German enterprises' profitability and financing in 2020

The impact of the coronavirus pandemic and the associated containment measures on enterprises in Germany varied from one economic sector to the next. The current body of data suggests that the decline in enterprises' revenues caused by the shock was less than half as severe, on average, than the one experienced during the financial and economic crisis in 2009, with some sectors faring noticeably better than others. While export-driven sectors like carmakers and mechanical engineering, and economic sectors hit hard by travel constraints and physical or social distancing requirements, such as aviation and accommodation and food service activities, registered far heavier drops in revenues, construction and some parts of the retail trade saw strong growth in their sales figures.

Corporate profits declined by almost 4% before taxes, but measured relative to the reduced revenue figures, the annual result remained almost unchanged. However, these preliminary numbers probably make the situation appear more favourable than it actually is, if the lessons learned from the recession in 2009 are anything to go by. Support during the reporting period came from an increase in other earnings, which might be related in part to various COVID-19 assistance measures. On the cost side, the deep recession in the global economy meant that the cost of materials eased significantly. As regards personnel expenses, profitability was depressed by enterprises' efforts to retain their workforces despite low capacity utilisation and also by additions to pension provisions in response to changes in interest rates.

The coronavirus shock presented a stiff challenge for enterprises in 2020 in terms of preserving their liquidity. Pandemic containment measures or behavioural adjustments meant that business operations or production in some just-in-time sectors were cut back considerably or ground to a halt altogether. To boost liquidity, fiscal policymakers rolled out extensive financial assistance packages such as lending programmes through promotional banks or direct company subsidies for fixed costs in months in which revenues were down. Enterprises themselves took comprehensive action as well to preserve their liquidity. All these measures drove enterprises' liquidity levels significantly higher, but also pushed up their long-term debt. On balance, enterprises did a relatively good job of absorbing the shock from the coronavirus pandemic. Furthermore, corporate insolvency numbers fell back significantly in 2020. The temporary suspension of the obligation to file for insolvency, which was tied to certain conditions, will also have been a factor in this.

Non-financial enterprises are likely to have seen their activity increase moderately in 2021 against the backdrop of the German economy's ongoing but intermittent recovery from the pandemic-induced crisis. Pressure on enterprises' liquidity position will probably recede across most sectors of the economy. However, cost headwinds, particularly as a result of the sharp uptick in prices of key raw materials and intermediate products, could take their toll on corporate profitability.

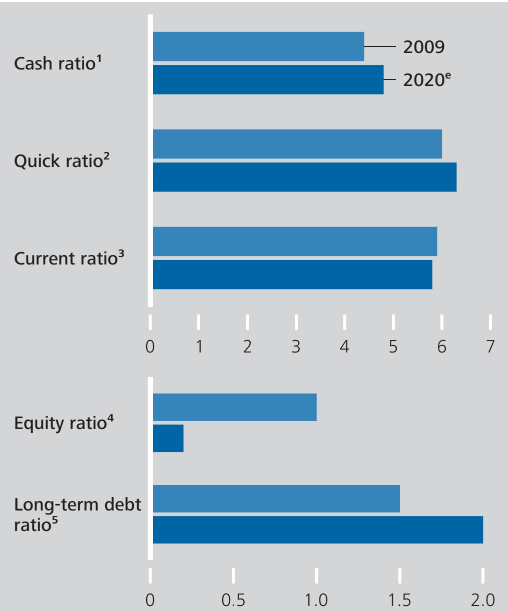
Underlying trends

Severe downturns above all for exporters and sectors affected by containment measures

The coronavirus pandemic and the action taken to contain it plunged the German economy into a deep recession in 2020. Backlog and catch-up effects came into play after the second quarter, but real gross domestic product (GDP) nonetheless contracted by 4.9% on the year. Capacity utilisation in the German economy fell significantly below aggregate levels of production capacity, which emerged from the downturn largely unscathed from today's perspective. Headwinds came from the global setting, too, given that COVID-19 had tipped the world economy into recession. Worldwide demand for German exports diminished sharply, and global supply chains were disrupted in some cases. In the domestic economy, the containment measures caused consumers to hold back on spending, not always voluntarily, while investment in machinery and equipment contracted significantly, which is a common phenomenon during a recession.

German corporate sector's liquidity and stability ratios*

Year-on-year change in percentage points



***** 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.

Deutsche Bundesbank

Housing construction investment, on the other hand, proved robust, while the comprehensive fiscal assistance measures introduced to shore up the healthcare system, enterprises or households also had a stabilising effect. There was a significant decline in corporate insolvency numbers in spite of the coronavirus shock, and this was arguably due in part to the temporary suspension in 2020 of the obligation to file for insolvency, which was tied to certain conditions (see also the box on pp. 47 ff.).

Materials costs eased; other earnings up

The picture gained so far – that enterprises suffered receding revenues and profits – is reflected in the corporate annual financial statements we currently have on file. The relative declines in the annual result (before taxes) and in revenues were almost identical in size (-3.8% and -3.3%, respectively), leaving the pre-tax profit margin almost unchanged at 4.1%. However, uncertainty surrounding this ratio is particularly high as things stand at the moment. The lessons learned from 2009 would suggest that the current body of data tends, if anything, to make the situation appear more favourable than it actually is (see also the box on pp. 51 ff.).[1] All the same, the deep recession in the world economy eased the cost of materials by significantly reducing the prices of intermediate goods and industrial raw materials. The fluctuations in reported personnel expenses, on the other hand, were comparatively moderate as the huge decline in workloads was offset, for the most part, by firms making extensive use of short-time working arrangements and running down working time accounts, rather than terminating employment contracts.[2] Expenses were driven up again in 2020, just like in the previous years, by the

---

1 The analysis for 2020 is based on some 23,000 corporate annual financial statements, which were roughly extrapolated based on the evaluation of aggregate revenue data from the business register.
2 The Institute of Public Auditors in Germany recommends that payments of short-time working benefits be accounted for as a transitory item, with personnel expenses being reduced by the amount of short-time working benefits received. In accounting practice, however, short-time working benefits are often accounted for as other operating income, with personnel expenses being left unchanged.

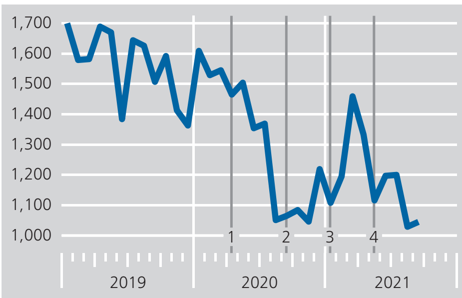
Corporate insolvencies in Germany during the coronavirus crisis

Despite the massive shock triggered by the coronavirus pandemic and what were, at times, very stringent containment measures, the number of corporate insolvencies dropped substantially in 2020. This was partially down to improvements to enterprises' liquidity and equity base in the preceding years.[1] These were associated with a trend decrease in the number of insolvencies and contributed to the increased resilience of the German corporate sector during the pandemic. Additionally, various government support measures were introduced to stabilise enterprises' financing situation. As a consequence, the insolvency figures since the onset of the coronavirus crisis also reflect the contribution of government financial support measures, which eased the pressure on enterprises to file for insolvency.

Temporary changes to the legal framework also had an impact on developments in the number of insolvencies last year.[2] These changes meant that, between 1 March and 30 September 2020, enterprises struggling as a result of the coronavirus pandemic were not obligated to file for insolvency in the case of insolvency or overindebtedness.[3] The suspension of the obligation to file for insolvency for enterprises that were overindebted but nevertheless solvent was extended until 31 December 2020.[4] To help mitigate the negative effects arising from delays in the disbursement of government funds, the filing obligation was suspended from 1 January 2021 to 30 April 2021 for enterprises that applied for government financial assistance between 1 November 2020 and 28 February 2021.[5] After the obligation to file for insolvency was suspended in March 2020, the number of insolvencies dropped sharply. Taking the average of August 2020 to November 2020, around 1,060 insolvency filings were registered, 31% fewer than in the same period of the previous year. Looking at 2020 as a whole, too, official statistics show an exceptionally sharp reduction in corporate insolvency figures, with just over 15,800 insolvency filings, a drop of nearly 16% in comparison with 2019. It is also possible that the coronavirus pandemic has led to an increase in the number of enter-

Corporate insolvencies*

Number

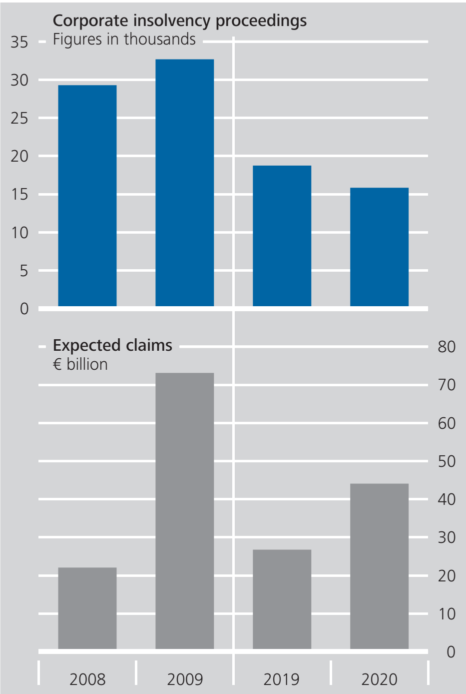


Source: Federal Statistical Office. * Insolvency proceedings filed. **1** No obligation to file for insolvency in the case of pandemic-related insolvency. **2** Suspension of the obligation to file for insolvency extended until December 2020 in the case of pandemic-related overindebtedness (where solvency, however, is intact). **3** Suspension for debtors who applied for aid payments. **4** Obligation to file for insolvency again in full effect.

Deutsche Bundesbank

1 See Deutsche Bundesbank (2019).
2 Normally, insolvency proceedings are initiated in cases of insolvency (Section 17 of the Insolvency Code (*Insolvenzordnung*)), imminent insolvency (Section 18 of the Insolvency Code) or overindebtedness (Section 19 of the Insolvency Code) on the debtor's part. The aim of the proceedings is the collective satisfaction of creditors by liquidating the debtor's assets in an orderly manner or by allowing the enterprise to be maintained using an insolvency plan (Section 1 of the Insolvency Code).
3 See Section 1(1) of the Act to Temporarily Suspend the Obligation to File for Insolvency and to Limit Directors' Liability in the Case of Insolvency Caused by the COVID-19 Pandemic (*COVID-19-Insolvenzaussetzungsgesetz* (COVInsAG), last amended 15 February 2021).
4 See Section 1(2) COVInsAG, last amended 15 February 2021.
5 See Section 1(3) COVInsAG, last amended 15 February 2021. A further precondition was that the aid applied for was sufficient to prevent insolvency.

Insolvency proceedings in Germany*



Source: Federal Statistical Office. * Proceedings filed.
Deutsche Bundesbank

prises going out of business due to a lack of economic prospects, even if they have not yet reached the point of overindebtedness or insolvency. According to official statistics, however, there was also a sharp decrease of 14% in the number of business closures in 2020.[6] Looking at the average for the year to date, the number of insolvency filings has remained low.

Given the comprehensive government financial support measures and the temporary suspension of the obligation to file for insolvency, there was a risk that necessary market cleansing processes or the productive allocation of resources would be impeded. Comparing 2020 with 2019, the number of insolvency filings dropped particularly sharply despite a large decline in revenue in some services sectors. Some of these industries normally account for a considerable share of insolvencies in Germany, numerically speaking.[7] The risk that impending insolvencies are being suppressed may be particularly high in these cases. While the production sector also saw individual cases of lower insolvency figures despite lower revenue, the reduction in insolvencies there was nevertheless relatively moderate. Above and beyond that, the drop in insolvencies in the construction sector – which is normally a major contributor to yearly insolvency statistics – is particularly notable. Favourable construction activity may partly explain this, however.

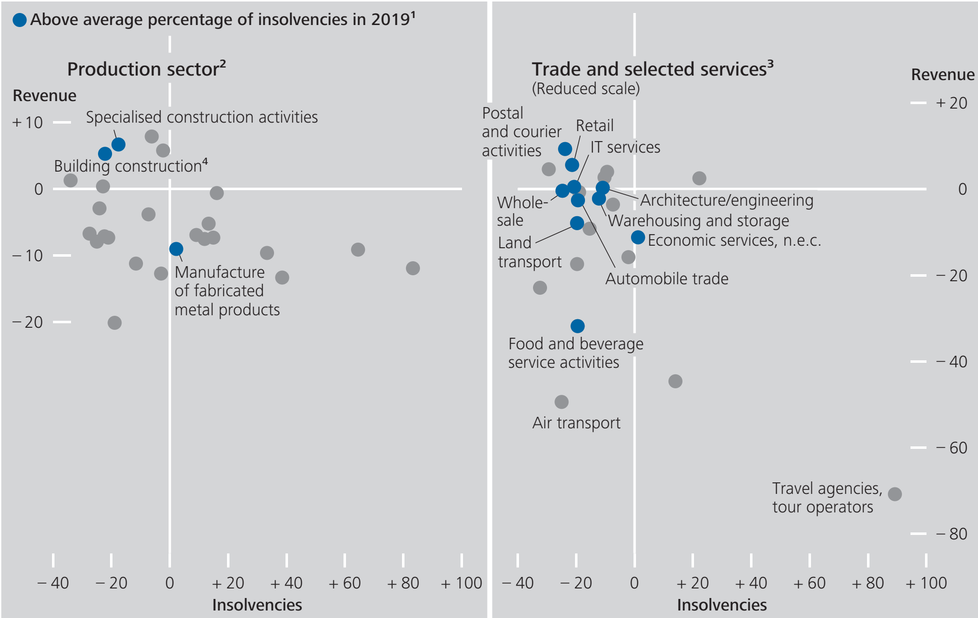
Despite the sharp decline in the number of corporate insolvency proceedings in the past year, the associated expected claims rose considerably. This indicates that some large enterprises filed for insolvency. This is consistent with the sector report, which states that the number of insolvency proceedings increased among large enterprises, while micro-enterprises in particular saw a substantial reduction in proceedings.[8] Micro-enterprises, which usually make up a large portion of corporate insolvencies, are generally exposed to larger financing risks.[9] The sharp decline in the insolvency figures for this category of enterprises in 2020 therefore suggests that government assistance measures had the most effect there.[10]

---

6 Taking the average of the 2011-19 period, the number of total closures of head offices of enterprises with greater economic significance fell by only around 2%.
7 Food and beverage service activities, for instance, accounted for just over 15% of all insolvency filings in 2019.
8 See Creditreform (2020).
9 For example, studies focusing on the United States show that smaller enterprises often have greater problems with external financing. See Meisenzahl (2016) and Chodorow-Reich et al. (forthcoming).
10 A study by Dörr et al. (2021) concludes that government assistance measures prevented insolvencies of micro-enterprises in particular. This was, moreover, especially true of micro-enterprises whose credit ratings were already relatively poor before the crisis, suggesting windfall gains.

Insolvency proceedings and revenue by industry*

Percentage change in 2020 compared with 2019



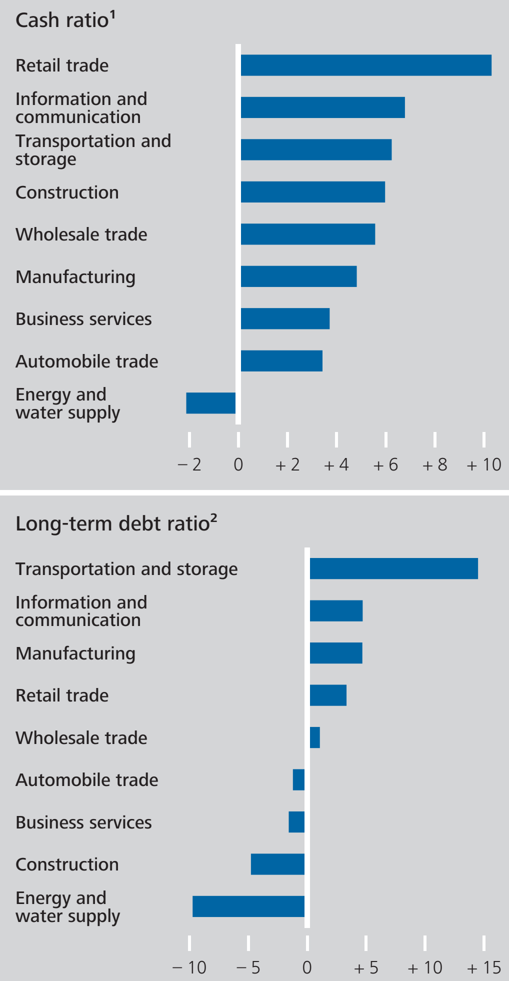
Source: Bundesbank calculations based on data from the Federal Statistical Office. * Based on 2-digit industries and data on nominal sales. **1** The average sectoral percentage of insolvencies in 2019 was 2%. **2** Excluding mining. **3** Comprises the following industries: “transportation and storage”, “hospitality”, “information and communication”, “professional, scientific and technical activities” and “other business-related services”. Programming and broadcasting activities not shown. **4** Revenue excluding 41.1 (development of building projects).

Deutsche Bundesbank

In particular, some insolvencies may have been delayed in several services sectors which were hard hit by the pandemic. However, these sectors account for a small share of aggregate gross value added. The overall impact of windfall effects should therefore be moderate. Even so, the government’s influence on insolvency proceedings – which tends to promote inefficiencies – whether through direct equity investments or subsidies, should be gradually scaled back over the medium term.

German enterprises' liquidity and stability ratios in 2020*

Year-on-year change in percentage points



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

need to adjust pension provisions in line with interest rates. On the earnings side, enterprises saw their other operating income climb steeply, which might have been related in part to the government financial assistance measures. However, the impact of the coronavirus crisis on non-financial enterprises varied greatly across sectors, and this was also reflected in corporate profitability levels in various economic sectors. Travel constraints and social and physical distancing requirements took a heavy toll on the gross profit margin in the transportation and storage sector – particularly in aviation – and to a lesser extent in business services as well. Owing to the contraction of foreign demand, some parts of the manufacturing sector, such as carmakers and mechanical engineering, saw their profitability levels decline, while the chemicals and pharmaceuticals, construction, and information and communication sectors improved their bottom line.[3]

Liquidity and stability ratios

Broad measures by enterprises to preserve liquidity flanked by comprehensive government financial assistance …

The coronavirus shock presented major challenges for enterprises in 2020 in terms of safeguarding their liquidity. Pandemic containment measures or behavioural adjustments by the general public led to business operations or production in some just-in-time sectors being cut back considerably or grinding to a halt altogether. To bridge liquidity shortfalls, fiscal policymakers rolled out extensive financial assistance packages such as lending programmes through promotional banks or direct company subsidies for fixed costs in months in which revenues were down. Enterprises themselves took comprehensive action as well to preserve their liquidity, running down their inventories and postponing investment projects in an effort to boost their liquid assets. As regards debt finance, enterprises made substantial shifts along the maturity spectrum as a way of reducing their reliance on current liquidity inflows. These efforts saw firms scale back their current, short-term liabilities – apart from those to affiliated enterprises – and significantly increase their long-term liabilities – in particular to affiliated enterprises or through the issuance of bonds.[4] Cash holdings increased by just under one-quarter, while securities classified as current assets grew by roughly one-third. On balance, enterprises saw their liquidity increase considerably in the reporting period.

3 A robust set of separate extrapolated data for accommodation and food service activities, which has been hit hard by the pandemic, is not yet available, while numbers for the arts, entertainment and recreation sector are not normally included in the extrapolations. According to the national accounts, these sectors account for a relatively small share of aggregate gross value added, at less than 5%.
4 For more on the role of internal capital markets in crisis years, see, for example, Almeida et al. (2015) and Santioni et al. (2020).

On the revisions to gross profit margin in the corporate financial statement statistics

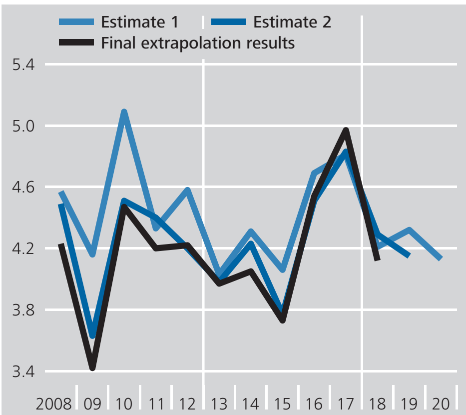
The results of the corporate financial statement statistics are extrapolated on the basis of annual financial statements contained in the Bundesbank's Financial Statements Data Pool.[1] When the statistics are first published in the December of the year following the balance sheet date, financial statements are available for only about 1% of the companies in the business register.[2] These financial statements cover just over one-third of the revenue of all German companies. In the following year the statistics are based on roughly 2% of financial statements, covering just over half of all revenue. The final figures after a further year are based on the data of around 3% of all companies, accounting for just under two-thirds of the total revenue of the non-financial corporate sector.[3] As the dataset is gradually completed, revisions are usually made to the extrapolated results, and these are also reflected, on balance, in the result for the gross profit margin.

A comparison of the values for the first and second estimates of the gross profit margin, as well as the results of the final extrapolation, shows that the general tendency of profitability can normally be determined at an early stage based on a very small number of financial statements. However, the result of the first estimate, in particular, is frequently higher than the final figure. A decomposition by company size shows that this is attributable to the comparatively good income situation of small and medium-sized enterprises (SMEs) with annual revenues of less than €50 million, whose financial statements are usually already available for the first estimate.[4] This effect is particularly striking in the years 2009 and 2010, i.e. during and immediately following the financial and economic crisis.

With this in mind, it cannot be ruled out that the current data overstate the profit margin in the current reporting year, too.

Annual result before taxes

As a percentage of sales

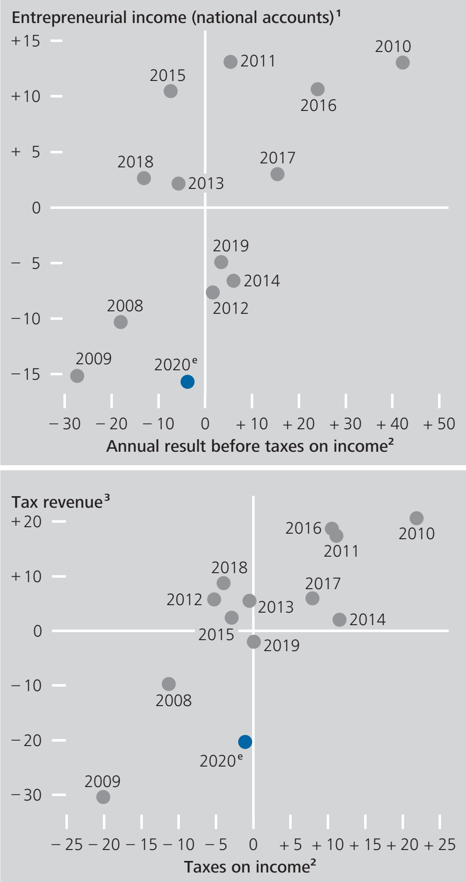


Deutsche Bundesbank

1 The data sources include anonymised data provided by credit institutions and credit insurers, data from the Bundesbank's credit assessments, as well as data supplied by commercial data providers encompassing financial statements that are available as a result of disclosure obligations pursuant to Section 325 of the German Commercial Code *(Handelsgesetzbuch)*.
2 Of the roughly 3.6 million legal entities contained in the business register of the Federal Statistical Office, for the most part, only the large corporations are required to disclose a complete set of annual accounts with detailed information from their balance sheets and profit and loss accounts.
3 In light of the long period between the balance sheet date and the availability of the financial statements for statistical analysis, the figures for the first two years after the end of the reporting period are calculated on the basis of "cylindered samples". For more information on the methodology, see Deutsche Bundesbank (2021, 2011, 2005).
4 By contrast, no such sample effect is observable for large firms with revenues of €50 million or more. For these companies, more than one-third of all financial statements, representing more than half the revenue of these companies, is available after less than one year. Of the smaller enterprises, less than 1% of the financial statements are usually available at this point in time, representing just 10% of the revenue of this category.

Corporate earnings and taxes

Year-on-year percentage change



1 National accounts: Volkswirtschaftliche Gesamtrechnungen, Fachserie 18, Reihe 1.4, Tabelle 3.4.2.1, Unternehmensgewinne der nichtfinanziellen Kapitalgesellschaften. **2** Corporate financial statement statistics. **3** Corporation tax and local business tax. Sources: Federal Ministry of Finance and Federal Statistical Office.

Deutsche Bundesbank

Based on the annual financial statements available to date, the gross profit margin for SMEs rose from 6.3% to 7.3% in 2020, while the figure for large firms declined from 3.1% to 2.5%. However, a factor that is likely to be playing a role at present – as in 2009 – is that the profit margins in the financial statements of SMEs that are already on file exceed the profit margins of those submitted at a later date by a particularly large degree.[5] A breakdown by date of receipt of the 2020 financial statements that are already available indicates that this is the case.[6] This is probably in large part because the impact of the coronavirus pandemic and the containment measures on the various business segments – even business segments within the same sector – has differed extremely in some cases. For example, firms in the hotel and restaurant sector that established take-away or delivery services and that have already submitted their financial statements tended to benefit from closures in the rest of the sector. By contrast, hotels or restaurants that depended on overnight stays or eat-in customers, and for which virtually no financial statements are thus far available in the statistics, generated scarcely any revenue. It seems that SMEs that accepted government assistance in 2020 have made use of the longer deadlines allowed for submitting their financial statements and income tax returns. It is therefore likely that profit margins will tend to be exceptionally low in the data deliveries expected between now and the final version of the 2020 corporate financial statement statistics.

A comparison with the corporate earnings for 2020 reported in the national accounts and with revenue from corporate taxes also indicates that these items in the corporate financial statement statistics will need revis-

5 For SMEs, the first estimate of the gross profit margin for 2009, carried out in December 2010, was 1.6 percentage points higher than the final value calculated two years later. By contrast, the first estimate for large firms differed by less than 0.2 percentage point from the final result. Changes in the classification of economic sectors, the reporting sample and the procedure mean that the provisional and final figures for the 2009 and 2020 reporting years are not directly comparable. However, the impact of these changes is not sufficient to explain the large discrepancy between the two values for small enterprises.
6 A comparison of the data in July 2021 and December 2021 shows that the increase in the aggregate annual result for small enterprises with revenues of less than €2 million compared with the 2019 result was 76% greater in the July sample than in the larger December sample. This applies in a similar fashion for enterprises in the next higher revenue categories up to €50 million, as well. For enterprises with revenues between €2 million and €10 million, the increase was 79% greater, and for those with revenues between €10 million and €50 million, it was 54% greater.

ing. According to the national accounts, the entrepreneurial income of non-financial corporations declined by 16% on the year in 2020, and the revenues of central, state and local governments from corporation and trade tax fell by 20%. The corporate financial statement statistics show movements in the same direction for both of these metrics for large firms, too, on aggregate. Meanwhile, on aggregate, the financial statements of SMEs on file show a perceptible increase in annual results and tax expenses compared to the 2019 financial year.[7] Overall, according to these figures, non-financial corporations saw a slump in neither their profits nor their tax payments. Based on these considerations, downward revisions are to be expected for both of these items in the corporate financial statement statistics. This is likely to have a dampening effect on the gross profit margin for non-financial corporations in 2020 as currently reported.

7 For SMEs, annual results for 2020 before taxes on income extrapolated from the available financial statements is 14% higher than the current figure for 2019, while the reported taxes on income for the reporting year are 10% higher on the year.

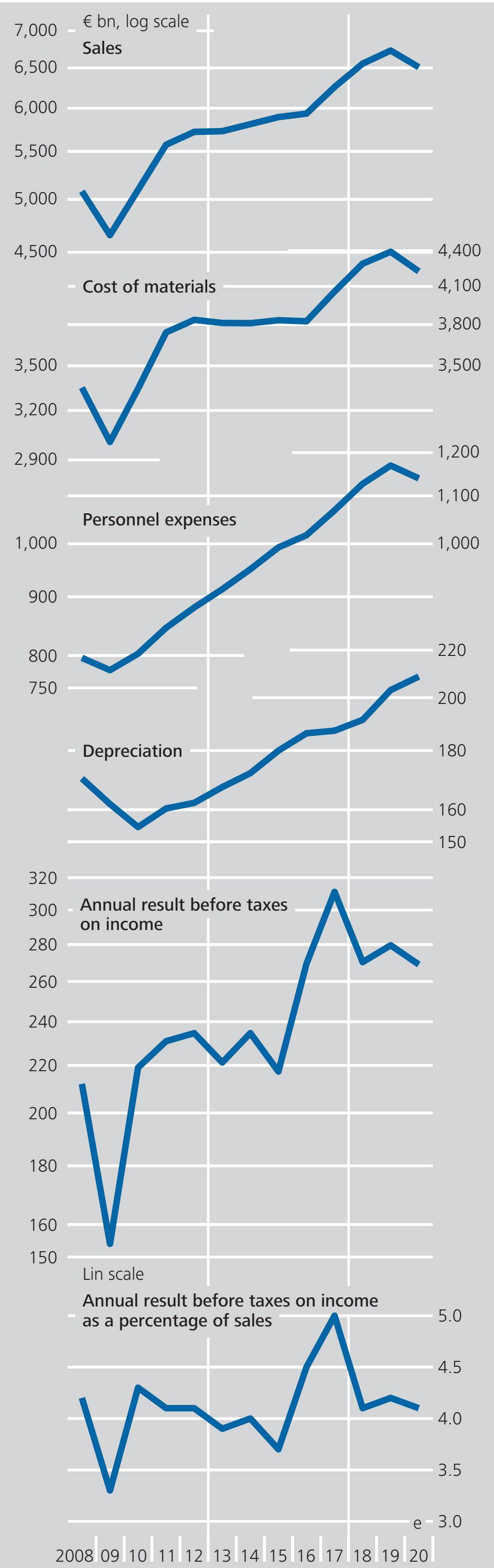
… boosted liquidity and did not materially impair the business sector's stability ratios

Though the impact of the coronavirus crisis varied very widely across sectors, these measures did improve all the major economic sectors' standard liquidity indicators, which show various measures of short-term assets relative to short-term liabilities. The stability ratios – metrics that focus primarily on enterprises' solvency – reveal that while the equity ratio remained broadly unchanged, the long-term debt ratio climbed significantly as a result of enterprises' liquidity-preserving measures. As expected, the liquidity and stability ratios exhibited particularly strong fluctuations in sectors that were hit hard by the crisis. All in all, enterprises managed to absorb the immediate impact of the coronavirus shock relatively well. Even so, enterprises' long-term debt ratio is now well above its pre-crisis level.

Government financial assistance measures helped maintain business sector liquidity

An assessment of the corporate income statements and balance sheets we have on file reveals that the financial assistance measures by government and instruments like short-time working had a tangible effect in many areas. The promotional banks' extensive lending programmes, which in some cases saw government assume the entire credit risk, contributed to the increase in long-term liabilities to credit institutions. These might furthermore also be reflected in part in the sharp rise in long-term liabilities to affiliated enterprises in those cases where loans were taken out via dedicated funding subsidiaries within corporate groups. Grants for operating costs, such as bridging aid, showed up in other operating income. The temporary arrangement to fully reimburse social security contributions for short-time workers and, occasionally, the short-time working benefits lowered personnel expenses. Furthermore, tax relief measures such as the deferral of tax payments may have been a factor in the increase in other liabilities. All in all, these findings support the assessment that government assistance measures in Germany to mitigate the impact of the coronavirus shock played a role in preserving liquidity in the business sector.

Indicators from German enterprises' income statement*



* Extrapolated results from corporate financial statements statistics.
Deutsche Bundesbank

Sales and income

Sales down significantly in 2020

The slump in economic activity caused by the pandemic resulted in significant drops in revenue for non-financial enterprises. Volume effects were a greater factor than price effects in this regard, as sales prices for goods and services fell considerably less strongly than sales. As enterprises scaled back their inventories, production even declined slightly more than sales in value terms. Interest income also went down after a strong rise in the preceding year. Other operating income increased more strongly than in 2019, partly owing to the rise in the transportation and storage sector, which may be attributable in part to the uptake of crisis assistance measures in the aviation sector.

Decline in sales across most sectors; positive growth in construction

Sales decreased across most sectors in 2020 owing to the temporary travel constraints, social and physical distancing requirements, workplace or business closures, or the disruptions in the supply chains. The decline in sales was particularly sharp in the transportation and storage sector and in the export-driven sectors of manufacturing such as the metalworking industry, mechanical engineering and car manufacturing. Car manufacturers had to contend with the significant decline in the global demand for cars, especially in Europe and the United States. Energy companies also reported considerable revenue losses on account of lower energy demand and price effects. By contrast, the wholesale and retail trade (excluding automobiles) saw sales rise, especially online. However, sales were down in other areas of the wholesale and retail trade (excluding automobiles), such as in bricks-and-mortar clothing and footwear stores. The construction sector recorded further increases in revenue, as work on construction sites continued despite bottlenecks in building materials.

Annual result before taxes down

As with revenue, non-financial enterprises' annual result before taxes also declined. At 4%, this decrease was somewhat sharper than the drop in sales figures. In the year under review, total expenses fell at a similar rate to total in-

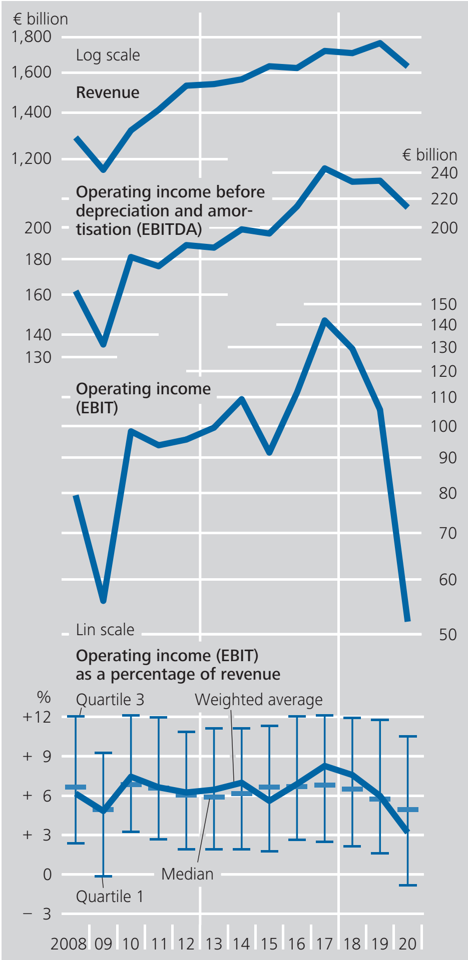
Profitability and financial position of German listed groups in 2020 and an outlook for 2021

In the aftermath of the coronavirus pandemic and the measures taken to contain it, the revenue and income of German listed non-financial groups took a severe hit in 2020. Revenue dropped by 8.8% as the pandemic caused demand to fall and also resulted in the closure of manufacturing sites and trading/retail outlets.[1] Meanwhile, a perceptible recovery started in the second half of 2020. Internationally operating groups benefited from the fact that, especially in China, economic performance had already returned to pre-crisis levels by the end of 2020. Nonetheless, the severe sales losses from the first half of the year were not fully recouped. Moreover, exchange rate effects relating to the consolidation of foreign subsidiaries' annual accounts weighed on revenues.[2]

Operating expenses did not fall in the same measure as revenue because of increasing depreciation and amortisation of tangible and intangible fixed assets on account of deteriorating demand expectations. In addition, there was an extraordinary charge arising from multi-billion-euro criminal proceedings in the chemicals sector.[3]

Overall earnings before interest, taxes, depreciation and amortisation (EBITDA) fell by 7.7%. After deducting depreciation and amortisation (EBIT), it even plummeted by 40.9% compared with the previous year. The profit margin consequently once again dropped sharply.[4] It fell by 2.1 percentage points last year and, at 3.2%, hit a considerably lower value than in the aftermath of the financial and economic crisis of 2008-09. This was mainly due to unfavourable developments in yields in the manufacturing sector. The slump in the aviation industry was

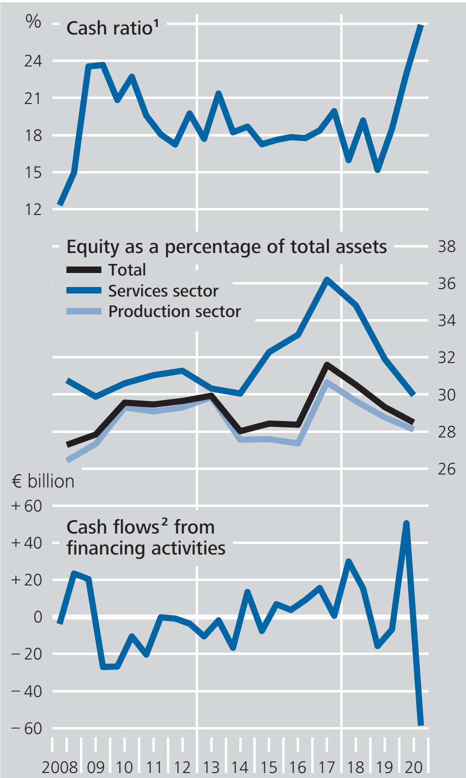
Revenue, earnings and profit margin of German non-financial groups



Deutsche Bundesbank

1 The rates of change for profit margin, revenue, EBITDA and EBIT are published with reporting and consolidation basis adjustments.
2 The nominal effective exchange rate of the euro against the currencies of the 42 most important trading partners of the euro area rose by an average of 3.4% on an annual basis in 2020, which has a negative impact on the euro countervalues when converting revenue from foreign currency to euro.
3 This one-off effect amounts to around €20 billion in the form of additional provisions and impairments.
4 Defined here as the ratio of operating income (EBIT) to revenue.

Liquidity, equity and funding of German non-financial groups



1 Ratio of cash and cash equivalents to short-term liabilities. Weighted average out of a constant set of 170 groups which have been continuously recorded in the statistics since the first half of 2008. **2** Balance out of an enterprise's financing cash flows which change cash and cash equivalents, such as dividends paid and received, cash flows from the issuance/redemption of bonds and cash flows from the take-up/repayment of loans and interest. Sum out of a constant set of 170 groups which have been continuously recorded in the statistics since the first half of 2008.

Deutsche Bundesbank

the primary reason for the decrease in the profit margin in the services sector. However, this was offset to some degree by higher EBIT in the telecommunications, software and logistics sector; as a result, the services sector's profit margin was average. As regards the dispersion of profit margins, the spread between Quartile 1 and Quartile 3 grew considerably on the year. The distribution shifted to the left in 2020, with Quartile 1 falling below its previous all-time low in 2009. The median and Quartile 3, on the other hand, exceeded their 2009 figures. A total of 27% of groups reported a negative profit margin in the past year. The weighted arithmetic mean profit margin dropped below the median. This meant that the higher-revenue corporate groups suffered a sharper drop in earnings than smaller groups.

On the assets side, fixed and financial assets remained practically unchanged on the year. Intangible assets were up by 3.6% from the previous year. This growth resulted from significant corporate takeovers which exceeded amortisation. Production stoppages and a drop in business as a result of the crisis led to a reduction in inventories and trade receivables. What is striking is the strong 42.8% increase in cash and cash equivalents, which is likely to be a reflection, in part, of government stabilising measures and the drawdown of credit lines to preserve liquidity during the pandemic. In addition, car manufacturers' sales financing fell on account of the pandemic; this led to net repayments of outstanding debt, which increased cash resources. The increase in cash led to groups having the highest ratio of liquidity to short-term liabilities since statistics began to be kept in 2007.

On the financing side, debt rose while equity fell off slightly. On balance, the aggregate equity ratio fell by 0.8 percentage point to 28.5%, with the manufacturing sector and the services sector both posting falling equity ratios. The decline in services was stronger, driven by the aviation industry.

The significant increase in both short and long-term financial debt set the tone for the debt position. As cash inflows from operating activities dropped off, groups secured their liquidity by scaling up bond issuance and taking on more bank liabilities.[5] Look-

5 The majority of the increase in long-term financial debt was caused by a major takeover in the telecommunications industry, which increased long-term financial debt by €51 billion, while this position rose by €70 billion in total.

ing at intra-year developments in cash flows from financing activities shows that the build-up of short-term financial debt to make up for reduced internal financing ability was focused on the first half of 2020, whereas external funds began to be scaled back in the second half of the year.[6] The continued decline in the reference interest rate applied for accounting purposes caused pension obligations to grow in 2020 by around 7%, or €21 billion.[7]

Estimates based on the financial statements of the largest groups in the reporting sample for the first three quarters of the current year indicate that revenues have risen sharply compared with the depressed level of the same period a year earlier despite unfavourable currency effects. According to group reports, this was attributable to volume as well as price effects. Driven by the logistics sector and despite the continued pandemic woes of the aviation industry, revenue in the services sector is set to exceed that of the first three quarters of the pre-crisis year of 2019. In the third quarter of 2021, groups in the manufacturing sector suffered more from shortages of intermediate goods and, in some cases, a resurgence of pandemic-related charges. On the whole, however, the revenue of groups in the manufacturing sector could potentially return to pre-crisis levels in this period.

A comparison of the profit margin (income before tax as a percentage of revenue) of listed non-financial groups and single entities shows that groups' profitability took a much greater hit from the pandemic in the previous year, even if the initial estimate of the extrapolated results for the entire corporate sector for 2020 is fraught with considerable uncertainty. Nonetheless, group profitability has already bounced back strongly. Data for the first nine months of 2021 indicate a strong rebound in pre-tax

Annual result before taxes on income

As a percentage of sales

1 Seasonally and calendar-adjusted average, Q1 to Q3 2021.
Deutsche Bundesbank

profits among a large portion of the groups in the sample: this applies to enterprises in both manufacturing and services. However, the tailing-off of the economic recovery in the final quarter of 2021 will be a factor in the annual result. Whereas the single-entity financial statements primarily reflect the German part of the value chain, the consolidated financial statement statistics illustrate the global intra-group value added created by numerous large multinationals domiciled in Germany. 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.[8]

6 When looking at this metric, it needs to be noted that, in many cases, dividends were not paid until the second half of the year in 2020 owing to delayed shareholders' meetings, which promoted the emergence of these extremes.
7 Extrapolated based on the 34 largest groups.
8 Furthermore, the metrics derived from the financial statements are shaped materially by differences between the accounting standards applied (German GAAP for the corporate financial statement statistics, IFRS for consolidated financial statement statistics).

Enterprises' income statement*

Item	2018	2019	2020e	Year-on-year change 2019	Year-on-year change 2020e
Income	€ billion			%	
Sales	6,556.3	6,729.6	6,509.6	2.6	– 3.3
Change in finished goods1	50.6	45.8	17.4	– 9.5	– 61.9
Gross revenue	6,606.8	6,775.4	6,527.0	2.6	– 3.7
Interest and similar income	17.3	19.8	18.6	14.5	– 6.0
Other income2	237.2	255.2	283.9	7.6	11.2
of which: from long-term equity investments	59.7	63.0	65.2	5.5	3.5
Total income	6,861.4	7,050.5	6,829.6	2.8	– 3.1
Expenses					
Cost of materials	4,289.9	4,393.5	4,225.0	2.4	– 3.8
Personnel expenses	1,127.2	1,169.1	1,139.5	3.7	– 2.5
Depreciation	191.4	203.1	208.6	6.1	2.7
of tangible fixed assets3	176.8	183.2	188.3	3.6	2.8
Other4	14.6	19.9	20.3	36.5	2.3
Interest and similar expenses	80.3	71.4	72.2	– 11.1	1.1
Operating taxes	4.5	4.5	4.4	0.0	– 0.7
Other expenses5	897.8	929.3	910.7	3.5	– 2.0
Total expenses before taxes on income	6,591.0	6,770.9	6,560.5	2.7	– 3.1
Annual result before taxes on income	270.3	279.6	269.0	3.4	– 3.8
Taxes on income6	59.2	59.3	58.6	0.1	– 1.1
Annual result	211.1	220.3	210.4	4.4	– 4.5
Memo item:					
Cash flow7	428.7	455.0	462.7	6.1	1.7
Net interest paid	63.0	51.6	53.6	– 18.1	3.8
	As a percentage of sales			Percentage points	
Gross income8	35.3	35.4	35.4	0.1	0.0
Annual result	3.2	3.3	3.2	0.1	0.0
Annual result before taxes on income	4.1	4.2	4.1	0.0	0.0
Net interest paid	1.0	0.8	0.8	– 0.2	0.1

* 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

come. In line with the reduction in production, enterprises cut back the procurement of intermediate goods and services, which had also become significantly cheaper compared with the previous year. Personnel expenses and other expenses were down as well. In addition to a slight decrease in employment, working hours were also scaled back, partly caused by the use of short-time work schemes. Extraordinary expenses, meanwhile, saw steep growth in some cases. Overall, the textile industry, carmakers and the transportation and storage sector had to accept a negative annual result. By contrast, the construction, retail trade and information and communication sectors saw their profits go up.

Sources and uses of funds

Despite recession, no exceptionally sharp decline in sources and uses of funds

Enterprises' sources and uses of funds did not experience an exceptionally sharp decline, despite the severe recession. Regarding the sources of funds, this was driven by stable internal financing, with lower capital increases from retained profits being offset by higher depreciation and transfers to provisions. External financing decreased on balance, despite the strong year-on-year growth in long-term liabilities.

Enterprises' sources and uses of funds*

€ billion

Item	2018	2019	2020e	Year-on-year change 2019	Year-on-year change 2020e
Sources of funds					
Capital increase from profits and contributions to the capital of non-corporations1	45.8	45.9	31.2	0.0	– 14.6
Depreciation (total)	191.4	203.1	208.6	11.7	5.5
Increase in provisions2	26.3	31.6	43.8	5.3	12.2
Internal funds	263.4	280.5	283.6	17.1	3.1
Increase in capital of corporations3	14.2	29.3	23.2	15.1	– 6.1
Change in liabilities	164.6	92.3	39.2	– 72.4	– 53.0
Short-term	123.9	85.3	– 21.7	– 38.7	– 106.9
Long-term	40.7	7.0	60.9	– 33.7	53.9
External funds	178.8	121.5	62.4	– 57.3	– 59.1
Total	442.3	402.1	346.1	– 40.2	– 56.0
Uses of funds					
Increase in tangible fixed assets (gross)	219.8	228.8	192.6	9.0	– 36.2
Increase in tangible fixed assets (net)4	43.0	45.6	4.3	2.6	– 41.3
Depreciation of tangible fixed assets	176.8	183.2	188.3	6.4	5.1
Change in inventories	55.2	38.7	– 19.7	– 16.5	– 58.3
Non-financial asset formation (gross investments)	274.9	267.5	172.9	– 7.4	– 94.6
Change in cash	27.0	0.8	80.7	– 26.2	79.8
Change in receivables5	75.2	72.1	15.0	– 3.1	– 57.1
Short-term	68.8	50.2	19.6	– 18.6	– 30.6
Long-term	6.5	22.0	– 4.6	15.5	– 26.6
Acquisition of securities	– 3.1	0.1	10.9	3.2	10.8
Acquisition of other long-term equity investments6	68.2	61.5	66.6	– 6.7	5.1
Financial asset formation	167.4	134.6	173.2	– 32.8	38.6
Total	442.3	402.1	346.1	– 40.2	– 56.0
Memo item: Internal funds as a percentage of gross investments	95.8	104.9	164.0	.	.

* 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

This was due to the reduction in short-term liabilities. On the expenditure side, the acquisition of tangible fixed assets was much lower than in the previous year due to destocking, which had largely been driven by the decline in finished goods inventories and work in progress, and due to the lower increase in fixed assets, which barely exceeded the necessary investment in replacements. The acquisition of financial assets grew substantially, however, given the desire to preserve liquidity.

Balance sheet developments

Shift from non-financial to financial assets and from long-term to short-term receivables out of desire to preserve liquidity

The total assets of non-financial enterprises expanded once again in 2020. However, at around 2½%, this increase was weaker than in previous years. The share of financial assets (including cash) in total assets grew again after a break in 2019. The main reason for this was, in particular, the much larger cash item due to the desire to stay liquid. Enterprises looked to boost liquidity in other areas on the assets side, too. On balance, there was a shift from long-term to short-term receivables. For example, holdings of short-term securities rose, especially in the chemical and pharmaceutical in-

Enterprises' balance sheet*

Item	2018	2019	2020e	Year-on-year change 2019	Year-on-year change 2020e
Assets	€ billion			%	
Intangible fixed assets1	74.7	77.0	80.6	3.0	4.8
Tangible fixed assets	1,162.5	1,205.8	1,206.4	3.7	0.0
Inventories	788.3	827.0	807.3	4.9	− 2.4
Non-financial assets	2,025.5	2,109.7	2,094.3	4.2	− 0.7
Cash	356.9	357.7	438.3	0.2	22.5
Receivables	1,604.5	1,671.6	1,681.8	4.2	0.6
of which:					
Trade receivables	458.4	456.0	440.7	− 0.5	− 3.4
Receivables from affiliated companies	960.2	1,013.3	1,034.6	5.5	2.1
Securities	105.9	106.0	116.9	0.1	10.3
Other long-term equity investments2	995.3	1,041.9	1,093.1	4.7	4.9
Prepaid expenses	24.6	26.7	26.5	8.6	− 0.8
Financial assets	3,087.1	3,204.0	3,356.6	3.8	4.8
Total assets3	5,112.6	5,313.7	5,450.9	3.9	2.6
Capital					
Equity3	1,581.8	1,656.9	1,711.4	4.8	3.3
Liabilities	2,747.5	2,839.7	2,878.9	3.4	1.4
of which:					
to banks	545.3	568.9	572.4	4.3	0.6
Trade payables	364.8	361.8	342.3	− 0.8	− 5.4
to affiliated companies	1,206.1	1,239.0	1,279.2	2.7	3.2
Payments received on account of orders	285.5	313.6	304.0	9.8	− 3.1
Provisions	742.9	773.9	814.8	4.2	5.3
of which:					
Provisions for pensions	263.5	283.7	301.1	7.7	6.1
Deferred income	40.4	43.1	45.8	6.6	6.3
Liabilities and provisions	3,530.8	3,656.7	3,739.5	3.6	2.3
Total capital3	5,112.6	5,313.7	5,450.9	3.9	2.6
Memo item:					
Sales	6,556.3	6,729.6	6,509.6	2.6	− 3.3
Sales as a percentage of total assets	128.2	126.6	119.4	.	.

* 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

dustries, in the wholesale and retail trade (excluding automobiles) and in transportation and storage. Receivables from affiliated companies expanded, especially in the short-term segment. (Short-term) trade receivables declined more strongly than revenue, as a result of which enterprises obtained additional liquid funds. By contrast, the acquisition of long-term equity investments, which tends to be characterised by a long planning horizon, continued unabated. Car manufacturers, in particular, expanded their other long-term equity investments markedly, as did the electrical engineering and mechanical engineering industries and the wholesale and retail trade (excluding automobiles).

Non-financial assets down due to destocking

On the whole, non-financial assets decreased slightly in 2020, while tangible fixed assets remained stable. Overall, and partly for liquidity reasons, inventories declined across the majority of sectors for the first time since the financial and economic crisis of 2008-09, and most strongly in the electrical engineering industry. By contrast, intangible fixed assets saw substantial growth. This was predominantly due to the one-off effects in the chemical and pharmaceutical industries as well as in the information and communication sector, which was partly caused by the acquisition of additional mobile phone licences. Thus, there does not appear to have been robust investment in digital goods such as software and databases, which this item includes.

Equity ratio stable at high level

In line with the overall positive result, the equity ratio of non-financial enterprises in 2020 did not decline from its high level. The individual sectors evolved differently, however. Sharper declines in equity occurred in the areas of transportation and storage and in the electrical engineering industry, although in the case of the latter this was partly due to a one-off effect at one large enterprise. By contrast, the energy sector in particular, especially the operators of power grids, saw distinct rises in equity, and car manufacturers and the wholesale and retail trade expanded their equity as well.

Subdued growth in liabilities and provisions with shift towards long-term liabilities

Furthermore, to preserve liquidity, short-term liabilities were converted into long-term liabilities on balance. As a consequence, there was a strong rise in long-term liabilities to affiliated companies. Short-term bank loans were redeemed on balance, and there was a significant increase in long-term bank loans. A similar picture emerges with regard to bond holdings. Trade payables, however, declined, as is typical in recessionary periods. One reason behind this is the reduction in business activity, whilst another reason is that creditors tend to call in their claims faster in such periods in order to secure their own liquidity. Payments received on account of orders likewise fell steeply. Provisions also continued to rise sharply on account of the additional provisions for pensions required by the continuing fall in the discount rate. Virtually all sectors formed higher provisions for taxes than they had previously. All in all, growth in liabilities and provisions in the reporting year remained lower than in 2019.

Enterprises' balance sheet ratios*

Item	2018	2019	2020e
	As a percentage of total assets1		
Intangible fixed assets2	1.5	1.4	1.5
Tangible fixed assets	22.7	22.7	22.1
Inventories	15.4	15.6	14.8
Short-term receivables	28.0	27.8	27.4
Long-term equity and liabilities3	51.7	51.7	52.8
of which:			
Equity1	30.9	31.2	31.4
Long-term liabilities	15.6	15.1	15.9
Short-term liabilities	38.1	38.3	36.9
	As a percentage of tangible fixed assets4		
Equity1	127.9	129.2	133.0
Long-term equity and liabilities3	213.7	214.1	223.7
	As a percentage of fixed assets5		
Long-term equity and liabilities3	106.8	106.1	109.1
	As a percentage of short-term liabilities		
Cash resources6 and short-term receivables	93.6	92.0	98.3
	As a percentage of liabilities and provisions7		
Cash flow8	13.5	13.8	14.0

* 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.

Deutsche Bundesbank

Trends for 2021

Economic recovery in 2021 beneficial for business activity; profitability dampened by cost headwinds

Against the backdrop of the German economy's ongoing but intermittent recovery from the pandemic-induced crisis in the second quarter of 2020, non-financial enterprises are likely to have seen their business activity increase again in 2021. However, not all sectors will have benefited equally from the backlog and catch-up effects in exports, investment and private consumption. For example, industrial enterprises probably expanded their sales figures considerably given the strong demand from abroad and greater commercial investment in Germany. The robust housing investment seen so far will likely lead to sound annual results in construction once again, while the persistent global supply bottlenecks are expected to have an inhibiting effect, especially in car manufacturing. Ongoing containment measures or the reintroduction of new measures are also likely to continue dampening sales in certain service sectors such as accommodation and food service activities. Cost rises in key commodities and intermediate goods could take an additional toll on corporate profitability. Furthermore, the need to adjust pension provisions in line with interest rates or the increase in labour costs will probably also have a dampening effect. As enterprises' business activity returns to normal, pressure on liquidity is likely to recede across most sectors in 2021.

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-829312

List of references

Almeida, H., C. S. Kim and H. B. Kim (2015), Internal capital markets in business groups: Evidence from the Asian financial crisis, Journal of Finance, Vol. 70(6), pp. 2539-2586.

Chodorow-Reich, G., O. Darmouni, S. Luck and M. Plosser (forthcoming), Bank liquidity provision across the firm size distribution, Journal of Financial Economics.

Creditreform (2020), Insolvenzen in Deutschland, Jahr 2020, Creditreform Wirtschaftsforschung, 8 December 2020.

Deutsche Bundesbank (2021), Financial statement statistics (extrapolated results), Statistical Series, December 2021, pp. 5 ff.

Deutsche Bundesbank (2019), The evolution of German enterprises' equity ratio, Monthly Report, December 2019, pp. 44-46.

Deutsche Bundesbank (2011), Financial statements statistics with broader sectoral coverage and a new basis of extrapolation, Monthly Report, December 2011, pp. 32 f.

Deutsche Bundesbank (2005), German enterprises' profitability and financing – an analysis based on a new dataset, Monthly Report, October 2005, pp. 31 ff.

Dörr, J. O., G. Licht and S. Murmann (2021), Small firms and the COVID-19 insolvency gap, GROWINPRO Working Paper, 13/2021, April 2021.

Meisenzahl, R. R. (2016), Can financing constraints explain the evolution of the firm size distribution?, Review of Industrial Organization, Vol. 48, pp. 123-147.

Santioni, R., F. Schiantarelli and P. E. Strahan (2020), Internal capital markets in times of crisis: The benefit of group affiliation, Review of Finance, Vol. 24(4), pp. 773-811.