German enterprises’ profitability and financing in 2019

Just prior to the outbreak of the coronavirus pandemic, the profitability of non-financial enterprises was still in good shape despite the marked slowdown in the German economy in 2019. Sales were expanding significantly, although the rise was not quite as steep as in the previous two years due to subdued global export demand and probably also to price effects. This meant that the export-oriented manufacturing sector struggled to lift sales, while domestically oriented sectors were again able to record an above-average increase. On the cost side, enterprises were confronted with higher personnel costs and additional interest-related pension provisions, while falling prices for intermediate goods and industrial raw materials afforded some relief. Overall, German enterprises’ average pre-tax profit margin remained virtually unchanged at 4.3% in 2019.

Enterprises’ scope for internal financing broadened further in the reporting period driven, amongst other things, by higher profit retention. They drew much less on additional borrowed funds in 2019 than in the previous year and trade payables, in particular, declined. The increase in liabilities to banks continued, however.

The financial statements available to date provide an insight into the business sector’s liquidity and stability prior to the crisis. Overall, non-financial enterprises were very well positioned in terms of their financing conditions and capital structure in 2019. Both the liquidity and stability ratios of the business sector as a whole were relatively high and exceeded the levels recorded in the years immediately preceding earlier recessions or crises. Despite larger sectoral differences and with the exception of a few weaker positions in some economic sectors, this finding is generally true across all sectors.

Revenue shortfalls – which are considerable in some cases – stemming from the coronavirus pandemic and the measures taken to contain it will weigh on enterprises’ profit margins in 2020. In addition, both the depth and speed of the economic slump triggered by the pandemic presented enterprises with unprecedented challenges in safeguarding liquidity. Thanks to the German business sector’s sound financial footing at the beginning of the crisis and to government financial assistance measures provided this year – and partly also to the temporary suspension of the obligation to file for insolvency – the business sector is yet to witness a surge in cases of insolvency in 2020.

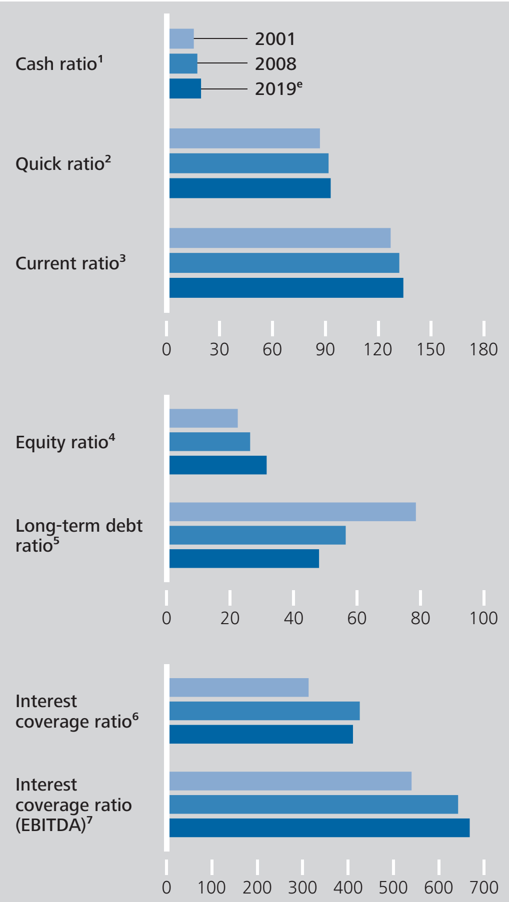
Underlying trends

Marked economic slowdown and robust domestic economy on the demand side …

In 2019, the German economy was characterised by a marked slowdown in economic activity. At 0.6%, growth in real gross domestic product (GDP) was only modest. Economic growth in the reporting year was well below the growth rate of potential output, thus lowering the German economy's capacity utilisation and returning aggregate capacity utilisation more or less to an average level following the high figure recorded in the preceding year. Adverse global conditions were the main factor weakening economic activity in Germany in 2019. The slowdown in the global economy dampened demand for capital and intermediate goods, which are important components of Germany's exports. Overall, German exports saw only marginal growth. Despite the slowdown in economic activity, domestic private consumption rose perceptibly and at an unchanged pace. Housing investment and the expansionary fiscal policy also provided impetus. Given shrinking order books and rather gloomy business expectations, however, investment in machinery and equipment failed to notably boost demand.

German enterprises' liquidity and stability ratios*

%



***** Extrapolated results from corporate financial statement statistics. **1** (Cash + short-term securities) / short-term liabilities. **2** (Cash + short-term securities + short-term receivables) / short-term liabilities. **3** (Cash + short-term securities + short-term receivables + inventories) / short-term liabilities. **4** Equity / total assets. **5** Long-term liabilities / equity. **6** EBIT / interest expenses. **7** EBITDA / interest expenses.

Deutsche Bundesbank

… as well as burdens and relief on the cost side meant no change in gross profit margin on balance in 2019

Enterprises' pre-tax profit margin remained virtually unchanged at 4.3% in 2019.[1] On the one hand, the higher labour costs, which were due to robust wage growth and the return to full joint financing of the statutory health insurance scheme, dampened corporate profit margins. On the other hand, the prices of intermediate goods and industrial raw materials fell, and the need to adjust pension provisions was somewhat smaller, probably thanks to an increase in the value of the assets held for settlement. The income side also benefited from a significant increase in investment income. The two-speed development of the economy in the reporting year is also reflected in the heterogeneous profitability of enterprises when broken down by economic sector. While the gross profit margin of the export-oriented manufacturing sector took a harder hit, sectors with a greater domestic focus were even able to increase their profitability, with some – namely construction as well as accommodation and food service activities – achieving all-time highs.

Corporate insolvencies at lowest level since introduction of Insolvency Act in 1999

The number of corporate insolvencies fell for the tenth time in a row in 2019 in view of enterprises' sound capital base as well as favourable financing and debt restructuring conditions, and stood at its lowest level since the

1 The analysis for 2019 is based on some 22,000 financial statements, which were roughly extrapolated based on the evaluation of aggregate sales data from the company register. For a description of the procedure, see Deutsche Bundesbank (2011).

introduction of the Insolvency Act in 1999.[2] However, the scale of the decline was less pronounced in 2019 than in previous years. In some economic sectors, such as manufacturing and energy supply as well as transportation and storage services, the frequency of insolvencies rose slightly.

Liquidity and stability ratios

Sound financing conditions and capital structure in business sector prior to coronavirus pandemic …

The coronavirus pandemic and the measures required to contain its spread drove up enterprises' need for short and medium-term financing in 2020 as they struggled to cope with considerable revenue shortfalls. The most recent financial statements available for 2019 can be used to assess the liquidity and stability of both the business sector as a whole and of individual sectors at the beginning of the crisis. Years that immediately precede earlier recessions or crises constitute a suitable benchmark. Compared with the years prior to the economic downturns in 2002-03 and 2009, non-financial enterprises were, on the whole, more robust in terms of their financing conditions and capital structure. Liquidity levels in the business sector as a whole were much higher. Depending on the indicator, sufficient or ample short-term funds were available to cover total short-term liabilities in 2019. A similar picture emerges with regard to the business sector's stability ratios. Long-term debt ratios were lower and the equity base was stronger. The aggregate interest coverage ratio also improved over time on its already high level, presumably boosted not only by the lower debt ratio and enterprises' higher profitability, but also by the ongoing low interest rate environment.[3]

… across economic sectors, despite larger sectoral differences

Liquidity levels do, however, vary at sectoral level. In around half of the economic sectors under review, the quick ratio came in at under 100%, for each sector as a whole. This measure is frequently used in practice and is based on the ratio of assets that can be liquidated at short notice, excluding inventories, to short-

German enterprises' liquidity and stability ratios in 2019 broken down by economic sector*

%

* Extrapolated results from corporate financial statement statistics. Estimated. **1** (Cash + short-term securities + short-term receivables) / short-term liabilities. **2** Equity / total assets.
Deutsche Bundesbank

2 The last considerable rise in overall corporate insolvencies was recorded during the financial and economic crisis of 2008-09. However, in view of the magnitude of the economic downturn, even this increase of around one-tenth was moderate.
3 By contrast, the lowering of the discount rate for pension obligations means that enterprises with corresponding commitments must adjust their pension provisions in line with interest rates, something that is generally recorded under interest expenses in enterprises' income statements. This, by definition, pushes down the interest coverage ratio and limits comparability with years prior to 2010 in which no annual adjustment to the applied rate of interest was necessary.

Updated assessment of the development of zombie firms in Germany

The process of market entry and exit of firms, a key feature in market economies, may have lost effectiveness as a result of the low interest rate environment in the euro area, which has now persisted for several years. For instance, it may be in the interest of undercapitalised lenders to continue financing inefficient or even insolvent corporate debtors (known as zombie firms).[1] First, this is because low interest rates tend to reduce the opportunity costs for creditors that arise from rolling over loans to financially weak firms or allowing deferral of payments. Consequently, write-downs on claims, realisation of losses and formation of provisions could then be avoided for a time. However, as a result, economic resources would continue to be put to less productive uses and the intensity of competition might decline.[2]

An updated assessment of the importance of zombie firms in Germany in the low interest rate environment is carried out on the basis of individual data from non-financial firms in the Bundesbank's financial statement statistics.[3] The extension of the reference period to 2018 takes into account the possibility that the persistent low interest rate environment in the euro area may, with a time lag, bring about a rise in the number of zombie firms.[4] In addition, the calculations serve to provide the most up-to-date assessment of the share of zombie firms prior to the outbreak of the coronavirus pandemic.

Statistical classification of zombie firms

In line with the academic literature, a first variant classifies as a zombie firm any enterprise that cannot cover its interest payments with its operating income for three consecutive years. The interest coverage ratio for a zombie firm – in other words, the ratio of operating income to interest expenditure – would be less than one. In a second variant, a zombie firm is defined as an enterprise that has negative cash flows for three consecutive years.

With regard to the first variant, two statistical aspects must be taken into account. First, when determining interest coverage ratios, interlinkages between enterprises on the income side are also incorporated by adding income from equity holdings in other firms to the operating result from core business.[5] Second, it is likely that an enterprise's total interest expenditure, including spending on discounting-related additional pension provisions, is decisive for its economic survival. For this reason, inter-

1 See, for example, Acharya et al. (2020) or Schivardi et al. (2017).
2 Empirical research suggests a relationship between the slowdown in productivity growth in some advanced economies over the past few decades and a rise in the number of zombie firms. See Adalet McGowan et al. (2018).
3 For analyses for the 2015 reporting year, see Deutsche Bundesbank (2017). For a description of the JANIS dataset used, see Becker et al. (2020).
4 In order to isolate the causal effect of monetary policy on the emergence of zombie firms via the interest rate channel, it would be necessary to use a counterfactual scenario that models the incentives and behaviour of banks and the entry and exit of (zombie) firms. As the dataset used contains no information on market entries or exits, amongst other things, it is not possible to set up such a counterfactual scenario.
5 In the dataset, the reported interest expenditure may also include interest on loans that a parent company has taken out for its subsidiaries or affiliates. Such affiliations statistically lower the parent company's interest coverage ratio, increasing the likelihood of it being incorrectly classified as a zombie firm, all else being equal. Such distortion can be counteracted by taking account of the investment income metric when determining the interest coverage ratio.

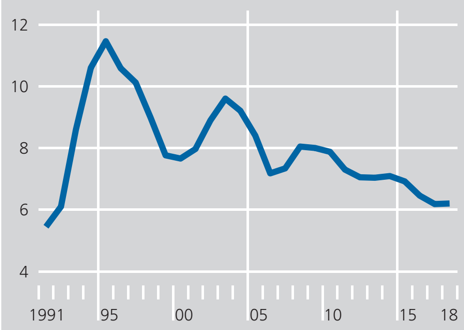
est expenditure also includes spending on such additional pension provisions.[6]

No increase in importance of zombie firms in low interest rate environment

When assessing the extent to which the low interest rate environment has fostered the emergence of zombie firms in Germany, developments since 2007 – prior to the start of the Great Recession – have been of particular interest. According to the figures, the share of zombie firms has decreased in the low interest rate environment. Based on the first variant considered, it stood at just 6¼% in 2018, the most recent year for which sufficient data for this analysis are available.[7] It was thus considerably smaller than in the years preceding the exceptionally sharp decline in interest rates.[8] This confirms the findings of earlier analyses, according to which zombie firms accounted for only a small share of enterprises in Germany, and their quantitative importance has not increased in the low interest rate environment.[9]

Zombie firms in Germany*

Share of all non-financial enterprises, %



Sources: JANIS/USTAN, Deutsche Bundesbank. * Zombie firms defined as firms with an interest coverage ratio (operating and investment income (EBIT) over interest and similar expenses) of less than one in the reporting year and in the preceding two years.

Deutsche Bundesbank

The data show that the revenue share of zombie firms in 2018 was only marginally higher than in 2007. In the same period, the share of tangible fixed assets held by zombie firms declined markedly on balance. Furthermore, measured in terms of the gross increase in tangible fixed assets in relation to total assets, zombie firms invested less than other enterprises. The ratio of annual results before taxes on income to gross revenue was negative for zombie firms. Moreover, these firms had lower equity ratios, which declined during the low interest rate period, meaning that their liabilities (in relation to total assets) were higher than those of the other enterprises. The figures indicate that zombie firms did not play a quantitatively significant role in Germany in terms of their number and shares of revenue and tangible fixed assets. It therefore cannot be established that they had a perceptible dampening effect on aggregate productivity developments or on economic growth in general.

Zombie lending probably of minor importance in Germany

Another channel through which zombie firms may contribute to the misallocation of economic resources is via banks' lending to such enterprises (known as "zombie lend-

6 Under German law, persistently low interest rates necessitate additional pension provisions for enterprises that have committed to paying occupational pensions to current and former employees. These provisions are recorded in the dataset as interest expenditure or labour costs. See also Deutsche Bundesbank (2016).
7 Robust results for 2019 are not yet available due to the currently very limited data availability of the relevant individual accounts.
8 It should be noted that, taken in isolation, the decline in the interest rate level in recent years is likely to have helped stabilise enterprises' interest coverage ratios.
9 The alternative variant based on cash flow produces a similar picture, with the share of zombie firms generally being lower than in the other variants and only increasing slightly in the period from 2007 to 2011.

German non-financial enterprises' balance sheet and P/L metrics*

%

Metric	2007	2018
Sales[1]	Share	
Zombie firms	5.4	5.8
All others	94.6	94.2
Tangible fixed assets[2]		
Zombie firms	10.7	7.7
All others	89.3	92.3
Profitability[3]	Median	
Zombie firms	– 4.9	– 7.4
All others	3.7	4.0
Gross increase in tangible fixed assets[4]		
Zombie firms	1.3	1.6
All others	2.9	2.5
Equity[4]		
Zombie firms	17.0	13.3
All others	25.4	31.2
Total liabilities[4]		
Zombie firms	68.4	71.3
All others	61.7	57.0
Liabilities to credit institutions[4]		
Zombie firms	15.3	1.5
All others	16.4	9.4

* Zombie firms defined as firms with an interest coverage ratio (operating and investment income (EBIT) over interest and similar expenses) of less than one in the reporting year and in the preceding two years. **1** As a percentage of total firms' sales. **2** As a percentage of total firms' fixed assets including intangible fixed assets. **3** Ratio of annual result before taxes on income to gross revenue (%). **4** As a percentage of total assets.

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ing").[10] The development of zombie firms' liabilities to credit institutions (measured in terms of total assets) is remarkable: prior to the marked decline in interest rates, zombie and non-zombie firms were more or less equally indebted to credit institutions. In 2018, by contrast, the liabilities of non-zombie firms to credit institutions were just over six times as high. As zombie firms now have relatively low outstanding debt to credit institutions compared with other enterprises, the extent of resource misallocation via this channel is likely to be limited.

Impact of the coronavirus pandemic on the share of zombie firms

In view of the exceptional reduction in economic activity in 2020, the number of business insolvencies is likely to increase significantly in the coming quarters.[11] The profitability of non-financial enterprises in Germany will probably deteriorate in the current year as a result of the pandemic, and corporate liabilities will tend to increase. Taken in isolation, both factors exert downward pressure on interest coverage ratios and thus increase the probability of enterprises attaining zombie status in statistical terms. In order to avoid unprofitable business models remaining in the market and resources being used inefficiently in the economy as a whole, obstacles hindering the market exit of zombie firms should be circumvented or eliminated. This also means that the current government assistance measures – such as making it easier to take up short-time work, guarantees for corporate loans and tax relief – should only be maintained for as long as necessary and should be phased out as the economy recovers.

10 The term gained prominence in connection with developments in Japan. In the 1990s, lending to unprofitable enterprises continued, partly owing to the regulatory framework in the banking sector. For analyses of zombie lending in the euro area, see, for example, Storz et al. (2017).
11 See Deutsche Bundesbank (2020).

term liabilities.[4] As expected, liquidity ratios were relatively low, particularly in sectors that have a high level of inventories due to the nature of their business activity, such as the construction, automobile trade and retail trade industries. Accommodation and food service activities, which have been hard hit by measures to contain the pandemic, and the manufacturing sector also recorded relatively low maturity matches.[5] Construction, accommodation and food service activities, and automobile trade had low levels of equity compared with the other economic sectors. Differences in the interest coverage ratio were more pronounced across sectors. The figures were relatively low in the manufacturing, transportation and storage, energy, and information and communication sectors. However, in almost all economic sectors, the interest coverage ratio was many times higher than the level at which current interest payments from operating activities can be serviced.[6] Despite larger sectoral differences and, in some cases, lower indicator values in individual economic sectors, financing conditions and the capital structure in the business sector can be deemed sound across sectors.

Sales and income

Sales growth also reined in by price effects

Sales growth among non-financial enterprises in 2019 was lower than the sharp increase over the previous two years, albeit still quite substantial at just under 3%. Volume growth is likely to

4 This is merely a statistical benchmark. In addition, sectoral particularities and group interconnections must be taken into account. A low liquidity ratio does not necessarily indicate a threat to solvency as liquidity can be passed on between affiliated enterprises within a group, for instance. The quick ratio should reflect the solvency of enterprises better than the current ratio as it is more difficult to liquidate inventories, which are included in the latter, than other short-term assets.
5 If inventories are factored into short-term assets (current ratio), the construction, automobile trade, retail trade and manufacturing sectors do not have noticeably low liquidity ratios. In accommodation and food service activities, by contrast, the ratio of cash and short-term securities to short-term liabilities (cash ratio) was high compared with the other sectors.
6 The interest coverage ratio should be well above 100% as other liabilities need to be serviced alongside interest payments.

Indicators from German enterprises' income statement*

* Extrapolated results from corporate financial statements statistics.
Deutsche Bundesbank

Enterprises' income statement*

Item	2017	2018	2019e	Year-on-year change 2018	2019e
Income	€ billion			%	
Sales	6,257.5	6,563.3	6,755.0	4.9	2.9
Change in finished goods[1]	43.6	54.6	51.3	25.4	− 6.0
Gross revenue	6,301.1	6,617.9	6,806.3	5.0	2.8
Interest and similar income	20.0	17.4	19.3	− 13.1	11.1
Other income[2]	241.0	247.2	264.0	2.6	6.8
of which: from long-term equity investments	48.0	62.0	68.9	29.1	11.2
Total income	6,562.1	6,882.5	7,089.6	4.9	3.0
Expenses					
Cost of materials	4,058.0	4,293.1	4,407.3	5.8	2.7
Personnel expenses	1,069.1	1,127.7	1,171.7	5.5	3.9
Depreciation	187.3	192.0	203.3	2.5	5.9
of tangible fixed assets[3]	170.5	177.9	185.8	4.3	4.4
Other[4]	16.7	14.1	17.6	− 15.7	24.7
Interest and similar expenses	64.2	79.8	72.2	24.3	− 9.5
Operating taxes	4.4	4.5	4.3	2.0	− 4.0
Other expenses[5]	868.1	904.1	939.2	4.2	3.9
Total expenses before taxes on income	6,251.0	6,601.1	6,798.0	5.6	3.0
Annual result before taxes on income	311.1	281.4	291.6	− 9.5	3.6
Taxes on income[6]	61.7	59.8	59.8	− 3.1	0.0
Annual result	249.4	221.6	231.8	− 11.1	4.6
Memo item:					
Cash flow[7]	441.2	445.1	466.5	0.9	4.8
Net interest paid	44.2	62.4	52.8	41.2	− 15.3
	As a percentage of sales			Percentage points	
Gross income[8]	35.8	35.4	35.5	− 0.4	0.1
Annual result	4.0	3.4	3.4	− 0.6	0.1
Annual result before taxes on income	5.0	4.3	4.3	− 0.7	0.0
Net interest paid	0.7	1.0	0.8	0.2	− 0.2

* Extrapolated results; differences in the figures due to rounding. **1** Including other own work capitalised. **2** Excluding income from profit transfers (parent company) and loss transfers (subsidiary). **3** Including write-downs of intangible fixed assets. **4** Predominantly write-downs of receivables, securities and other long-term equity investments. **5** Excluding cost of loss transfers (parent company) and profit transfers (subsidiary). **6** In the case of partnerships and sole proprietorships, trade earnings tax only. **7** Annual result, depreciation, and changes in provisions, in the special tax-allowable reserve and in prepaid expenses and deferred income. **8** Gross revenue less cost of materials.

Deutsche Bundesbank

have been a greater factor in the increase in sales revenues than price effects, as sales prices for goods and services rose less than half as much as sales. For example, the prices of industrial goods on the domestic market went up by 1.1%, and prices for goods exports were also only 0.5% higher than in 2018. Interest income saw a resurgence after the previous year's low figure. Income from long-term equity investments rose significantly thanks to high dividends of participating enterprises in trade as well as information and communication services.

Persistently low revenue in manufacturing, high sales growth in domestically oriented sectors

The continued weakness in industry was also reflected in the very muted overall growth in manufacturing revenue in 2019. In most areas of manufacturing, revenue even declined. Vehicle manufacturers were an exception, recording stronger sales growth again after revenue had expanded only moderately in the previous year owing to supply-side difficulties following the introduction of the new emissions test procedure. In domestically oriented sectors, the positive growth in sales continued in 2019. Construction revenue rose particularly sharply in light of the ongoing boom in the sector's activity.

At 3%, non-financial enterprises' total expenses grew just as steeply as total income in the re-

Enterprises' sources and uses of funds*

€ billion

Item	2017	2018	2019e	Year-on-year change 2018	Year-on-year change 2019e
Sources of funds					
Capital increase from profits and contributions to the capital of non-corporations[1]	51.8	51.0	62.3	– 0.8	11.3
Depreciation (total)	187.3	192.0	203.3	4.7	11.4
Increase in provisions[2]	5.4	31.5	31.5	26.2	0.0
Internal funds	244.5	274.5	297.1	30.1	22.6
Increase in capital of corporations[3]	51.4	14.9	25.0	– 36.5	10.2
Change in liabilities	156.7	155.1	87.8	– 1.6	– 67.3
Short-term	103.9	121.6	73.5	17.7	– 48.1
Long-term	52.8	33.5	14.3	– 19.3	– 19.2
External funds	208.1	170.0	112.8	– 38.1	– 57.2
Total	452.6	444.5	409.9	– 8.1	– 34.5
Uses of funds					
Increase in tangible fixed assets (gross)	211.9	219.6	233.0	7.7	13.4
Increase in tangible fixed assets (net)[4]	41.3	41.7	47.2	0.3	5.6
Depreciation of tangible fixed assets	170.5	177.9	185.8	7.4	7.9
Change in inventories	45.3	60.5	38.9	15.2	– 21.6
Non-financial asset formation (gross investments)	257.1	280.0	271.9	22.9	– 8.1
Change in cash	8.3	25.0	– 0.2	16.7	– 25.2
Change in receivables[5]	99.5	88.7	62.3	– 10.8	– 26.3
Short-term	65.9	83.5	43.4	17.6	– 40.1
Long-term	33.6	5.1	18.9	– 28.4	13.8
Acquisition of securities	4.4	– 2.1	0.6	– 6.6	2.7
Acquisition of other long-term equity investments[6]	83.1	52.9	75.3	– 30.2	22.4
Financial asset formation	195.4	164.5	138.1	– 31.0	– 26.4
Total	452.6	444.5	409.9	– 8.1	– 34.5
Memo item: Internal funds as a percentage of gross investments	95.1	98.0	109.3	.	.

* Extrapolated results; differences in the figures due to rounding. **1** Including "GmbH und Co. KG" and similar legal forms. **2** Including change in the balance of prepaid expenses and deferred income. **3** Increase in nominal capital through the issue of shares and transfers to capital reserves. **4** Change in tangible fixed assets (including intangible assets but excluding goodwill). **5** Including unusual write-downs of current assets. **6** Including change in goodwill.

Deutsche Bundesbank

Significant increase in personnel expenses, depreciation and other expenses, while cost of materials lower

porting year. This was due to sharply higher depreciation and raised personnel expenses. In addition to the increase in pensions provisions and the return to parity financing of the statutory health insurance scheme, the marked wage rises in the reporting year are likely to have been a factor in the rise in personnel expenses. Interest expenses, which in the low interest rate environment are largely influenced by changes in the applied rate of interest in pension provisions, went back down after having risen very sharply in 2018. The growth in the cost of materials was only half as strong as in the previous two years, not least because commodity prices fell in 2019.

Sources and uses of funds

Sources and uses of funds down quite significantly

In 2019, enterprises' sources and uses of funds declined significantly in light of the economic slowdown. The fall in the sources of funds was spurred by a sharp decline in external funds whilst internal funds rose perceptibly. The reduced build-up of short-term liabilities compared with 2018 was the main factor behind the developments in external financing. On the expenditure side, the acquisition of financial assets in particular grew less sharply than in the previous year. The acquisition of tangible fixed assets in the reporting year likewise fell short of the figure in 2018. Although new investment

Enterprises' balance sheet*

Item	2017	2018	2019e	Year-on-year change 2018	Year-on-year change 2019e
Assets	€ billion			%	
Intangible fixed assets1	71.0	73.3	76.2	3.2	3.9
Tangible fixed assets	1,123.2	1,162.6	1,207.0	3.5	3.8
Inventories	733.1	793.6	832.5	8.2	4.9
Non-financial assets	1,927.4	2,029.5	2,115.6	5.3	4.2
Cash	329.8	354.8	354.7	7.6	0.0
Receivables	1,533.6	1,618.1	1,676.6	5.5	3.6
of which:					
Trade receivables	441.6	460.8	459.9	4.3	− 0.2
Receivables from affiliated companies	915.9	971.0	1,018.1	6.0	4.9
Securities	109.1	106.9	107.5	− 2.0	0.5
Other long-term equity investments2	937.3	980.2	1,041.8	4.6	6.3
Prepaid expenses	23.1	25.0	26.0	8.4	4.1
Financial assets	2,932.8	3,085.1	3,206.6	5.2	3.9
Total assets3	4,860.2	5,114.6	5,322.2	5.2	4.1
Capital					
Equity3	1,521.8	1,587.6	1,674.9	4.3	5.5
Liabilities	2,582.8	2,737.9	2,825.7	6.0	3.2
of which:					
to banks	520.3	538.7	566.1	3.5	5.1
Trade payables	343.2	360.9	356.5	5.2	− 1.2
to affiliated companies	1,142.1	1,212.8	1,240.6	6.2	2.3
Payments received on account of orders	253.3	285.1	310.5	12.6	8.9
Provisions	717.6	747.7	775.8	4.2	3.8
of which:					
Provisions for pensions	238.2	264.6	282.6	11.1	6.8
Deferred income	38.0	41.4	45.7	8.9	10.5
Liabilities and provisions	3,338.4	3,527.0	3,647.3	5.6	3.4
Total capital3	4,860.2	5,114.6	5,322.2	5.2	4.1
Memo item:					
Sales	6,257.5	6,563.3	6,755.0	4.9	2.9
Sales as a percentage of total assets	128.7	128.3	126.9	.	.

* Extrapolated results; differences in the figures due to rounding. **1** Excluding goodwill. **2** Including shares in affiliated companies and goodwill. **3** Less adjustments to equity.
Deutsche Bundesbank

beyond replacement purchases and the gross increase in tangible fixed assets did record a new peak overall, this was more than offset by a much weaker trend in the formation of inventories.

Balance sheet developments

Growth in total assets and financial assets slightly weaker than in previous years

The total assets of non-financial enterprises expanded in 2019. However, consistent with the somewhat slower growth in sales, this increase of around 4% was smaller than in the previous two years. On the assets side, the share of financial assets in total assets remained broadly unchanged as in 2018. As enterprises become increasingly interlinked, long-term equity investments and receivables from affiliated companies rose sharply again. The electrical engineering industry recorded the highest acquisition of long-term equity investments, although the chemical and pharmaceutical industry as well as the information and communication sector significantly expanded their long-term equity investments as well. Trade receivables declined slightly on the year, while the cash item did not increase for the first time since 2010. In addition to one-off effects in the automobile and energy sectors, this may also have been attributable to custody fees on enterprises' bank balances. Securities holdings increased only marginally due, in particular, to developments experienced by individual wholesale enterprises.

Strong rise in non-financial assets, albeit at a slower pace

The expansion in non-financial assets – both overall and by sector – was steep in 2019, albeit somewhat weaker than in the previous year. The share of tangible fixed assets in total assets remained broadly unchanged. A number of sectors – including chemical and pharmaceutical, the automobile industry, construction, motor vehicle trade, the information and communication sector, and business services – accumulated tangible fixed assets at an above average rate. Furthermore, non-financial enterprises continued to invest in intangible fixed assets. Wholesale trade, in particular, significantly increased its holdings in the concessions, property rights and licenses included under this item. Vehicle manufacturing, energy companies and the sector of transportation and storage also saw growth in this area. Although inventories again outpaced total assets, this increase was significantly lower than in the previous two years. Most of the inventories were once again formed by the construction and manufacturing sectors, while trade also expanded its stocks substantially.

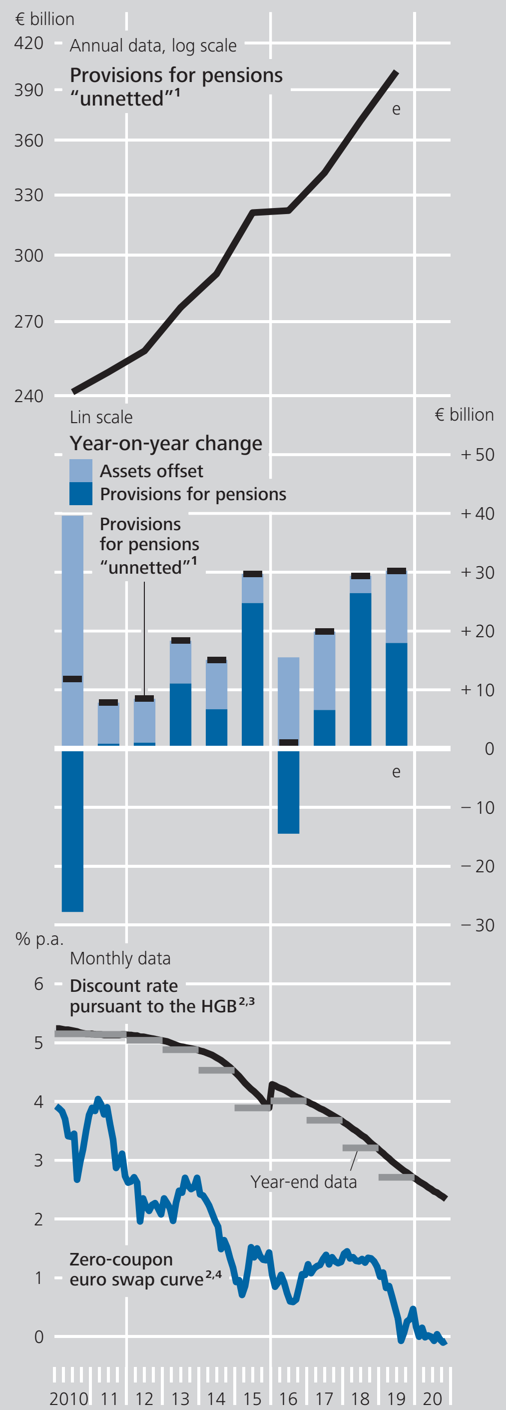
Equity ratio remains high

The equity ratio of non-financial enterprises grew broadly across sectors in 2019, following a slight decline in aggregate terms in the previous year. This means that it remained at a more or less unchanged high level on average in 2018-19. Both small and medium-sized enterprises and large enterprises experienced this increase in the reporting year, with the gap between the size classes narrowing further.

External funds also saw weaker growth than in previous years

Although there was marked growth in external funds, this remained below the increase in own funds. This was primarily due to the moderate rise in liabilities to affiliated companies, which had been stepped up considerably in previous years. In addition, trade payables fell for the first time since 2015, which might also be due to the faster settlement of existing trade payables owing to custody fees for holding bank

Indicators on German enterprises' occupational pension obligations



1 Extrapolated results from corporate financial statements statistics. Provisions for pensions plus financial assets which are used specifically to fulfil pension obligations and are therefore off-limits to all other creditors; estimated. **2** Residual maturity of 15 years. **3** Section 253(2) of the German Commercial Code (HGB) requires pension obligations with a residual maturity of more than one year to be discounted at the average market interest rate of the past ten financial years (seven until end-2015) according to their residual maturity. **4** According to the Regulation on the Discounting of Provisions (*Rückstellungsabzinsungsverordnung*), the zero-coupon euro swap curve serves as the basis for determining the discount rates.

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Enterprises' balance sheet ratios*

Item	2017	2018	2019e
	As a percentage of total assets1		
Intangible fixed assets2	1.5	1.4	1.4
Tangible fixed assets	23.1	22.7	22.7
Inventories	15.1	15.5	15.6
Short-term receivables	28.1	28.3	27.9
Long-term equity and liabilities3	51.8	51.7	51.9
of which:			
Equity1	31.3	31.0	31.5
Long-term liabilities	15.6	15.5	15.1
Short-term liabilities	37.6	38.1	38.0
	As a percentage of tangible fixed assets4		
Equity1	127.4	128.5	130.5
Long-term equity and liabilities3	210.8	213.9	215.3
	As a percentage of fixed assets5		
Long-term equity and liabilities3	106.3	107.6	106.9
	As a percentage of short-term liabilities		
Cash resources6 and short-term receivables	95.1	94.4	93.0
	As a percentage of liabilities and provisions7		
Cash flow8	14.7	14.0	14.2

* Extrapolated results; differences in the figures due to rounding. **1** Less adjustments to equity. **2** Excluding goodwill. **3** Equity, provisions for pensions, long-term liabilities and the special tax-allowable reserve. **4** Including intangible fixed assets (excluding goodwill). **5** Tangible fixed assets, intangible fixed assets, other long-term equity investments, long-term receivables and long-term securities. **6** Cash and short-term securities. **7** Liabilities, provisions, deferred income and proportionate special tax-allowable reserve less cash. **8** Annual result, depreciation, and changes in provisions, in the special tax-allowable reserve and in prepaid expenses and deferred income.

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balances. By contrast, liabilities to banks – especially those with a short maturity – rose significantly, recording the highest growth rate in a decade. Once again, the construction sector received higher advance payments than before; this is in line with the sector's high inventories, which also include construction projects that have been started but are not yet finished. Since long-term bond holdings rose significantly in 2019, overall borrowing through the issuance of bonds grew more strongly than before despite the decline in short-term bonds. Provisions also went up sharply on account of the additional provisions for pensions required by the continuing fall in the discount rate.

Trends for 2020

Coronavirus pandemic likely to have significant impact on enterprises' profit margin

The coronavirus pandemic and the measures taken to contain it are likely to have a profound impact on the financial statements of non-financial enterprises in 2020. The official order to close businesses and other measures have already led to a widespread loss of revenue in the affected sectors, such as food services, travel services, other recreation and cultural services, textile retail and passenger transport, in individual months. The impact of the pandemic has also weighed considerably on German industry's foreign business over the course of 2020 thus far. Global demand for German export products declined sharply, and global supply chains experienced disruption in some cases. In addition, investment in machinery and equipment is likely to decrease sharply this year due to cyclical factors. By contrast, robust housing investment is expected to boost growth. Furthermore, the comprehensive package of fiscal assistance measures is having a stabilising effect. Enterprises' profit margins in 2020 are likely to be significantly affected by the negative economic shock caused by the pandemic as the variable cost component labour will not decline to the same extent as sales despite the partial termination of employment contracts and the massive recourse to short-time work. In addition, the continued need for adjustment to provisions for pensions due to the discount rate is likely to result in higher expenditure on the cost side.[7] By contrast, the deep global recession in 2020 means that there are signs of relief in the form of significant price declines in intermediate goods and industrial raw materials.

Both the depth and speed of the economic slump triggered by the coronavirus shock have posed unprecedented challenges to enterprises

7 The discount rate for pension obligations is expected to fall further by around 0.4 percentage point on the year in 2020.

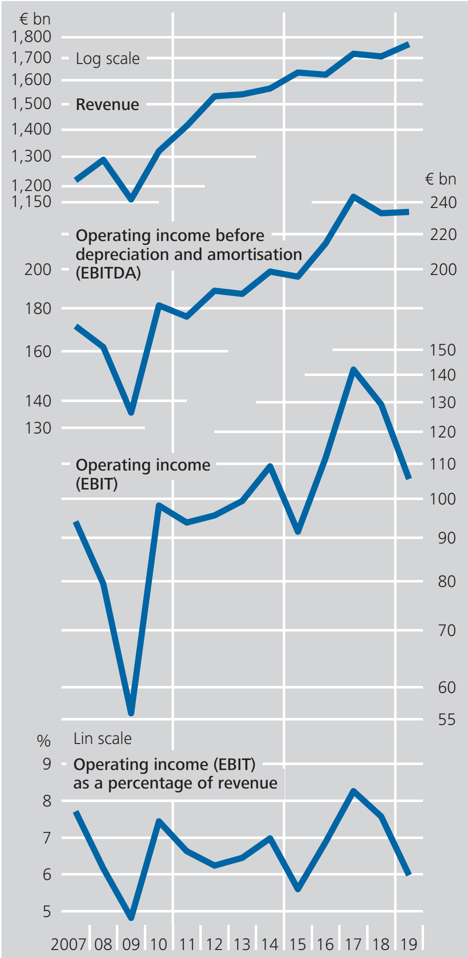
Profitability and financial position of German listed groups in 2019 and an outlook for 2020

In the difficult setting of the global slowdown in growth, German listed non-financial groups were able to generate higher revenues in 2019. At the same time, significant cost increases had an impact, making for a significantly lower profit margin[1] than in previous years. Adjusted for changes in the scope of consolidation, it fell by 1.5 percentage points to 6.0% last year, falling short of the 6.7% average for the period since reporting commenced in 2005.[2] This was mainly due to the negative yield development in the manufacturing sector, whereas the services sector profit margin was only slightly down and remained at a comparatively high level.

The reporting group posted a slight 2.6% rise in revenue. According to the annual reports, this development was attributable, in the main, to positive currency effects in connection with the consolidation of foreign subsidiaries.[3] In addition, higher sales served, in some instances, to offset unfavourable developments in producer prices. Overall, around 70% of the groups increased their revenue in 2019, with service providers seeing significantly more pronounced growth than groups belonging to the manufacturing sector.

Earnings before interest, taxes, depreciation and amortisation (EBITDA) remained virtually constant with an increase of 0.4%. The application of modified accounting standards had a positive effect on operating income and, as a result, the weakening of profitability might be understated by the

Revenue, earnings and profit margin of German non-financial groups



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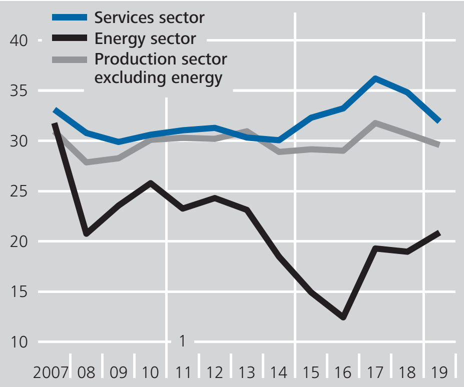
1 Defined here as the ratio of operating income (earnings before interest and taxes (EBIT)) to revenue.
2 The rates of change for profit margin, revenue, EBITDA and EBIT are published with reporting and consolidation basis adjustments. The figures in the charts are unadjusted so that the size differentials between the items are visible. For methodological reasons, there may therefore be differences between the rates of change and the path shown in the charts.
3 The nominal effective exchange rate of the euro against the currencies of the 42 most important trading partners of the euro area fell by an average of 1.5% on an annual basis in 2019, which has a positive impact on the euro countervalues when converting revenue from foreign currency to euro.

Equity of German non-financial groups

As a percentage of total assets



1 Decision to phase out nuclear energy following the Fukushima catastrophe.

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The balance sheet saw considerable increases in tangible fixed assets and financial assets, up by 21% and 16% respectively. This was mainly owing to newly capitalised right-of-use assets in connection with changes in international accounting standards and a significant exchange transaction in the energy sector.[5] Investment by car manufacturers (particularly in the field of e-mobility) was another factor in the second half of 2019. In addition, intangible assets increased as a result of acquisitions and technological developments (licence purchases in the telecommunications sector).

figures.[4] The higher volume of depreciation caused by the changes – while leasing expenses were eliminated – pushed EBITDA, taken in isolation, upwards.

Operating income (EBIT) fell by 17.9% compared with the previous year. If the effects stemming from the revised accounting rules are taken into account, the performance of profitability is likely to have been even more unfavourable. The decline is attributable exclusively to enterprise groups belonging to the manufacturing sector, which account for around 70% of the reporting group's total income. By contrast, service providers were able to increase their operating income slightly. For both sectors, the main factors driving income down were higher raw material costs as well as impairments and special expenses. This included goodwill impairment and write-downs of production facilities due to poor earnings prospects and difficult sales conditions in the chemical and automotive sectors, retrofitting costs rooted in the emissions scandal, provisions for legal disputes and penalties arising from corruption proceedings, and impairment linked to the energy sector's move away from coal.

In terms of financing, debt rose significantly more strongly than equity, meaning that the aggregate equity ratio contracted by 1.2 percentage points to 29.3%. Both large and small groups were affected here. Around three-quarters of the groups posted a lower equity ratio than the year before. As a result, the leverage ratio rose slightly from 2.3 to 2.4.

A dramatic 21% increase in long-term financial debt set the tone for the debt position. Newly recognised lease liabilities amounting to an estimated €90 billion were a factor here, as were financial liabil-

4 As a result of the change in how operating leases are treated for accounting purposes (International Financial Reporting Standard 16), tangible fixed assets and the associated depreciation and financial liabilities rose significantly. This accounting effect amounts to around €84 billion for tangible fixed assets and around €90 billion for financial liabilities (equivalent to around 11% and 9% of the figure for each item, respectively). Depreciation and amortisation rose by approximately €9 billion.

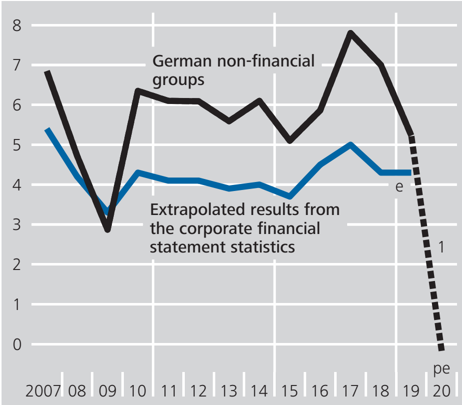
5 The exchange transaction was recognised on the balance sheet in the third quarter of 2019. In the previous year, the parts of the group earmarked for sale were reported as discontinued operations in the group reports and were therefore treated as disposals in the consolidated financial statement statistics. In the third quarter of 2019, these group units were consolidated for the first time in the respective receiving groups and were thus recorded as additions in the consolidated financial statement statistics.

ities arising from the exchange transaction in the energy sector (€20 billion). In addition, annual reports reveal that bonds were issued to finance sales and that liabilities for future corporate acquisitions were built up. At the same time, aggregate pension obligations grew by around one-fifth, or €28 billion, as a result of the decline in the reference interest rate applied for accounting purposes.[6]

The coronavirus pandemic has been a decisive force shaping business performance over the course of 2020 so far. Unlike the individual financial statements, the consolidated financial statements capture the globally integrated value-added chains within the groups. Consequently, the financial information provided by the groups serves as a particularly revealing reflection of global economic developments and the domestic conditions prevailing in the countries where each subsidiary is located. Production stoppages and branch closures in partner countries were felt throughout intra-group value chains, weighing on all upstream and downstream links. By contrast, the individual financial statements show, in particular, the part of the value chain that unfolds in Germany. Owing to the global composition of the groups, the first effects of the coronavirus pandemic were already being felt in January and February of this year. In the first quarter of 2020, pre-tax profit had already fallen by more than half compared with the same period of the previous year. Estimates based on the financial statements of the largest groups in the reporting population covering the first three quarters of the current year suggest that the aggregate pre-tax profit margin (earnings before tax as a percentage of revenue) will plunge in 2020 and could turn negative for the first time since these statistics were first compiled in 2005. This is due, in particular, to a sharp downturn in

Annual result before taxes on income

As a percentage of revenue



1 Seasonally adjusted average for Q1 to Q3 2020.
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the spring months, while the estimates show that a clear recovery had already begun in the third quarter. The groups in the manufacturing sector were key to the extremely weak figures. In terms of the services sector, the aviation industry experienced declines but these were partly offset by positive developments in the telecommunications, logistics and software sectors.

According to the group reports, cross-sector declines in demand, closures of trading outlets and production stoppages worldwide plus currency effects are likely to have placed significant strains on revenue. It is estimated to have fallen by almost one-tenth in the first three quarters of 2020 against the same period last year. Profit before tax is likely to have dropped by more than 90% over this period. In addition to the repercussions of the pandemic, such as increased depreciation of tangible and intangible assets, a key factor in this drop was an additional extraordinary burden arising from multi-billion-dollar criminal proceedings in the chemicals sector[7] and the associated additional provisioning.

6 Extrapolated based on the 34 largest groups.
7 This one-off effect amounts to around €20 billion.

There may have been barely any year-on-year change in the tangible fixed asset ratio. Goodwill impairments are likely to have been offset by the countermovement of intangible assets build-up in the wake of new corporate acquisitions. There was a slight decline in tangible fixed assets net of goodwill.

As cash inflows from operating activities dropped off, groups secured their liquidity by scaling up bond issuance, taking on more bank liabilities and selling off business units. Across all sectors, there was a marked increase in liquid funds. On the financing side, this was accompanied by a corresponding increase in debt. A major corporate takeover was also a contributing factor here. In turn, the equity ratios of groups in all sectors will likely have fallen this year, though the strongest decline will have been recorded by enterprise groups belonging to the services sector. Poor profitability depressed equity in the manufacturing sector. The exceptional path traced by the services sector is entirely on the back of a major takeover in the telecommunications industry.

Safeguarding liquidity a major challenge despite relatively sound financial footing of business sector and crisis-related government assistance measures

when it comes to safeguarding liquidity.[8] Fiscal policymakers initiated, amongst other things, extensive lending programmes by promotional banks with a full assumption of credit risk by government in some cases. Besides access to existing credit lines, this is likely to give rise to a considerable increase in corporate liabilities to banks.[9] Nevertheless, given the German business sector's sound financial position at the beginning of the crisis and the government's financial assistance measures – as well as the temporary suspension of the obligation to file for insolvency, which is tied to certain conditions – there does not appear to be a substantial rise in corporate insolvencies in 2020.[10]

8 See also the results of the first wave of the Bundesbank's pilot survey on the expectations of firms in Germany (https://www.bundesbank.de/en/bundesbank/research/pilot-survey-on-the-expectations-of-firms).
9 Moreover, in addition to the increase in the bonds item, there may also be a rise in liabilities to affiliated companies as internal capital markets play a significant role in groups, especially in crisis years. See Almeida et al. (2015).
10 Preliminary data from the Federal Statistical Office on the standard insolvency proceedings initiated in the first ten months of the current year point to a decline in corporate insolvencies in 2020 compared with the previous year. In March, the obligation to file for insolvency due to pandemic-related insolvency was suspended until 30 September 2020. This was extended in September for overindebted yet still solvent enterprises until 31 December 2020. Nevertheless, the data on the standard insolvency proceedings initiated in October 2020 are below those of the previous months despite the suspension of the obligation to file for insolvency having come to an end.

Long series with extrapolated results from the corporate financial statements statistics are available at www.bundesbank.de/en/statistics/enterprises-and-households/-/corporate-financial-statements-829196

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