. This is mainly due to the growing significance of flexible working time models, which SMEs are also embracing.

SMEs' turnovers are on a high level and still climbing.

The strong domestic economy of the year 2018 has again helped the generally domestically oriented SMEs to accelerate the pace of turnover growth. Consumption and residential construction were the main pillars of economic growth in the past year. SMEs' turnover grew by an average 4.9% year-on-year. That was the highest growth rate of the past seven years (Figure 4). At the same time, the overall picture also shows that none of the SME segments has returned to pre-crisis growth rates. Aggregate domestic turnover is currently at around EUR 4,100 billion.

Figure 4: Annual employment growth and turnover growth rate

In per cent



Source: KfW SME Panel 2006–2019.

Micro-businesses and construction firms set records, industrial SMEs show signs of weakness

The current cyclical upturn is particularly beneficial for the turnover of micro-businesses with fewer than five employees and SMEs in the construction sector. The growth rates in these two segments exceeded the corresponding multi-year mean[6] by far and, at 6.1 and 8.0% respectively, were the highest of the past 14 years (for details see the related Volume of tables[7] – for an overview see Figure 5). The fast pace of growth of micro-businesses in particular is driving the overall development, as 81% of all SMEs make up this segment alone. Given the persistent boom in residential construction, the high growth rate of construction SMEs is hardly surprising.

Enterprises from the two sub-segments of the manufacturing sector, on the other hand, are showing moderate signs of weakness. Turnover growth rates remain positive but significantly below the previous year's levels (see also Volume of tables). R&D-intensive manufacturing SMEs in particular saw their average growth rate slashed by nearly half (from 6.0 to 3.8%).

E-commerce in SME sector exceeds EUR 250 billion

The intensification of digital business processes is increasingly being reflected in SMEs' turnover. In the year 2018 their e-commerce turnover reached EUR 255 billion.[8] This includes, for example, digital market places, online shops, procurement platforms and automatic data exchange between enterprises. That is a 27% increase in the digital sale of products and services since the last survey in the year 2016, when it was EUR 201 billion (2015: EUR 153 billion). The current high growth rates result from the fact that this is still a relatively new sales channel for SMEs whose potential has not yet been fully harnessed.

Around 800,000 SMEs – 21% of all SMEs – generated turnover via e-commerce. The contribution of e-commerce to an enterprise's total turnover has recently grown continuously. It increased from a share of 20% in 2015 to 23% in 2016 and reached 26% in 2018 – for enterprises that generated any online turnover. The fact that the next generation of entrepreneurs is adapting their business models more strongly to e-commerce indicates it will gain further importance. Its contribution to turnover already averages 54% for young SME owner-managers (under the age of 40).

A relatively small group of very online-oriented businesses accounts for the lion's share of e-commerce turnover. SMEs that generate at least half of their overall turnover via e-commerce account for EUR 168 billion or two thirds of all e-commerce turnover alone. They achieve an average 55% of all their turnover via this channel. The bulk of online turnover in the SME sector overall (at least an estimated 90% or EUR 226 billion) presumably takes place in business-to-business (B2B) operations. Direct business-to-customer transactions (B2C) with e-commerce in SMEs are estimated at EUR 25 billion.

SMEs will (probably) continue on a path of growth in 2019 as well

SMEs' turnover expectations up to the year 2021 are consistently positive (Figure 6). Significantly more SMEs expect their turnover to rise (35%) than to fall (17%).

Nevertheless, the growth driver of the year 2018 – small and medium-sized construction firms – will probably not be able to maintain the fast pace. They will likely increasingly reach the limits of their capacities and the skills shortage will also act as a brake. This is already becoming apparent, as project completions are decoupling from pent-up building approvals and orders received.[9] Perhaps the affected SMEs' turnover expectations already reflect this: In no other segment is the balance between optimistic and pessimistic responses smaller (+3 percentage points vs. +18 percentage points in the entire SME sector).

Dark clouds up ahead: Current indicators signal a slowdown in SMEs' business activities

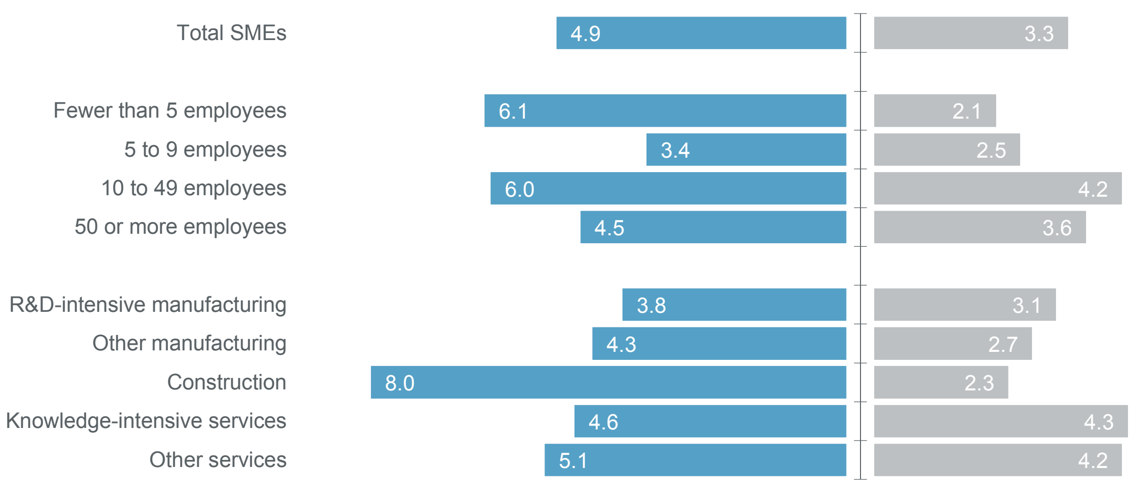
More recent indicators are putting the optimism which SMEs expressed during the survey period of the KfW SME Panel (spring 2019) into perspective. It appears the record run is coming to an end – alongside the clear economic slowdown in Germany since spring.

The KfW-ifo SME Barometer shows an above-average decline in SME business sentiment at the end of summer and the start of autumn 2019 (Figure 7).[10] Small and medium-sized enterprises have long proven to be relatively resilient to business cycles, while sentiment among large enterprises has been characterised by considerable pessimism for quite some time now. That negative sentiment, however, has now started to spill over to SMEs with some delay. The crisis is also likely to envelop SMEs in the medium term.

Irrespective of a minimal improvement at the current margin[11], SMEs' business situation assessments and expectations for the coming six months have recently been much lower and the trend has accelerated.[12] With a view to economic performance, this points to a dim second half year, as a technical recession – defined as at least two consecutive negative quarterly growth rates – seems almost inevitable. The main cause of this is external weakness (a sluggish global economy, escalating trade conflicts and enormous Brexit uncertainties) which has now spilled over into the domestic economy.

Figure 5: SME turnover (left) and employment growth (right) by segment

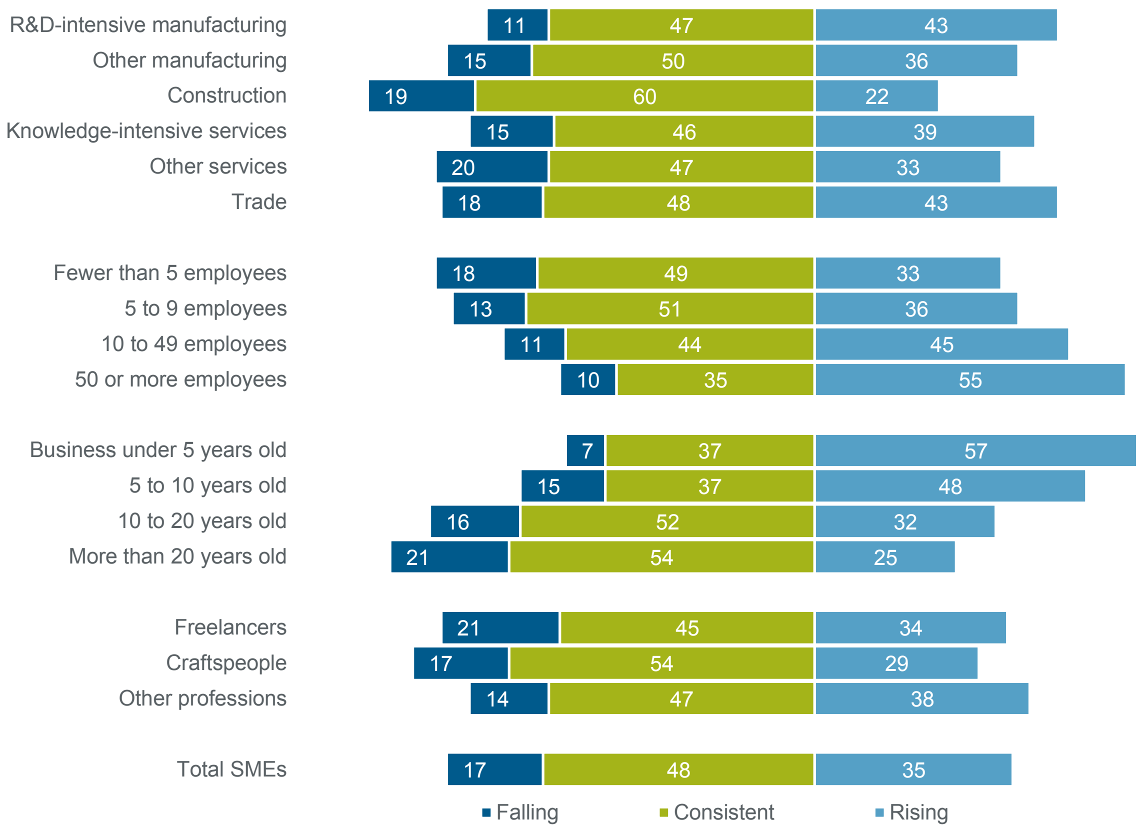
Growth rates in per cent



Source: KfW SME Panel 2019.

Figure 6: SMEs' turnover expectations up to 2021 (compared with the year 2018)

In per cent



Source: KfW SME Panel 2019.

Further indicators on business development also show deteriorating confidence on various levels – although it remains high: Orders have been weakening slightly (especially in manufacturing), turnover and revenues are not increasing as much and SMEs' hiring plans are becoming more cautious.[13]

The bottom line is that SMEs are facing a year of uncertainty. The long-running upturn appears to be gradually coming to an end. Despite the many records broken last year, there are dark clouds on the horizon.

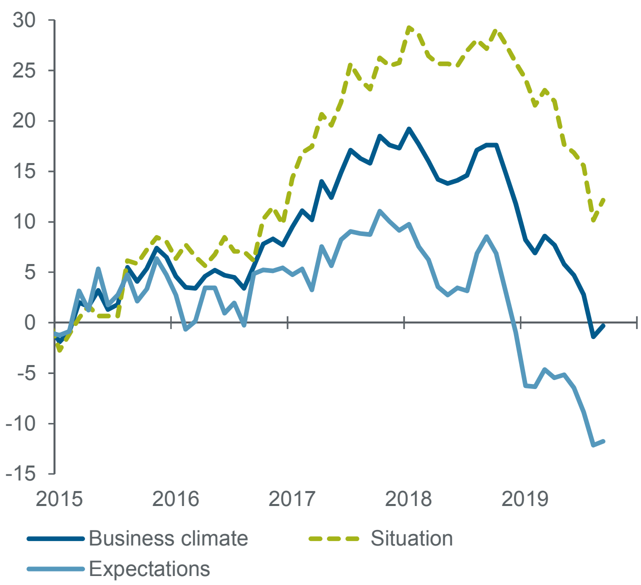
Profitability increased slightly on what is already a high level

Small and medium-sized enterprises have recovered the minor losses in profitability of the previous year. The average profit margin[14] in the SME sector rose moderately by 0.2 percentage points to 7.4%. After a moderate decline was recorded last year for the first time in eight years (and a stagnation in the previous year), this minor increase is a welcome one.

SMEs' profitability has thus remained virtually unchanged since 2015. However, the longer-term trend is extremely positive. In 2006, the mean profit margin was a mere 4.4%. It has thus improved by around two thirds or three percentage points since then.

Figure 7: SME business climate

In balance points



Sources: KfW-ifo SME Barometer, KfW Research, ifo Institute

The considerable improvements of the past years are reflected not just in the average but in the overall distribution as well. Significantly more SMEs have a higher profit margin and notably fewer SMEs have a lower one. This is mainly the result of robust turnovers and turnover increases achieved by SMEs in the past years:

– At present, 60% of enterprises have a high profit margin in excess of 10%, which only 43% of enterprises achieved in 2006.

– At the same time, the share of SMEs with a negative profit margin dropped to now 9%, down from a very high 21% in 2006.

Profit margins rose in construction and micro-businesses but are weak among knowledge-intensive service providers and large SMEs

The massive turnover growth achieved by SMEs in the construction sector saw their profits rise (Figure 8, right side). Their profitability reached a very high rate of 8% on average (+0.9 percentage points on the previous year). Micro-businesses benefited from good turnover figures as well and in 2018 were more profitable than ever before. The mean profit margin of SMEs with fewer than five employees was 15%. As with turnover, it is these two business segments that determine the rate across the overall SME sector.

The profit margins of individual segments in the SME sector reflect the variations in their turnover. This became clear in 2018 but not just in a positive sense. In the meantime, large SMEs continue to have problems earning profits. Profit margins of SMEs with 50 and more employees failed to increase for the fourth year in a row. This is the enterprise size class with the lowest profitability growth since 2005 (Figure 8, left). Their profitability has shown an almost continuous sideways movement since 2012.

Not so the micro-businesses. On balance, the gap is widening further, as small SMEs were around 3.6 times more profitable than large SMEs in 2018. But this is also a matter of commercial necessity because smaller businesses cannot or hardly benefit from economies of scale because their batch sizes tend to be smaller. In addition, large SMEs in particular have hired a disproportionately high number of workers in the past years (see Volume of Tables). This workforce growth may have involved a disproportionately high increase in human resources expenditure.

The same rationale might be applied to businesses in the knowledge-intensive services sector. These companies have exhibited disproportionately and consistently high workforce growth in the past years (Figure 2). Their headcount grew at an enormous pace in 2018 in particular. The related increase in human resources expenditure may be the reason their profitability virtually slumped despite strong turnover growth (Figure 8, right). The profitability of SMEs in the knowledge-intensive services sector was 11.6%, three percentage points below the previous year's level (2017: 14.6%).

Labour productivity up slightly, bolstered by industrial SMEs

The relatively strong turnover increases in the SME sector (highest growth rate of the past seven years) provided moderate impetus to labour productivity[15]. Average turnover per full-time equivalent employee increased by around 2.5% after a slight drop in the previous year and is now at around EUR 126,000.

Labour productivity across the SME sector has therefore been moving virtually sideways for nearly ten years with only minor variations. Especially in the recent past, businesses in the knowledge-intensive services sector and small SMEs in particular achieved no or no significant productivity gains at all (Figure 9).

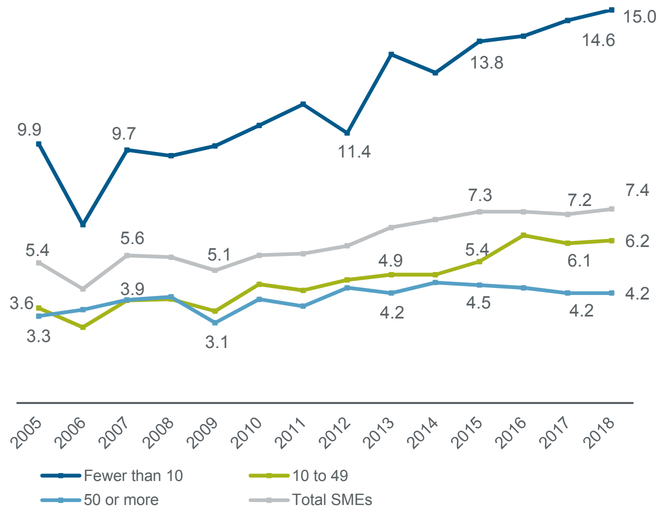
Because of their high numbers, the key figures from these two segments are crucial to the development of the entire SME sector. A total of 1.51 million SMEs alone are classified as knowledge-intensive service providers and 90% of all SMEs are micro-businesses or small SMEs. The more the sectoral transformation shifts in favour of the services sector, the more closely aggregate productivity is coupled with the growth of small service providers. In the aggregate analysis, the much more productive segments (e.g. R&D-intensive manufacturing[16] or SMEs with 50 and more employees) hardly make a difference.

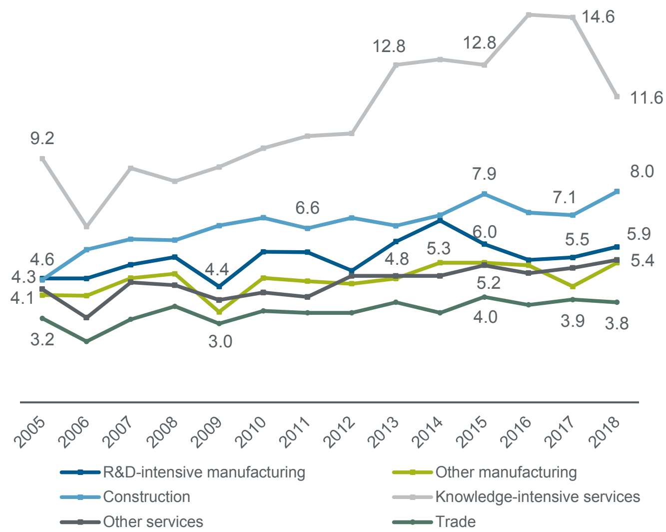
Structural productivity gap has remained nearly unchanged for the past 16 years

Productivity reached 97 index points on average in 2018 (2017: 94; base year 2003=100 index points). The aggregate productivity gains were largely spread out, as most segments experienced increases. The structural productivity gap[17] between large and small SMEs widened slightly for the second consecutive year and was 33% in 2018. In other words, micro-businesses achieve around 67% of the labour productivity of large SMEs.[18] That rate has been nearly unchanged since 2003. Micro-businesses therefore have had roughly the same structural productivity gap with large SMEs for the past 16 years.

Figure 8: SME profit margins by size class (left) and industry (right)

Size class by number of full-time equivalent employees, figures in per cent

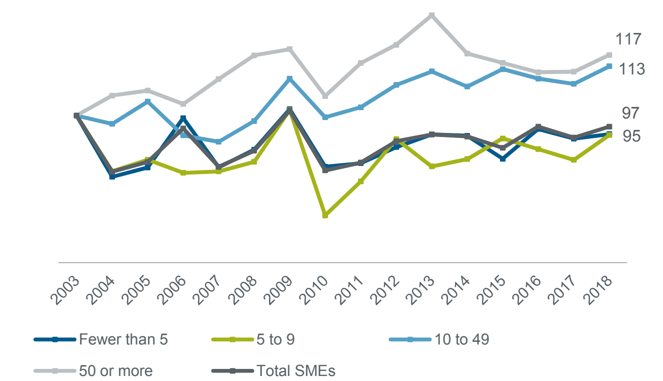


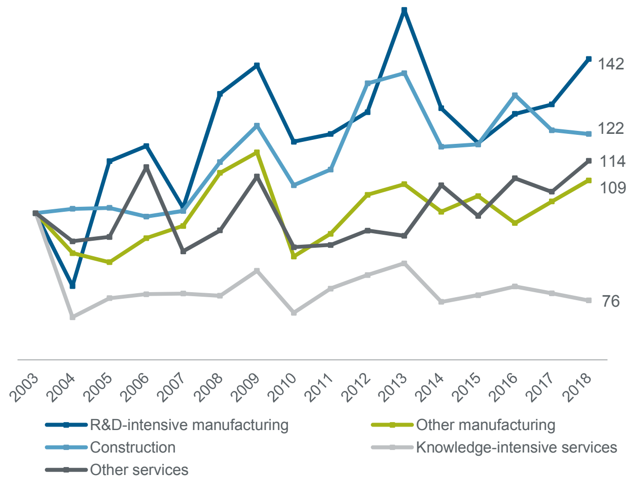


Source: KfW SME Panel 2006–2019.

Figure 9: SME productivity by size class (left) and sector (right)

Size classes by number of full-time equivalent employees





Notes: The figure shows indexed values (2003=100) of labour productivity (turnover per full-time equivalent employee), missing data on turnover and employees were imputed.

Source: KfW SME Panel 2004–2019.

No end in sight to the investment boom: New investments were up sharply in 2018

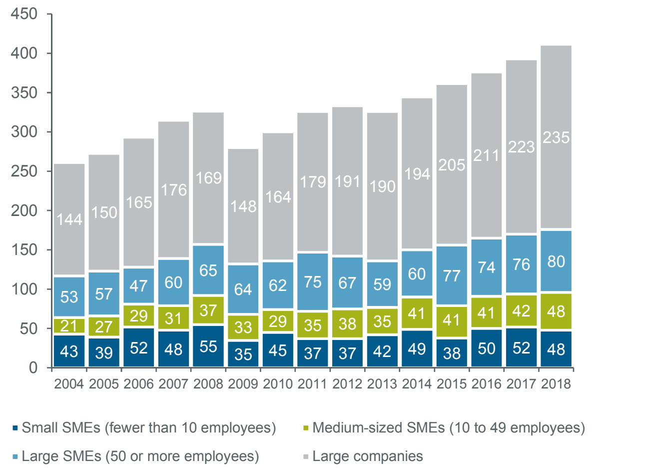
Small and medium-sized enterprises again invested more in 2018 than the year before. The ongoing investment boom thus continued for the fifth consecutive year. SMEs' investments in **new** plant and buildings (gross fixed capital formation or new investments) were up by EUR 8 billion or 4.5% last year, another strong increase. New investments by SMEs thus totalled some EUR 184 billion.

At the same time, investments in **second-hand** goods rose slightly by EUR 1 billion to EUR 36 billion (+2.9% on the previous year). In the aggregate, the **volume of total investment** in the SME sector thus increased by EUR 9 billion (4.3%) and is now a nominal EUR 220 billion. That is the highest level recorded in the KfW SME Panel since 2003.

The share of capacity expansion investment was high again last year (54%). The volume of funds invested in replacement acquisitions was 36% (Figure 11). It is known from previous analyses that when businesses expand capacities, their total investment expenditure is higher on average than for pure replacement investments. This pattern is also evident in 2018 (Figure 12).

Figure 10: New investment in the corporate sector in Germany

EUR in billions; SME size class by number of full-time equivalent employees



Note: The extrapolation by employment size class of SMEs does not include companies of the remaining sectors. Consequently, the individual data on new investment undertaken by the SME size classes do not add up to the total sum of new investment (gross fixed capital formation) shown in the text.

Sources: KfW SME Panel 2005–2019; national accounts (as at 10 September 2019).

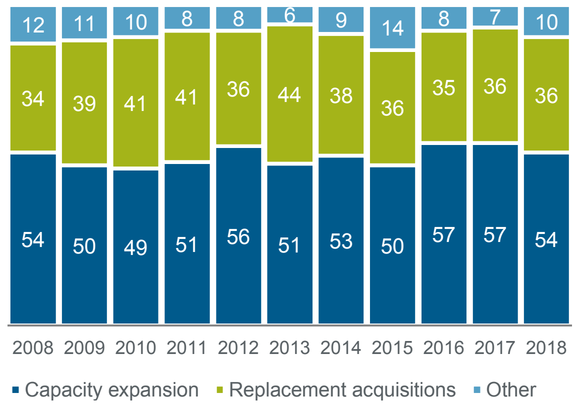
The face of the sectoral transformation: service providers are investing the most

Services again dominated investment volume, as SMEs from services industries invested more in 2018 than ever before. Enterprises offering knowledge-intensive services, in particular, invested an all-time high of EUR 67 billion. One explanation for this is the fact that SMEs in this segment generally invest higher sums per full-time equivalent employee. In 2018 this measure (also known as investment intensity) averaged EUR 10,600. Construction firms, on the other hand, invest only EUR 5,600 per FTE employee. Manufacturing SMEs also remain far below these levels. Across the entire SME sector, businesses currently invest approx. EUR 8,400 on average per FTE employee (see Volume of tables for details from each segment).

Service industries accounted for 55% of new investment (EUR 101 billion) and also 55% of total investment (EUR 122 billion). For comparison, the long-term average of both rates is approx. 47% (2004–2017). In 2004 the share of services in total investment and new investment was just 42%. In other words, in the past 15 years the relative importance of service enterprises for SMEs' investment activity has grown by nearly one third.

Figure 11: Types of investment in the SME sector

Percentage of investment volume

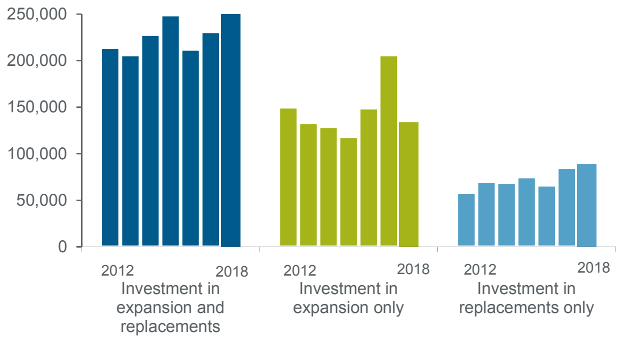


Note: The category 'Other' comprises, inter alia, innovation, rationalisation, renovation, restructuring and repairs.

Source: KfW SME Panel 2009–2019.

Figure 12: Average volume invested by an enterprise, by type of investment

EUR



Source: KfW SME Panel 2013–2019.

As investment expenditure grows, so does the number of investors

Last year the number of investing SMEs increased along with the growth in investment expenditure. The investment propensity – i.e. the share of SMEs with investment projects – increased or at least remained the same in nearly all SME segments in a year-on-year comparison (Figure 13). The share of investing SMEs increased overall by four percentage points to 42% in 2018. The 'slump' of the year 2017 was hence offset by SMEs' increasing investment propensity. Some 1,580,000 enterprises invested – around 180,000 more than before.

However, recent developments should not obscure the longer-term trend of more dampened investment propensity in the SME sector. In the years 2006 to 2008, more than one in every two enterprises invested – a rate unmatched since then. It is not least the sharp decline in the investment propensity of micro-businesses (firms with fewer than five employees) compared with other segments that is keeping the aggregate share of investors in the SME sector low. But even the rather investment-prone manufacturing enterprises have also exhibited a diminishing investment activity over time (Figure 13, right side).

Project size remains (nearly) unchanged on a high level

The pool of investing enterprises has grown noticeably. That also drove overall investment expenditure in 2018. On average, investors employed a similar volume of funds as in the year before. Among those small and medium-sized enterprises that invested, the average amount invested was EUR 149,000.[19]

The median dropped slightly, with half the investment projects amounting to less than EUR 22,000. This is a clear sign that SMEs' investment projects by and large tend to have a modest volume – even though they have been characterised by an above-average number of larger projects in the past years.

SMEs have grown their capital stock

In 2018, SMEs made around EUR 184 billion of new investments but depreciated approx. EUR 142 billion. Their net investment thus totalled EUR 42 billion.[20] The capital investment to depreciation ratio continues on a very good level of 130%.

Large enterprises with an annual turnover in excess of EUR 500 million also succeeded in at least offsetting the loss in value of their capital stock with sufficient new investment last year. Their new investment now increased by EUR 12 billion to a nominal EUR 235 billion. The volume of depreciation was on an identical level, which puts large enterprises' net investment at zero. That makes 2018 the first year with no loss of value (negative net investment) for large-scale enterprises since 2012 and only the fourth year since 2004.

Aggregate gross fixed capital formation of the corporate sector [21] in Germany grew from approx. EUR 399 billion to EUR 419 billion. The share of small and medium-sized enterprises in new investment by all enterprises thus remains quite stable at around 44%.[22]

SMEs have been eager to invest in 2019 as well

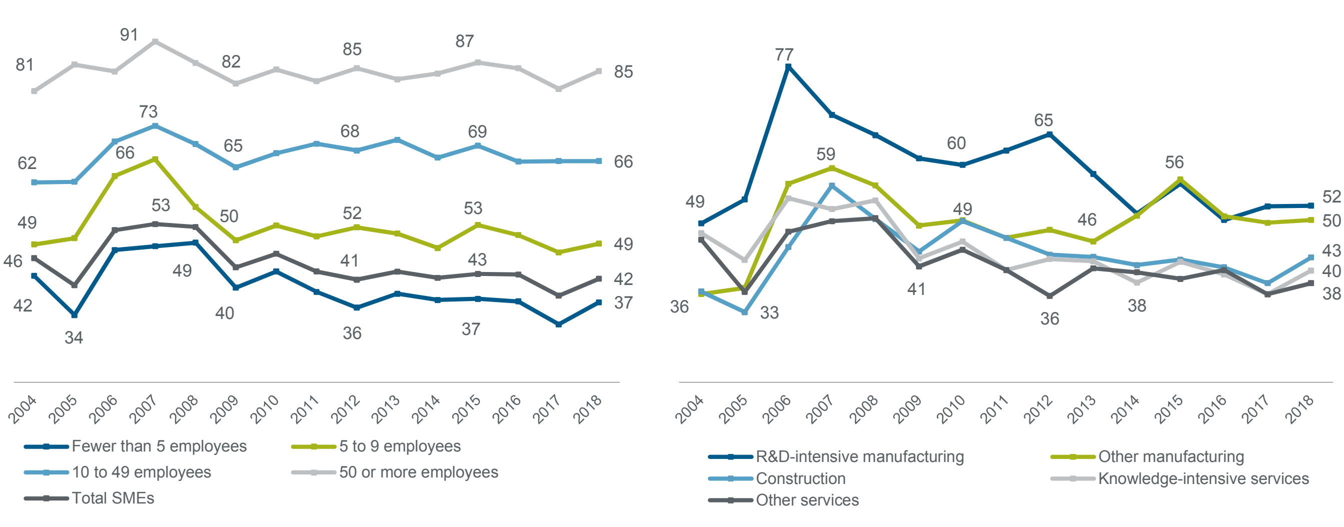
Although the business cycle is slowing, there is nothing to indicate an abrupt end to SMEs' ongoing investment boom. This is evident from the results of the annual representative additional survey to the KfW SME Panel 2019 (see explanatory notes at the end of the report).

It revealed that a persistently high share of 21% of enterprises plan to invest more this year than last year, while 14% of SMEs expect to invest less. The majority of SMEs (65%) are biding their time and expect to invest roughly the same volume.

The renewed positive and slightly increased balance between the ones planning to invest more and those planning to invest less points to a positive growth of new investments in the SME sector in 2019 as well.

Figure 13: Share of SMEs with investments by size class (left) and industry (right)

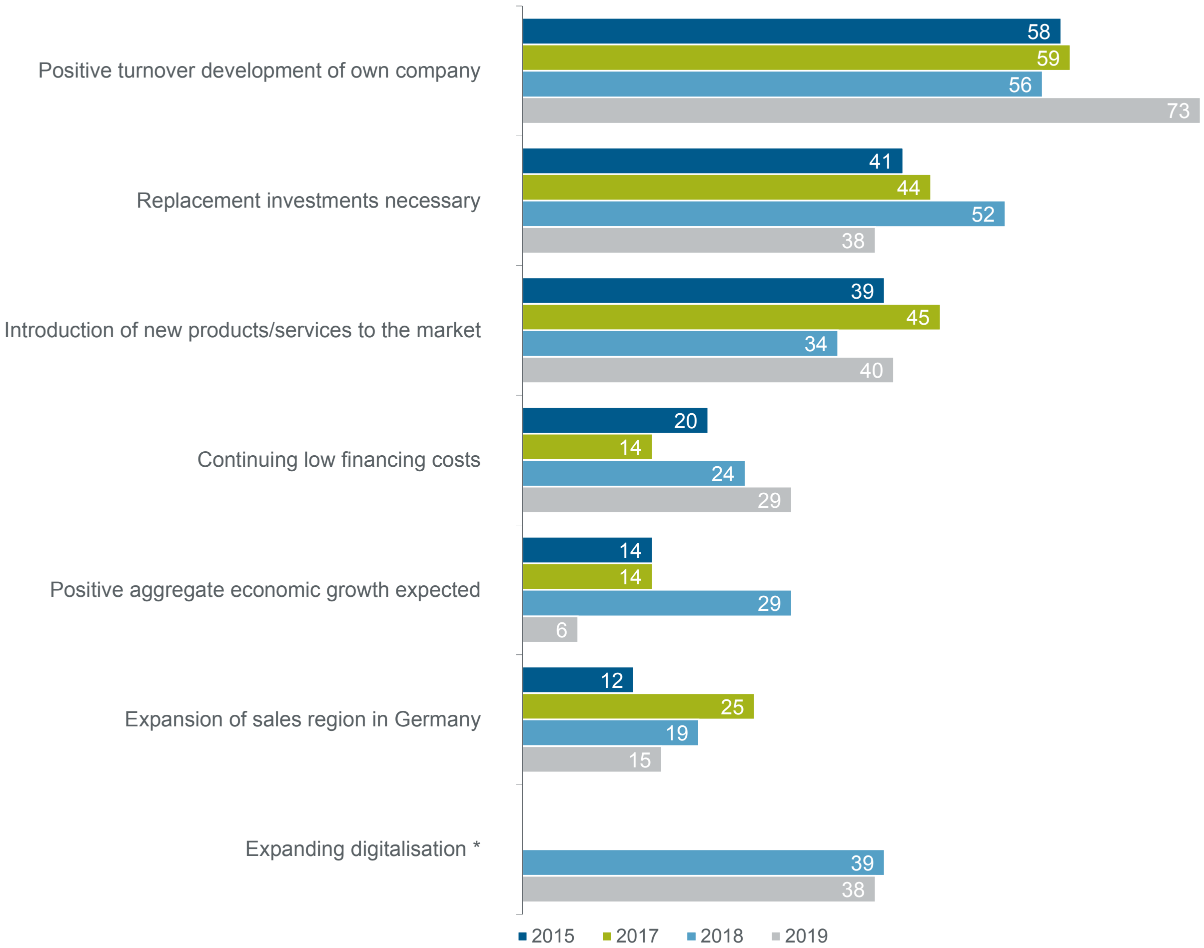
Size classes by number of full-time equivalent employees



Source: KfW SME Panel 2005–2019.

Figure 14: Main reasons for increasing investment in 2019

In per cent; only enterprises with expansion plans compared the previous year



Note: Multiple answers were possible. Selection of three main reasons given by the enterprise. *The category ‘expand digitalisation’ was added in the survey year 2018.

Source: KfW SME Panel 2019 (additional survey September 2019).

Growth outlook, digitalisation and borrowing costs are keeping SMEs’ investments on a high level

The survey of the causes of additional investments makes one thing perfectly clear this year: Enterprises still have faith in the high domestic demand and strong consumer sentiment (Figure 14). Positive turnover growth was stated by 73% of SMEs as motivation for their plans to invest more in 2019.

However, companies’ individual growth assessments deviate sharply from their assessments of the economic trend. The latter is rather more consistent with the outlined general downturn in sentiment in the SME sector. Only 6% of enterprises still plan to increase their investment expenditure because they expect positive economic growth. That is a decline of 23 percentage points on the previous year and may be seen as a sign of the dark clouds gathering on the horizon.

What is striking is the renewed increase in the share of enterprises which regard persistently low borrowing costs as the main factor for investing more (29%).

Digitalisation is another motive for investment, as it was in the previous year. A share of 38% of SMEs plan to invest more to pursue digitalisation activities. This is a very welcome development, given that SMEs’ spending on digitalisation remains rather low. It is true that the number of SMEs that have successfully completed digitalisation projects is on the rise (30% in the period of 2015–2017). But average digitalisation expenditure stagnated at EUR 17,000 from the previous year[23].

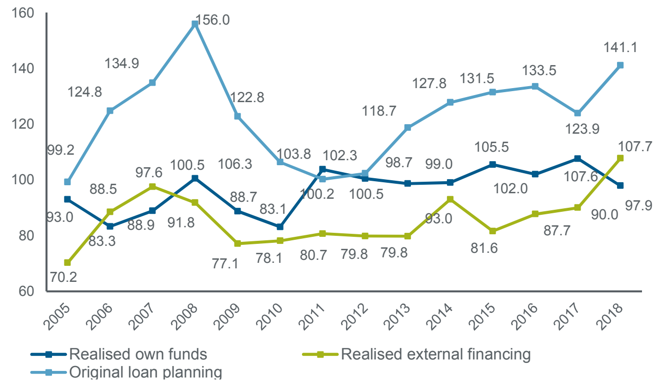
Some 500,000 SMEs negotiated loans and plan higher loan amounts

In 2018, a total of 498,000 SMEs conducted negotiations with banks and savings banks on loans to finance their investment activities. That is around one third of all investors last year. This shows that enterprises were reluctant to engage in loan negotiations again in 2018 (Figure 16). There appear to be growing signs that the volumes of the pre-crisis years will probably not be achieved. From the viewpoint of SMEs, arguments against borrowing to finance investment projects include the desire to be financially independent, concerns about the effort involved and disclosure and documentation requirements.

SMEs' borrowing plans for investment purposes increased by EUR 17 billion to EUR 141 billion at the start of the year despite their rather weak willingness to negotiate last year (Figure 15). The last time a similar level was recorded was in the crisis year 2008. The cause of this development was an increase in planning for very large volumes in excess of EUR 500,000. The initially planned annual average volume per enterprise conducting loan negotiations also increased and is now at EUR 324,000.

Figure 15: Loan planning at start of year and realised financing volume

EUR in billions



It is important to note that the initial loan planning is almost never fully realised. Plan revisions due to changed business strategies must be taken into account above all. Details can be found in Reize (2011)[24].

Source: KfW SME Panel 2006–2019.

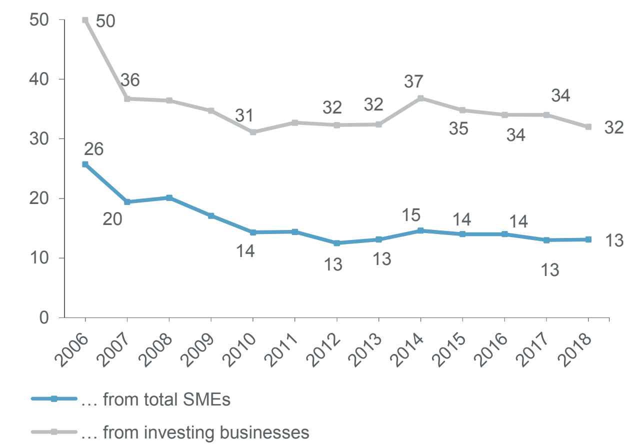
Traditionally, SMEs sometimes plan well above their actual needs and credit volumes ultimately realised. Thus, the initial planning regularly exceeds the bank loans taken up by SMEs by around 50% and the total borrowed funds realised by 30% (mean values of the years 2005–2018). This is mainly because investment and financing plans are amended during the year as investments are deferred, reduced or cancelled, for example.

SMEs are taking advantage of the financing environment: borrowing for investments is at an all-time high, long-term loans are in demand

The volume of loans from banks and savings banks actually used to finance investments was higher than ever before in 2018 (Figure 17). SMEs borrowed new short-term and long-term bank loans totalling EUR 75 billion to finance their investments (EUR 9 billion more than in the previous year). The share of loans in the financing volume increased to 34%. Bank loans were already heavily sought after in the previous year and now the demand was even higher.

Figure 16: Enterprises with negotiations on investment loans

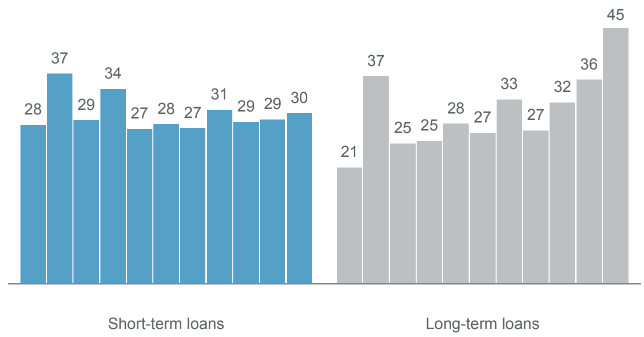
Shares in per cent



Source: KfW SME Panel 2007–2019.

Figure 17: Credit financing for investment

EUR in billions



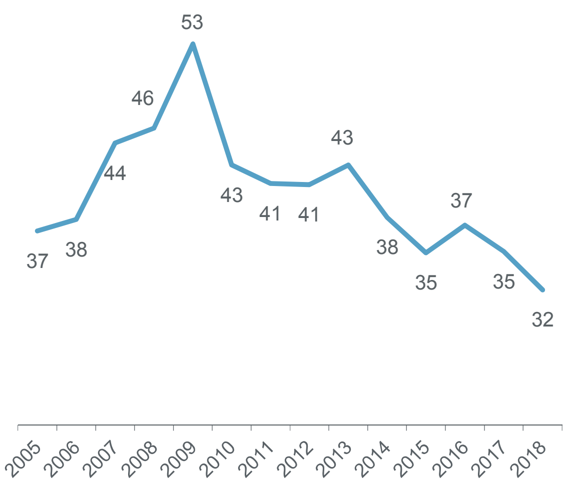
Source: KfW SME Panel 2006–2019.

As was the case in the previous year, the increase in credit financing was driven by a higher uptake of long-term bank loans with maturities exceeding five years. In the past, borrowing was made up of short-term and long-term bank loans in roughly equal proportions. That ratio shifted slightly already in 2017 and increased significantly in 2018: While the share of short-term bank loans in total investment volume remained steady at 14% (EUR 30 billion), long-term loans were more sought-after than ever. Their share in total investment volume rose to nearly 21% and totalled EUR 45 billion in absolute terms.

The attractive borrowing terms are having an effect. It is possible that SMEs are expecting a tightening credit supply and higher borrowing costs through rising interest rates. As a result, they are making a greater effort to benefit from the current favourable financing conditions. This also includes, in particular, the relatively low interest rate level, illustrated by SMEs' lowest ever cumulative interest expenditure of around EUR 32 billion in 2018.

Figure 18: Interest expenditures of SMEs

EUR in billions



Source: KfW SME Panel 2006–2019.

Number of borrowers has remained unchanged – but loan ticket size has grown sharply

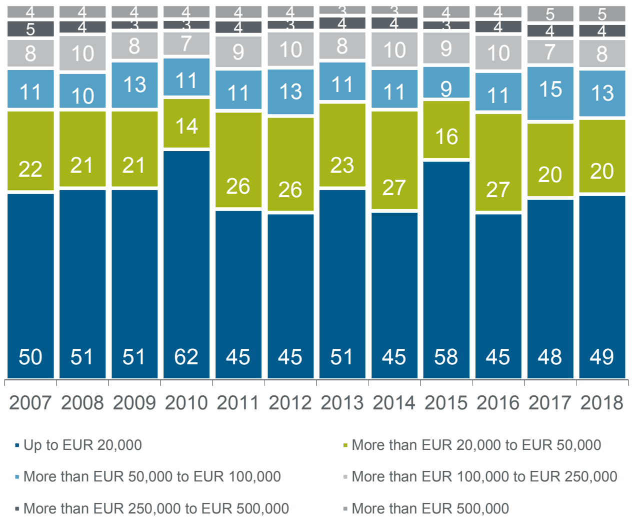
The number of borrowers in the SME sector has not increased despite a noticeable growth in credit volume. In 2018, some 573,000 SMEs took up bank loans to finance their investments. Since the crisis years (when the number of SME borrowers was significantly higher), this figure has been roughly on the same level.

Significantly more businesses are focusing on short-term loans. In 2018, approx. 269,000 SMEs took up a short-term bank loan or made use of overdraft facilities. Around 114,000 SMEs took up a long-term bank loan, and some 190,000 SMEs entered into loan agreements with various maturities. In a year-on-year comparison, the number of borrowing SMEs has remained virtually unchanged. At the same time, however, the total borrowing volume has grown. This is due to an increase in the ticket size (Figure 20 illustrates the development): The average volume of bank loans applied for to finance investment in 2018 was 13% higher than in the previous year and amounted to EUR 130,000. That is the third consecutive increase. To put this in perspective: In the previous ten years (2007–2016) the loan ticket size averaged EUR 97,000.

However, the developments of increasing average loan volumes over the past years should not conceal the fact that SMEs generally – currently and historically – have a moderate borrowing appetite (Figure 19). Nearly half of all investment loans taken did not exceed EUR 20,000 and 82% of all investment loans were less than EUR 100,000.

Figure 19: Bank loan amounts for SMEs

Share of enterprises with bank loans of a specific volume, in per cent



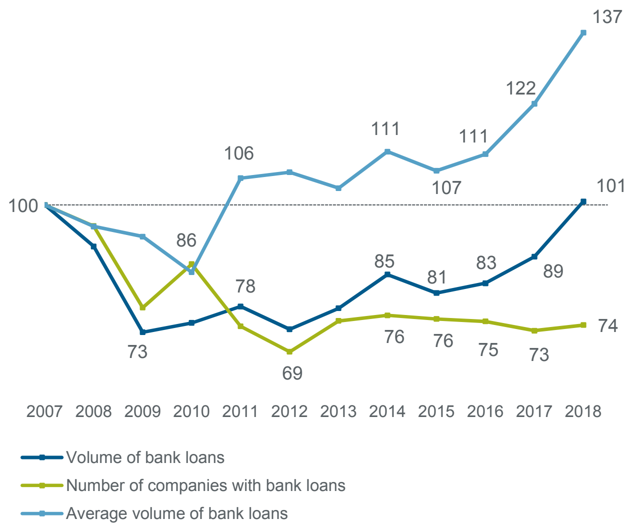
Notes: Only SMEs with loan negotiations that actually used bank loans to finance investment.

Source: KfW SME Panel 2008–2019.

For 2019 it is to be assumed that the days of strong credit growth in the SME sector are slowly coming to an end. Estimates by KfW Research on new lending from banks and savings banks in Germany to enterprises and self-employed persons indicate this as well. Looking ahead, above-average growth rates should hardly be expected anymore. The main dampening effect will come from the subdued economic outlook.[25]

Figure 20: Indexed development of relevant SME borrowing indicators

2007=100 index points



Source: KfW SME Panel 2008–2019.

Large enterprises are driving the trend and have been for quite some time

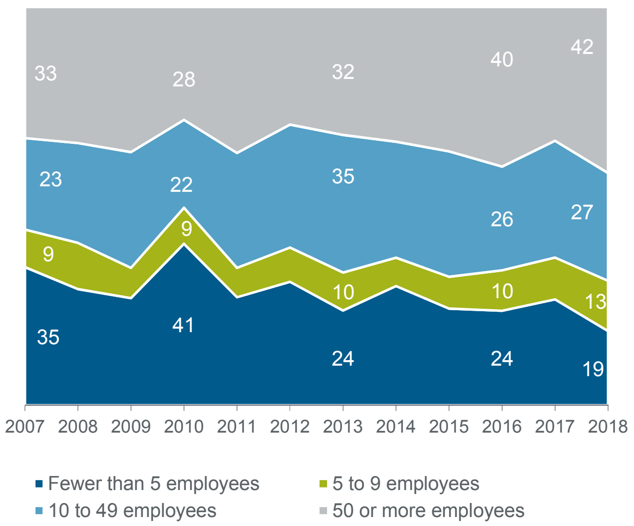
The loan financing dynamic of the year 2018 was driven primarily by large SMEs (Figure 21). SMEs with 50 and more employees increased their borrowing for investment purposes by a massive EUR 8 billion to EUR 29 billion. Their average loan volume jumped to approx. EUR 1.1 million. This financing volume is significantly above average. The long-term average between 2007 and 2017 was quite stable at around EUR 19 billion and the average ticket size during that same period was around EUR 800,000.

At the same time, the share of loan-financed investments in this segment increased by seven percentage points to 31%. On a structural level, a steady, gradual dominance of larger SMEs in overall SME borrowing can be observed since 2007 (Figure 21).

In addition, a look at the different segments shows that R&D-intensive manufacturing industries increased their borrowing. Bank loans reached an all-time high share of 36% of investment volume.

Figure 21: Shares of SME size classes in total SME borrowing

Size class by number of full-time equivalent employees; figures in per cent



Source: KfW SME Panel 2008–2019.

Promotional funds are also in higher demand than before

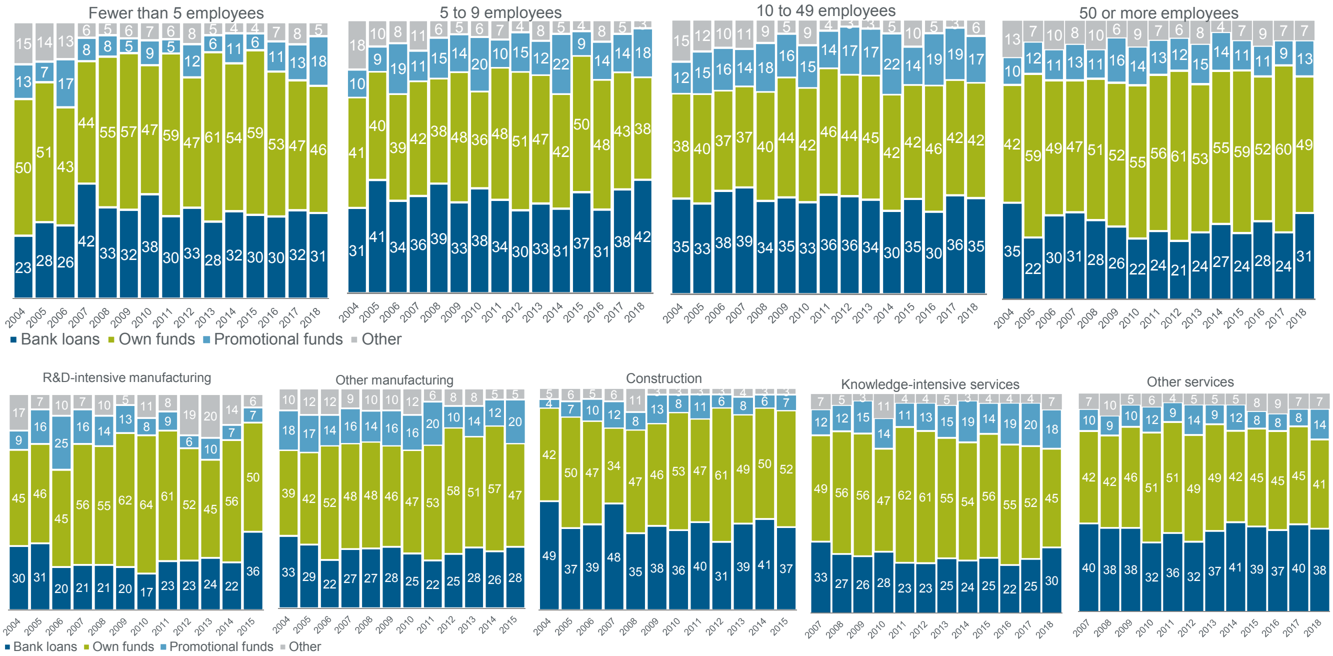
It is not just debt capital that increased as a source of external investment finance in 2018. The use of public promotional funds increased at the same rate. Unlike in 2017, when about half of the additional investment volume came from bank loans and companies' own resources, additional investment last year was financed exclusively from external sources.

The volume of promotional funds used by SMEs rose by approx. EUR 9 billion to EUR 34 billion (2017: EUR 25 billion) – another all-time high. The share of promotional funds in total investment finance rose to 15%. A concentration on any particular segment cannot be established. In relation to their shares, micro-businesses (+5 percentage points), other manufacturing SMEs (+8 percentage points) and other service providers (+6 percentage points) posted the highest increases (Figure 22).

Other sources (e.g. private equity or mezzanine capital) were used to a volume of EUR 14 billion, which represented a share of 6% of total financing volume.

Figure 22: SME investment finance by segment

Size classes by number of full-time equivalent employees, percentage of investment volume



Notes: The category 'Other' comprises, among others, mezzanine capital and private equity.

Source: KfW SME Panel 2005–2019.

Loan denial rate hit historic low, as credit was more accessible than ever

The additional incentives for enterprises to borrow external funds were sweetened by even easier access to credit in 2018. The rate of loan denials determined in the KfW SME Panel (proportion of enterprises whose negotiations on investment loans with banks all failed) was last at 11% – the lowest ever rate (Figure 23).

Bank denials also fell to an all-time low. Thus, loan negotiations in the SME sector failing due to credit institutions not making an offer was at the lowest rate ever (-4 percentage points to 15%). This is a strong indication that credit institutions are taking a much less restrictive approach in their negotiations. A further building block rounds off the extremely positive overall picture: The share of enterprises for which all negotiations on investment loans were successful increased for the third consecutive year to now 64%. Only in 2012 were SMEs generally more successful.

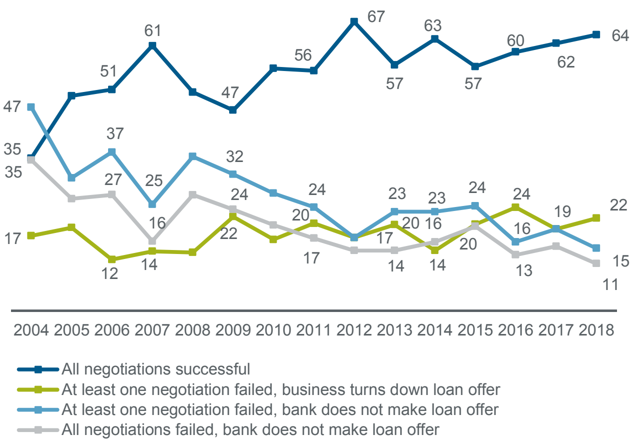
Micro-businesses did well and enjoyed more bargaining power

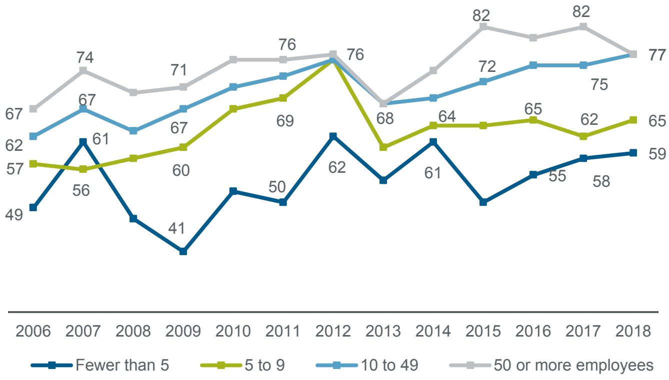
Micro-businesses above all benefited substantially in 2018. The share of bank denials in this size segment fell by seven percentage points to 18%. At the same time, the share of enterprises whose negotiations all failed decreased by five percentage points to a historically low 14%. Although their own denials also increased – i.e. banks more often presented a loan offer that was not acceptable to the enterprise –, this increase could be regarded as an indication of a recent rise in micro-businesses' bargaining power. SMEs may be less willing to accept terms that are unattractive to them because they have sufficient alternatives or other funding options from other sources.

The positive development for micro-businesses specifically is very pleasing. They are particularly often affected by difficulties in accessing capital. The asymmetrical distribution of information means that lenders often have great difficulty or incur very high expenses in accessing the overall credit worthiness or the chances of success of the projects to be financed. Small and young enterprises often do not have a credit history or established relationship with the lender. That makes it harder for them to provide credible assurances that they represent a low risk. As these enterprises usually apply for small loan amounts, the cost of eliminating these information deficits is too high for lenders. As a result, they may add risk premiums to the interest rate and require more collateral or documentation, or they generally offer lower amounts or charge higher costs.

Figure 23: Outcome of loan negotiations and successful loan negotiations by size class

Right: All negotiations successful (in per cent); size classes by full-time equivalent employees

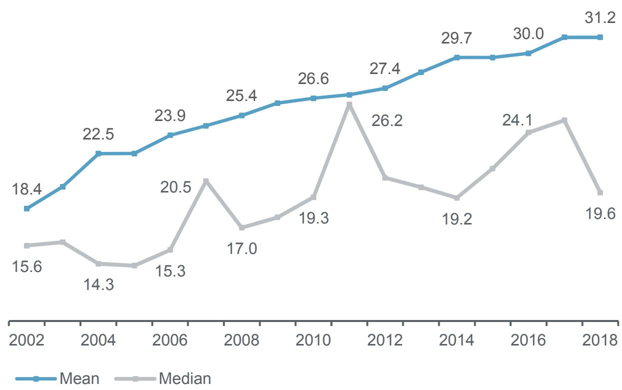


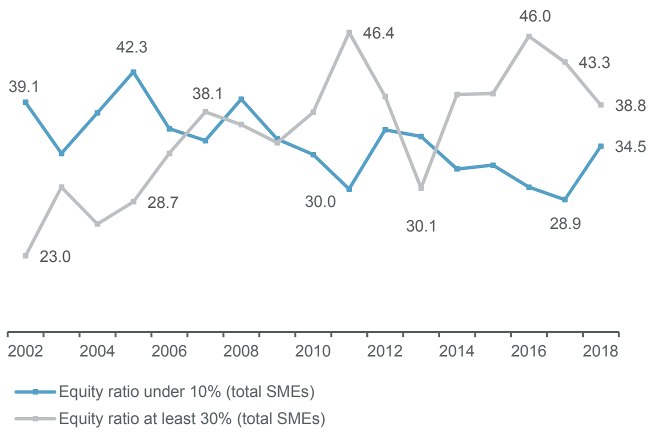


Source: KfW SME Panel 2005–2019.

Figure 24: Basic equity ratio indicators in the SME sector

In per cent





Source: KfW SME Panel 2003–2019.

Firms are holding onto reserves and using fewer own resources

While enterprises borrowed more external funds to finance their investments last year, they were more reluctant to use their own funds (Figure 15). The volume of own resources used by SMEs to fund investments decreased by EUR 10 billion to EUR 98 billion.

Although it was still above the long-term average (2004–2017: EUR 95 billion), the proportion of own resources in overall financing fell by six percentage points to 45%. The last time such a low proportion of internal resources was registered was in 2007. This is a reflection of the very favourable borrowing environment. Businesses fully realised the higher investment expenditure by increasing external financing (bank loans and promotional funds), while focusing more on holding onto the reserves they have built in the past.

This development is most obvious in large SMEs (Figure 22). On average, enterprises in this segment reduce the share of own resources in their investment financing by 11 percentage points to currently 49%.

Equity ratio remains on a record high level

SMEs' self-financing capacity on average remained on the high level of the previous year, as the average equity ratio remained at 31.2% in 2018 (Figure 24). Their financial buffer therefore continues to be very comfortable overall.

In the past, considerations on improving their credit rating, preserving the independence, safeguarding flexibility and the desire for greater resilience in times of crisis have led to a steady build-up in SMEs' equity ratios.[26] Around the turn of the millennium, the equity ratio was still at around 18%. The amendments to banking regulations that had to be complied with later (Basel II) forced enterprises to focus more on addressing their risks and credit rating to avoid jeopardising their access to credit. Given the improvements they have achieved since then in their equity base (2002–2018: average increase of +13 percentage points), SMEs should be equipped for a potentially more difficult financing climate. This is aided by the positive aspect that, just as last year, only 8% of SMEs have a negative equity ratio.

Equity ratio of small SMEs is unable to keep pace, gap is widening and weighing on overall SME sector

Nevertheless, it is hard to overlook the fact that growth has slowed in the past years. Given the already high level, this is comprehensible and reduces the likelihood of sharp rises in the future. Moreover, a detailed look reveals a widening gap between the equity ratios of small and large SMEs (Figure 25, left side). While small enterprises with fewer than ten employees have been hovering on a similar level since 2011, enterprises in the other size classes have gradually increased their equity ratio further (by approx. +7 percentage points each since 2011). This reduces the value for the SME sector as a whole and also lowers the median significantly.

Other indicators for the equity base also suggest that the long record run is coming to an end. The proportion of enterprises that have an equity ratio of less than 10% is now higher again than it has been for the past six years (Figure 24, right side). In a single stroke, they thus cancelled out the improvements previously achieved for this indicator. At the same time, the share of SMEs with a high equity ratio of at least 30% dropped for the second consecutive year to 39%. This is more evidence of the decoupling of the trend in equity build-up in small SMEs, as the deterioration of the indicators mentioned can be observed primarily in the small size segment (Figure 26).

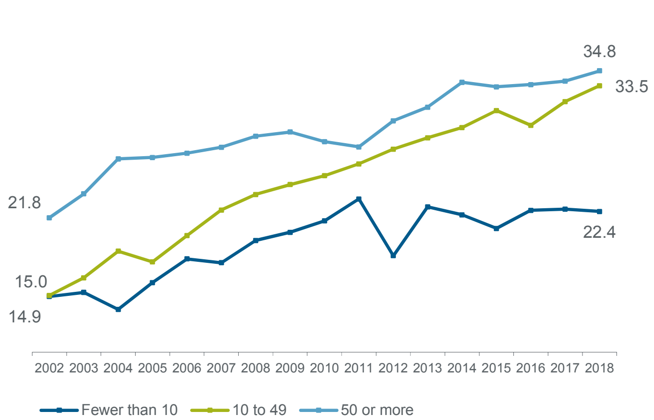
Strong gains for manufacturing and construction, losses for knowledge-intensive service providers

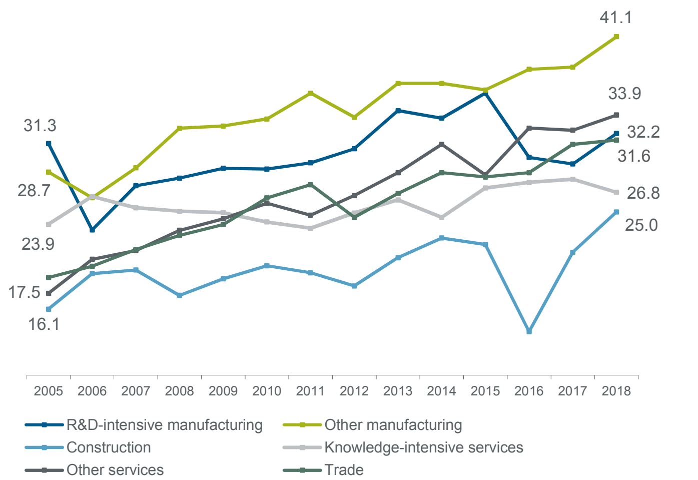
The equity rally nonetheless appears to be continuing in some sub-sectors (Figure 25, right). Other manufacturing companies increased their already high ratio to 41% on average. R&D-intensive manufacturing SMEs posted equally strong gains (+3 percentage points to 32% on average). The average equity of construction firms grew even more strongly, gaining four percentage points and taking the sector to an all-time high of 25%.

By contrast, the decline among knowledge-intensive service providers reflects the muted development of small businesses (-1.2 percentage points on 2017). This sub-segment generally exhibited a very subdued development all across the survey period. It does not show any of the improvement to the equity situation that is visible in the overall SME sector. These SMEs have made no long-term gains (2006: 26.4% vs. 2018: 26.8%).

Figure 25: SMEs’ equity ratios by size class (left) and sector (right)

Size class by number of full-time equivalent employees; figures in per cent

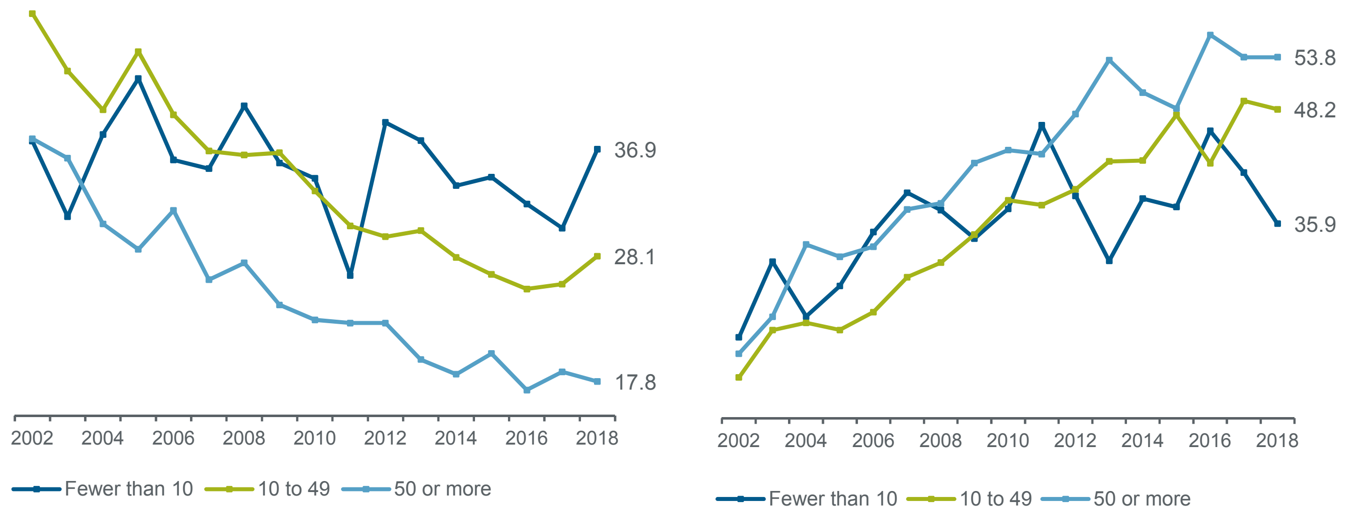




Source: KfW SME Panel 2003–2019.

Figure 26: SMEs with a low equity base (left) and a high equity base (right) by company size

Shares of enterprises in per cent; size class by number of full-time equivalent employees



Source: KfW SME Panel 2003–2019.

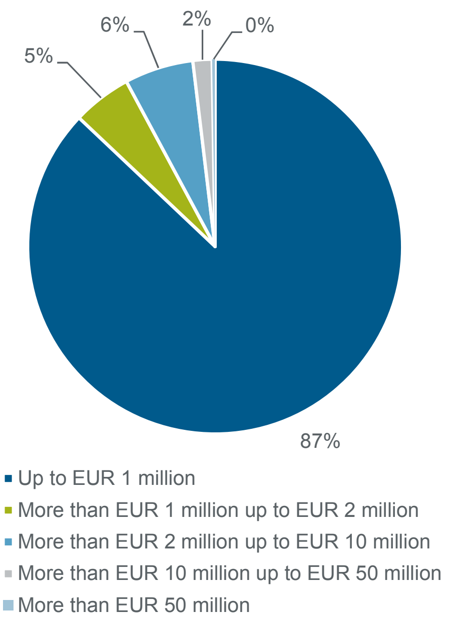
The structure of SMEs in 2018

The SME sector covers all enterprises in Germany with an annual turnover of not more than EUR 500 million. By this definition, there were around 3.81 million SMEs in Germany in the year 2018. The SME sector thus accounts for 99.95% of all enterprises in Germany. Around 3.1 million SMEs (82%) are domiciled in the western German states, while 698,000 (18%) are domiciled in eastern Germany.

SMEs are very small on average

The vast majority of SMEs in Germany is small (Figure 27), with 86% (3.28 million businesses) generating annual sales turnover of less than EUR 1 million. Fewer than 0.3% (or approx. 13,600) of SMEs generate an annual sales turnover of more than EUR 50 million.

Figure 27: SMEs by annual turnover in 2018

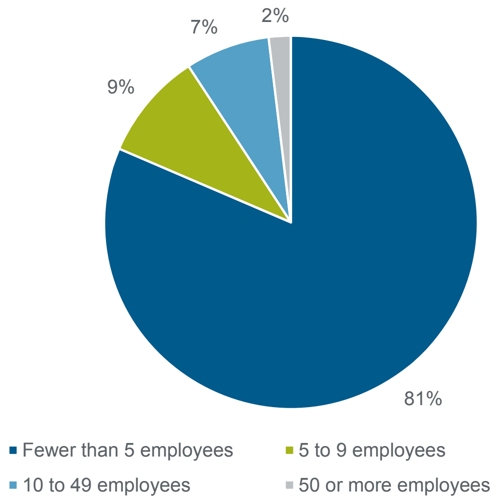


Source: KfW SME Panel 2019.

The fragmented nature of the SME sector is also reflected in the employee numbers (Figure 28). Eighty-one per cent of SMEs (3.1 million) have fewer than five employees. That share has grown by around four percentage points since the turn of the millennium. The share of SMEs with 50 and more employees is 1.9%.

The average SME size in Germany in 2018 was 7.5 full-time equivalent employees (median is 2), or roughly 9.0 workers. The SME sector has become more fragmented in the past years, mostly as a result of increasing tertiarisation.

Figure 28: SMEs by number of employees in 2018

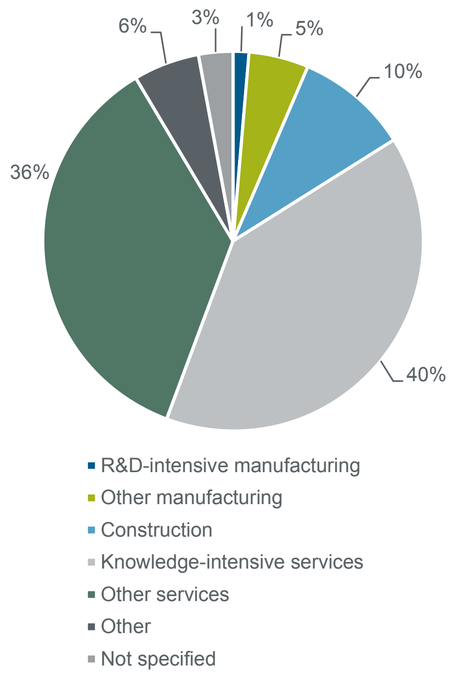


Source: KfW SME Panel 2019.

Increasing focus on services

Service industries are increasingly dominating economic activity. The majority of German SMEs are service providers (Figure 29), with 2.87 million – or 76% of all SMEs – operating in service industries, and 1.51 million of these providing knowledge-intensive services, a trend that is increasing.

Figure 29: SMEs by industry in 2018



Source: KfW SME Panel 2019.

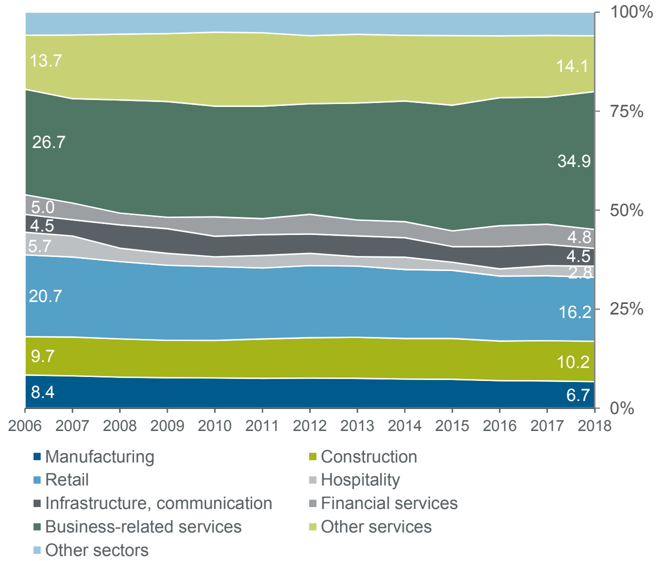
There are many different causes for the shift towards services. One of them is businesses' outsourcing or contracting of what were previously in-company services to third-party companies (for example, IT aintenance, data storage, personnel recruitment, legal affairs and tax matters). These decisions are based on considerations relating to costs, specialisation and division of tasks. Another factor is that structural developments have created an increased demand for services for some time now (driven by demographic change and the growing proportion of small households, for example).

Among the knowledge-intensive services, the subsegment of business-related services accounts for the largest and growing share (Figure 30). Since 2008, their number has increased by more than 300,000. By contrast, the number of small and medium-sized enterprises in hospitality and retail has fallen by some 100,000 each over the same period.

In 2018, around 1.4% of all SMEs were R&D-intensive manufacturers (some 52,000 enterprises). Manufacturing generally accounts for a relatively low share of approx. 6.7% of all small and medium-sized enterprises but employs 16% of the entire workforce.

Figure 30: Shifts in sectoral structure of SMEs from 2006 to 2018

Sectoral shares in per cent each year



Source: KfW SME Panel 2007–2019.

SMEs at a glance

In per cent, unless otherwise specified

	2012	2013	2014	2015	2016	2017	2018
Investments							
Total share of investors	41	43	42	43	42	38	42
Share of investors <5 full-time equivalent employees	36	39	37	37	37	32	37
Share of investors ≥ 50 full-time-equivalent employees	85	83	84	87	85	81	85
Total investment volume (EUR in billions)	191	190	202	199	204	211	220
Investment volume <5 FTE employees (EUR in billions)	50	44	53	45	46	51	42
Investment volume ≥50 FTE employees (EUR in billions)	75	69	71	84	83	86	94
Volume of investment in new machinery, equipment and buildings (EUR in billions)	145	144	158	161	169	176	184
Investment finance							
Initially planned credit requirements (EUR in billions)	102	119	128	132	134	124	141
Total debt capital realised (EUR in billions)	80	80	92	82	88	90	108
Net profit ratio[b]							
Average return on sales	6.0	6.7	7.0	7.3	7.3	7.2	7.4
Average return on sales <10 FTE employees	10.3	13.3	12.6	13.8	14.0	14.6	15.0
Average return on sales ≥50 FTE employees	4.4	4.2	4.6	4.5	4.4	4.2	4.2
Proportion of SMEs with losses	11	11	12	8	10	9	9
Equity base[c]							
Average equity ratio	27.4	28.6	29.7	29.7	30.0	31.2	31.2
Average equity ratio <10 FTE employees	18.5	22.8	22.1	20.9	22.5	22.6	22.4
Average equity ratio ≥50 FTE employees	30.4	31.6	33.8	33.4	33.6	33.9	34.8
Proportion of SMEs with negative equity ratio	12	10	10	11	10	8	8
Employment trends[d]							
Total employment growth rate	2.1	2.0	2.8	2.3	2.7	2.7	3.3
FTE growth rate <5 FTE employees	1.2	2.1	2.6	1.7	2.1	1.6	2.1
Development of turnover[d]							
Total turnover growth rate	2.4	1.9	3.3	3.3	3.9	4.7	4.9
Turnover growth rate <5 FTE employees	2.0	2.3	2.3	2.9	3.6	2.8	6.1

* Note: [a] Total debt capital realised means the volume of bank loans and promotional funds actually used for investment finance. [b] Mean values weighted with turnover. [c] Mean values weighted with total assets, projections only for enterprises with accounting obligations and excluding individual enterprises / sole traders. [d] Missing information on FTE employees and turnover was not imputed, calculations not including growth rates below the 1% and above the 99% quantile.

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 10,222 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. This includes private-sector companies from all industries with annual turnovers of up to 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 2018 and the population of employees at SMEs in 2018, the German Company Register (Unternehmensregister) and the official employment statistics (Erwerbstätigenrechnung) were used as a starting point for the 2019 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 set the distribution of the net sample (in accordance with the four group characteristics) in relation to their distribution in the parent population. Two extrapolation factors are determined in total: an unlinked factor for extrapolation of qualitative parameters based on the number of SMEs in Germany, and a linked factor for the extrapolation factors of quantitative parameters based on 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 17th wave was conducted in the period from 11 February 2019 to 21 June 2019.

A Supplementary Autumn 2019 Survey to the KfW SME Panel was also conducted by GfK SE in the form of an online survey during the period from 11 to 23 September 2019. All enterprises that had already participated in this year's wave of the KfW SME Panel and had provided a valid email address were surveyed. Responses from a total of 2,046 enterprises were evaluated. As the supplementary survey was linked to the main database of the KfW SME Panel, its results also provided a representative picture.

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

[1] Data on persons in employment in Germany from the employment accounts of the Federal Statistical Office.

[2] Destatis (2019), press release No. 327 dated 29 August 2019. **https://www.destatis.de/DE/Presse/Pressemitteilungen/2019/08/PD19_327_132.html**

[3] Knowledge-intensive services comprise service sub-sectors with an above-average share of university graduates in total employment or services with a strong focus on technology. These include, for example, architecture and engineering firms, law firms, tax and management consultancies, data processing and telecommunication services. The definition is based on what is known as the NIW/ISI list of research-intensive industries and services, which in turn follows the Federal Statistical Office's 'Classification of Economic Activities (WZ 2008)'.

[4] Other services includes many SME retailers or wholesalers. Among them are also businesses operating in the areas of nursing, training, culture and sport.

[5] The employment growth rate shown here is calculated on the basis of full-time equivalent employees (FTEs). As opposed to showing the number of persons in gainful employment, this concept maps actual labour demand. FTE employees are calculated from the number of full-time employees (including business owners) plus the number of part-time employees multiplied by the factor 0.5. Apprentices are not included.

[6] The multi-year average turnover growth rate of micro-businesses (enterprises with fewer than five FTE employees) is 4.5%. The multi-year average for construction firms is 4.8%.

[7] The Volume of tables relating to the KfW SME Panel is available at: **www.kfw-mittelstandspanel.de** (in German only).

[8] According to the definition of the German Federal Statistical Office, e-commerce is the buying and selling of products and services through electronic networks, especially via the internet or an EDI (electronic data interchange between computer systems of different enterprises). In order to count as e-commerce, the activity must involve ordering products or services using these electronic networks. Payment and delivery can be made using conventional means. A large portion of e-commerce consists of automated transmission and further handling of recurring and easily predictable orders in the context of business processes between enterprises.

[9] KfW Research (2019), **Konjunkturprognose Halbzeit 2019: Industrie im Abschwung – Handelskonflikte im Fokus**.(***2019 mid-year economic forecast: industry is slowing – focus on trade conflicts*** – our title translation, in German only)

[10] Borger, K. (2019), KfW-ifo SME Barometer August 2019, **SMEs' resistance is weakening as mood turns sour**, KfW Research.

[11] Scheuermeyer, P. (2019), KfW-ifo SME Barometer September 2019, **Sentiment improves slightly among SMEs but not in large enterprises**, KfW Research.

[12] The KfW-ifo SME Barometer indicator family is based on a scale-of-enterprise evaluation of the ifo economic surveys which are used to calculate, among other things, the well-known ifo Business Climate Index. Each month about 9,500 enterprises from trade and industry, construction, wholesale, retail and services (without the banking and insurance sectors or the state) are polled on their business situation, among them some 8,000 SMEs. In deviation from the definition used in the KfW SME Panel, enterprises are generally classified here as small to medium-sized if they employ not more than 500 workers and generate an annual turnover not exceeding EUR 50 million. The KfW-ifo SME Barometer reports the balance of current business assessments (percentage of positive answers less percentage of negative answers), the balance of business expectations for the next six months, ascertained in a similar way, and the inferred mean average value for the business climate. All time series are seasonally and mean adjusted. The zero line therefore marks the long-term 'cycle-neutral' average since January 2005. Indicators above (or below) zero point to an above average or favourable (below average or negative) business situation.

[13] Creditreform (2019), Wirtschaftslage und Finanzierung im Mittelstand: Frühjahr 2018 (*'Economic situation and financing in the SME sector: Spring 2018'* – our title translation, in German only). Creditreform Wirtschaftsforschung, Neuss. – Deutscher Sparkassen- und Giroverband (DSGV) (2018), Diagnose Mittelstand. Winter 2018, Berlin.

[14] Profit margin is defined as the ratio of pre-tax profit to turnover. The figure shows the mean values of profit margin weighted against turnover.

[15] In general, analyses at enterprise level very often operationalise or approximate labour productivity as turnover in relation to an employment indicator (number of employees, full-time equivalents, working hours, etc.). One reason is that the available microdata usually do not contain any robust information on enterprises' gross value added. However, data from the German Federal Statistical Office suggest that the turnover-based labour productivity measure used here empirically closely approximates the variant with gross value added – which is more convincing from a theoretical perspective. Labour productivity is measured here as indexed values (2003 = 100) of turnover per full-time equivalent employee. Missing data on turnover and employees were imputed. Adjusted and extrapolated values. For details on productivity development in SMEs see Gerstenberger, J. (2017), **Produktivität des deutschen Mittelstandes tritt auf der Stelle – Zeit zu handeln! (*Productivity of German SMEs has flatlined – time to act*! -** our title translation, in German only), Focus on Economics No. 172, KfW Research – Schwartz, M. (2016), **KfW SME Panel 2016: SMEs are using their financial buffers – but not boosting investment**, KfW Research.

[16] Research- and development-intensive (R&D intensive) manufacturing is defined as those manufacturing sub-sectors whose average research and development intensity (R&D intensity: ratio of R&D expenses to turnover) is higher than 3.5%. The definition is based on what is known as the NIW/ISI list of research-intensive industries and services, which in turn follows the Federal Statistical Office's 'Classification of Economic Activities (WZ 2008)'. Engineering, medical technology, instrumentation and control technology, vehicles, pharmaceuticals and office equipment are of particular quantitative importance.

[17] Measured as the difference of absolute labour productivity between large SMEs and small SMEs in relation to the value of large SMEs.

[18] Micro-businesses (companies with fewer than five FTE employees) achieve approx. EUR 120,000 on average, large SMEs with 50 and more employees, on the other hand, average EUR 179,000 per FTE employee.

[19] In 2017 the average project size was on a comparable level of EUR 150,000. However, the average volume invested across the SME sector was significantly lower, at around EUR 132,000.

[20] In order to determine the absolute volumes of net investment overall in both the SME and the corporate sector in Germany, KfW SME Panel data were coupled with investment data provided by the Federal Statistical Office on the entire corporate sector. The investment and depreciation volume in the SME sector is surveyed in the context of the KfW SME Panel. Total corporate investment is calculated by adjusting gross fixed capital formation for investment by the state and in residential construction. Depreciation in the corporate sector is calculated in the same way. The underlying data were obtained from Fachserie 18, Reihe 1.4 of the Federal Statistical Office. The investment volume as well as the depreciation volume of large enterprises (with an annual turnover of more than EUR 500 million) are determined by subtracting the volumes calculated for SMEs from the corresponding values for the entire corporate sector.

[21] Gross fixed capital formation in the corporate sector comprises private sector investment in machinery and equipment plus construction (without residential construction).

[22] The major revision of national accounts and the associated modification to the concept of investment has been applied since the 2015 reporting period of the KfW SME Panel. Of particular relevance for enterprises is expenditure on research and development, which is now reclassified as gross fixed capital formation since implementation in 2014 of the European System of National and Regional Accounts of 2010 (ESA 2010). All time series of national accounts that have been revised for conceptual reasons for the period from 1991 are available. This has led to an increase in the volumes of gross fixed capital formation and depreciation across the entire economy in comparison with previously reported figures. For reasons of data collection, the revision cannot be applied to the investment and depreciation volumes of SMEs. The reported volumes thus do not change in comparison with earlier years. Instead the volumes have been modified for the entire corporate sector, the overall economy and, consequently, also for large enterprises. Due to the limitations on the collection of data pertaining to the changed investment concept, the volumes relating to SMEs tend to be underestimated and, accordingly, those of large enterprises overestimated.

[23] Zimmermann, V. (2019), **KfW SME Digitalisation Report 2018: Digitalisation has reached broad areas of the SME sector – average expenditure on digitalisation remains low**, KfW Research.

[24] Reize, F. (2011), **KfW SME Panel 2011: SMEs well equipped to handle increasing financing risks and economic slowdown** (summary; full version available in German only), KfW Research.

[25] Wanke, S. (2019), **KfW Credit Market Outlook June 2019. New lending is still growing strongly**, KfW Research.

[24] Gerstenberger, J. (2018), **Hohe Eigenkapitalquoten im Mittelstand: KMU schätzen ihre Unabhängigkeit** (High equity ratios: SMEs value their independence – in German only), Focus on Economics No. 206, KfW Research.