2.5 The ifo Business Survey in the Construction Industry

Felix Leiss

2.5.1 Beginnings and Development of the Panel

The ifo Business Survey in the manufacturing industry was introduced in 1949. It was quickly supplemented by the ifo Business Survey retail trade in 1950 and the ifo Business Survey wholesale trade in 1951. The monthly ifo Business Survey in the construction industry (conventional construction without the finishing trades) followed in 1956, with the first surveys taking place in the federal state of North Rhine-Westphalia before being gradually extended to the entire territory of the Federal Republic of Germany. Setting up the survey, the ifo Institute received support from several regional and national construction associations.

Following German reunification, the construction industry had its highest share of gross value added in 1994, at 7.1%. In the following years, this share fell continuously until 2006, when it reached its lowest point at 3.8%. Thereafter, the construction sector regained importance. In 2017 it generated 4.9% of Germany's gross value added. Within the construction sector, about 60% of gross value added is accounted for by construction and about 40% by the finishing trades.[3] The finishing trades, however, have not yet been included in the ifo Business Survey.

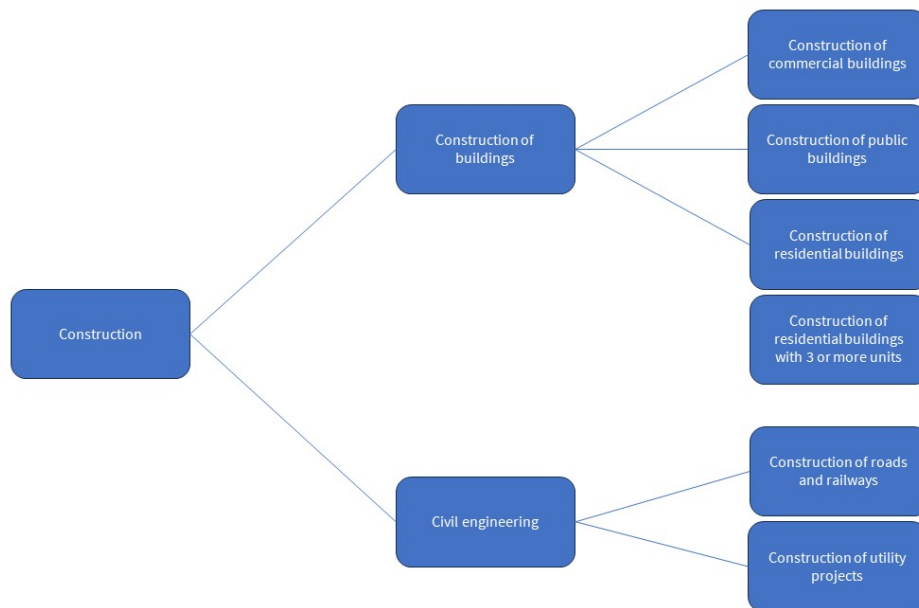### 2.5.2 Hierarchies in the Construction Industry

The ifo Business Survey in the construction industry has some distinctive features. Instead of being subdivided according to economic branches as in the official classification of economic activities of the German Federal Statistical Office (WZ08), the classification is based on the different construction types according to building reports of the official statistics. As can be seen in Figure 2.18, the construction of buildings sector is divided into the construction of public buildings, construction of commercial buildings, and construction of residential buildings. In construction of residential buildings, buildings with more than three residential units are again recorded separately. In civil engineering, a distinction is made between construction of roads and railways and construction of utility projects.

As most enterprises are active in several of the above-mentioned sectors, the questionnaire for the construction sector differs from those for the other sectors: All six construction types are surveyed on one questionnaire side-by-side: The participants only fill in the columns that are relevant for them and thus classify themselves in the corresponding sub-areas of the construction industry (divisional reports). Some questions, however, relate to the entire company, to construction of buildings, or to civil engineering (see Figure 2.24).

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[3] For companies with 20 or more employees.

Figure 2.18: Hierarchy of the construction industry

2.5.3 Descriptive Statistics

For the ifo Business Survey in the construction industry, approximately 1,200 companies receive a questionnaire each month. Typically, about 850 responses can be expected at the company level. On average, construction companies state that they are active in 2.5 of the surveyed construction types. This results in about 2,100 reports. Of the approximately 1,200 companies surveyed, around 650 are currently (2022) taking part online.

2.5.4 Questionnaire

In total, the questionnaire for the construction industry comprises 14 monthly standard questions. These relate to the current situation, past developments, and expectations or plans for the coming months. The topics of the questions are construction activity, order backlog, construction prices, construction constraints, the business situation in general, and capacity utilization (Figures 2.23 and 2.24). In addition to these 14 monthly standard questions, special questions are also asked at regular intervals (Figure 2.25). Their topics include short-time work, the use of sub-contractors, the scope of activity of the company, the execution of orders, the use of rental equipment, special difficulties, and the availability of loans. The wording and periodicity of some of these questions are defined in the context of harmonizing business surveys in the European Union. In addition to the monthly standard questions and the regularly repeated questions ifo also asks supplementary questions that are of current relevance or cover other aspects of interest. These supplementary questions are asked as

required (see Section 4.13).

2.5.5 Methodology and Weighting

The answers of each company receive individual weights based on the number of company employees. For this purpose, the participants report the average number of persons employed per year at the end of each year. The weighting points are assigned according to the scheme shown in Table 2.22.

Table 2.22: Weighting points in the construction sector

Number of persons employed	Weighting Points
1 - 99	1
100 - 199	2
200 - 349	3
250 - 499	4
500 - 699	5
700 - 999	6
1,000 - 1,499	8
1,500 - 1,999	10
2,000 and more	13

The disproportionately low increase of points in the number of employees ensures that large companies are not overrepresented. In the case of questions concerning the entire company, as well as companies that report for one construction type only, the weights described above are directly applicable for weighting the individual reports. In the case of companies that are active in several sectors of the construction industry, the weighting points are split between their reports. For this purpose, the share of turnover of the individual construction types in the total corporate turnover is surveyed annually. The weight of the individual reports is determined as follows:

$$Construction\ type\ weight\ =\ Company\ weight * \frac{Share\ of\ turnover}{100}$$

The weighting for each construction type is rounded up to the next whole number. For example, a construction company with 800 employees, which generates half of its turnover in construction of residential buildings, would thus receive a divisional weight of 3 for the report on construction of residential buildings. The weighted calculation of the results for higher aggregates (construction of buildings, civil engineering, construction industry) is based on the respective shares of turnover of the individual construction sector. These are taken from the official construction statistic, which shows the share of turnover both by economic sector

(WZ2008) and by type of building. The subdivision by type of building in the official statistic corresponds to the classification chosen by the ifo Institute. Nationwide, civil engineering is weighted at 42.5%. Construction of buildings receives a relative weight of 57.5%.

2.5.6 Results and Interpretation

2.5.6.1 Cross Correlations between the Questions

Table 2.23 shows the correlation between some of the central indicators of the standard questionnaire. It shows that there is a high positive correlation between the assessment of the order backlog and the assessment of the current situation. The general business expectations of the participants correlate strongly with the expectations for future construction prices, but even more strongly with the recent development of construction prices.

Table 2.23: Cross-correlation between some of the survey indicators in construction

	BC	BS	BE	CD	CE	OA	PD	PE
BC	1.000							
BS	0.990	1.000						
BE	0.938	0.880	1.000					
CD	0.753	0.754	0.686	1.000				
CE	0.850	0.821	0.847	0.644	1.000			
OA	0.970	0.980	0.863	0.769	0.833	1.000		
PD	0.931	0.903	0.921	0.726	0.802	0.883	1.000	
PE	0.852	0.804	0.895	0.621	0.751	0.751	0.942	1.000

BC: Business climate, BS: Business situation, BE: Business expectations, CD: Construction activity development, CE: Construction activity expectations, OA: Order backlog assessment, PD: Price development, PE: Price expectations.

2.5.6.2 Long-term Development

The construction industry stands out in comparison with the other sectors of the ifo Business Survey due to its long-term negative average values. The historical average (from January 1991 to December 2021) of the climate indicator is -16.2 points, while the corresponding indicator in the manufacturing industry has a long-term average of $+4.7$ points. The indicator for the current business situation in the construction industry is on average only -19.8 balance points (Figure 2.19). Two questions arise: 1. Should current indicator values be interpreted in relation to the actual zero line or to their average values? 2. Is the current absolute value of the indicators or their distance from the respective long-term average more suitable for assessing the economic condition of the industry? In order to answer these questions, it must be clarified whether the low average values are a product of a pessimistic sentiment or a long

phase of economic downturn.

Figure 2.19: ifo Business Climate and its sub-indicators in the construction industry
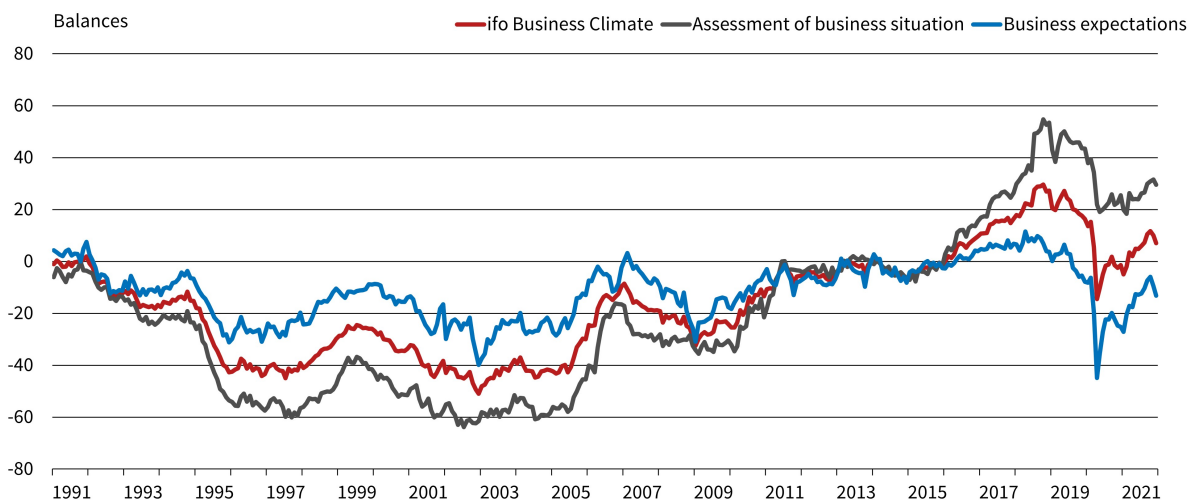
Source: ifo Business Survey.   © ifo Institute

Looking at the results of the ifo Business Survey, it is possible to track the development of the German construction industry. Starting from reunification, the business situation indicator initially moved sideways on a slightly negative level (Figure 2.19). The first major declines occurred in mid-1992, after which the indicator stabilized at around -20 balance points. However, the next slump followed in 1995, so that at the end of the year the indicator reached below -50 balance points for the first time. In the years that followed, the indicator remained below this mark for the most part. One exception to this was the moderate phase of recovery from the second half of 1998 until the end of 2000, although even there the balance did not rise above -35 points. In October 2002, the lowest point was reached with -66.4 points. It was not until the second half of 2004 that the picture changed, and a strong rebound ended the downward slide. This trend has continued to this day (as of December 2021), only being interrupted by the financial crisis in 2008/2009, the euro crisis, and the Covid-19 pandemic.

To gain an impression of the long-term economic development and the current situation in the construction industry, it is also advisable to look at the working day and seasonally adjusted production index of the Federal Statistical Office for companies with 20 or more employees. It is obvious that declining construction output not only leads to poorer utilization of existing capacities, but also to greater competitive pressure and thus to falling margins. Such framework conditions make it very difficult to operate profitably and pose difficulties for many companies. Conversely, increasing building production forms the basis for the flourishing of the trade. The highest level of construction activity for the companies surveyed was already reached in 1995. After a ten-year period of declining construction output – with the exception of the year 1999, in which a small increase was reported – activity reached its lowest point in 2005. Within ten years, the recorded production had decreased by 36%. The Data

Figure 2.20: Production index for the construction industry

Index, 2015 = 100
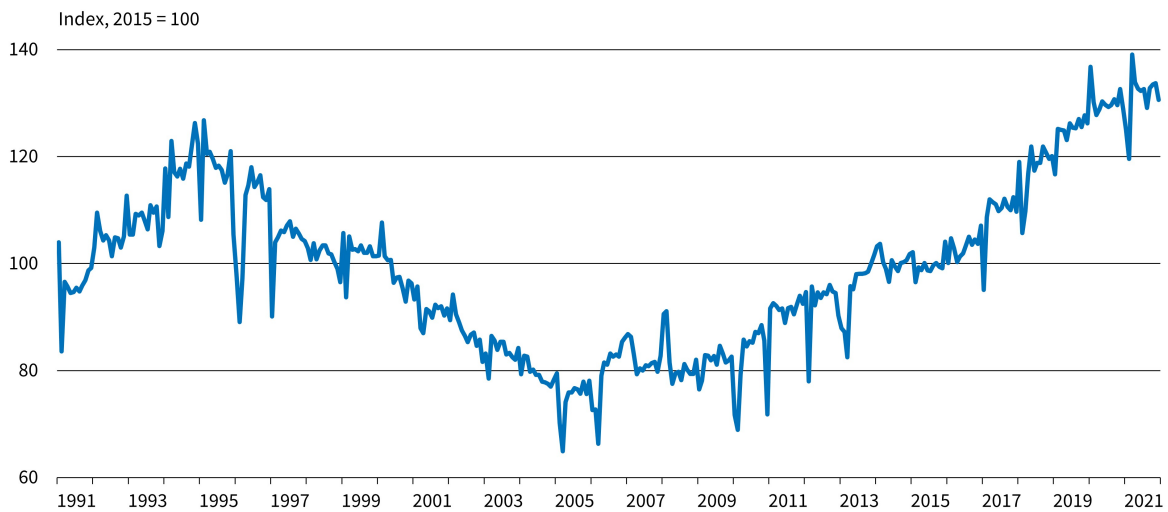
Source: Federal Statistical Office.   © ifo Institute

also shows that, despite the significant increases of recent years, current construction output has still not reached the level of the record years 1994 and 1995. The development of the construction industry after 1991 was thus quite turbulent. Reunification was followed by about five years of growth. The following ten years were characterized by declining construction output. After the low point was reached in 2005, a longer recovery phase began, which culminated in a construction boom.

Figure 2.21: Comparison between the assessment of the business situation and the annual growth rate of the production index
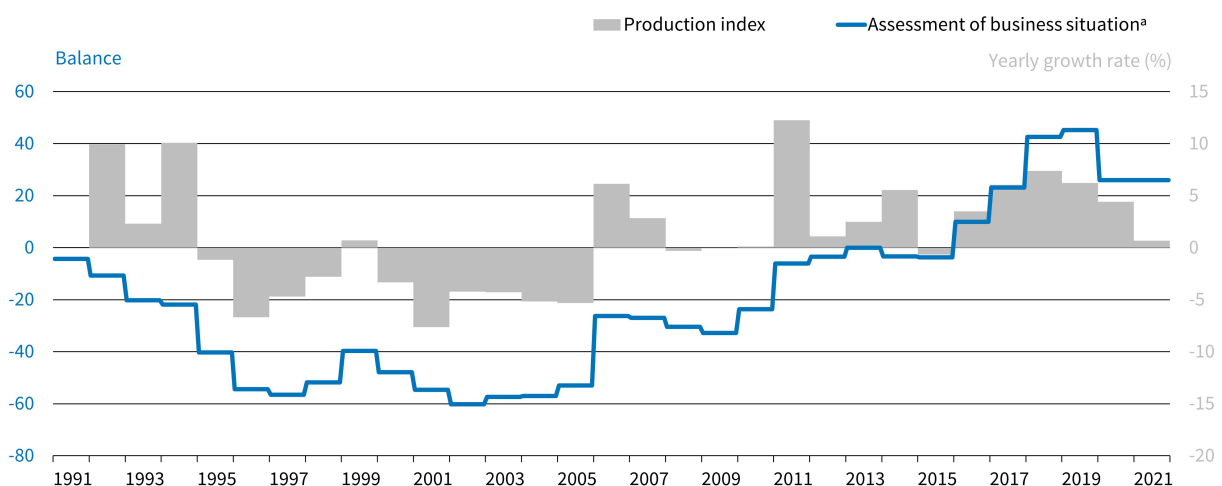
Production index   Assessment of business situation[a]

Balance   Yearly growth rate (%)

[a] Annual mean.
Source: Federal Statistical Office; ifo Business Survey.

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Figure 2.22: Development of construction activity in the construction industry and rates of changes of the production index

ᵃ Annual mean.
Source: Federal Statistical Office; ifo Business Survey.

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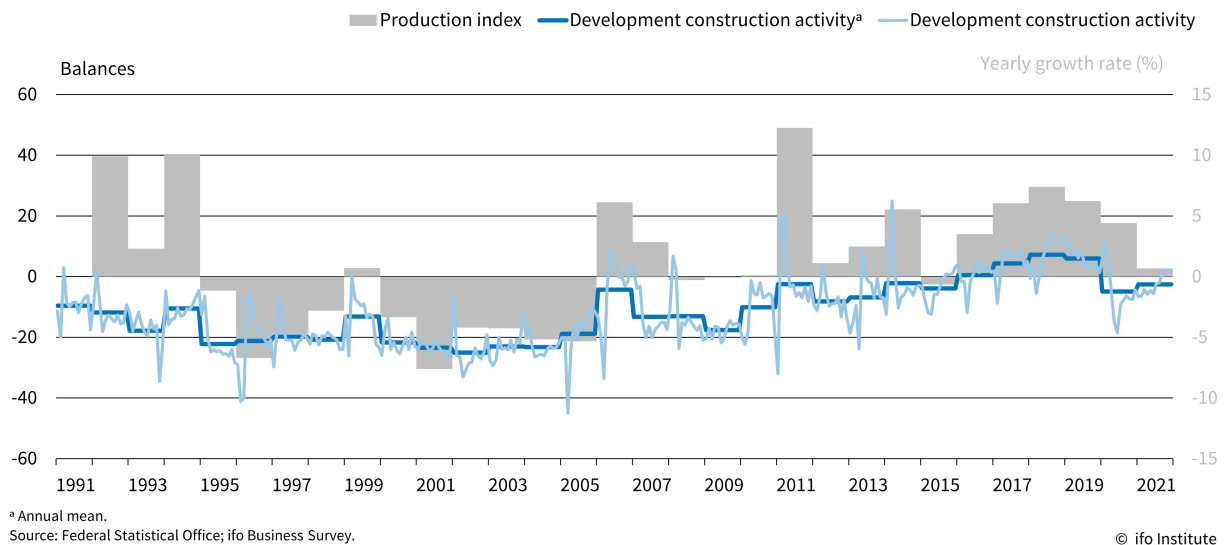
Figure 2.21 shows both the balanced assessments of the current business situation of the construction companies on an annual average and the percentage rate of change of the annual average of the production index for the construction industry. It is striking that the worst results of the ifo Business Survey fall, as expected, between 1995 and 2005. In the ten-year period beginning January 1995, the average value of the business situation indicator was -52.1 balance points. Looking at all other years since reunification, the situation indicator averaged -2.1 balance points. The strongly negative mean values of the ifo indicators for the construction industry are therefore likely to be attributable to this long and harsh economic downturn. However, even in years with rising construction output, the business situation indicator has regularly failed to achieve a positive value. A certain amount of systematic pessimism in the construction industry can therefore not be ruled out. A further indication of a possible bias is provided by another indicator of the ifo Business Survey: Each month, the participants are asked whether construction activity has risen, remained the same, or fallen in the past three months. If the balance of this variable is compared with the annual rate of change in the construction output recorded by the Federal Statistical Office (Figure 2.22), it is noticeable that the indicator was often able to briefly climb above the zero line in years with rising construction output, while mostly retaining a negative annual average. The average for these years is 7.6 balance points. In years with declining construction output, on the other hand, the average realization of the variable was -19.8 balance points. In summary, it can be said that the strongly negative average values in the construction industry are primarily attributable to a long phase of the economic decline, though a certain systematic pessimism in the response behavior cannot be ruled out either. An interpretation of the current indicator values in relation to the historical mean values is therefore not appropriate. Nevertheless,

with balances in the slightly negative range, it should not necessarily be assumed that the current situation is unfavorable or that construction activity is declining.

Figure 2.23: Standard questions in construction, front

ifo - Business survey for construction sector
ifo Institute – Center for Macroeconomics and Surveys
Please respond by ...

Please base responses only on domestic locations and disregarding purely seasonal fluctuations.
Please fill in only the columns that apply to your work area.

ifo INSTITUTE
Leibniz Institute for Economic Research
at the University of Munich

ID No.   1123456-123.12.1234

Your current information status
November 2021

Road construction	Other underground construction	Public buildings	Commercial buildings	Total residential construction	Residential buildings Buildings with at least 3 dwellings	
CURRENT SITUATION						
1. We characterize our **current business situation** as						
☐	☐	☐	☐	☐	☐	good
☐	☐	☐	☐	☐	☐	satisfactory
☐	☐	☐	☐	☐	☐	poor
2. Our **order backlog** (if customary for the industry) is						
☐	☐	☐	☐	☐	☐	comperatively large
☐	☐	☐	☐	☐	☐	sufficient
☐	☐	☐	☐	☐	☐	too low
3. Our **order backlogs** currently correspond to our average **production** in:						
_____	_____	_____	_____	_____	_____	month(s)
4. Our **prices**						
☐	☐	☐	☐	☐	☐	more than cover our costs
☐	☐	☐	☐	☐	☐	cover our costs
☐	☐	☐	☐	☐	☐	no longer cover our costs
5. Our **construction activity** is **currently** impeded						
☐	☐	☐	☐	☐	☐	yes
☐	☐	☐	☐	☐	☐	no
If yes, by the following factors:						
☐	☐	☐	☐	☐	☐	too few orders
☐	☐	☐	☐	☐	☐	order cancellations
☐	☐	☐	☐	☐	☐	lack of skilled workers
☐	☐	☐	☐	☐	☐	lack of low-skilled workers
☐	☐	☐	☐	☐	☐	financial constraints
☐	☐	☐	☐	☐	☐	scarcity of materials / insufficient technical equipment
☐	☐	☐	☐	☐	☐	unfavorable weather conditions
☐	☐	☐	☐	☐	☐	other factors
REVIEW						
6. Our **construction activity** in the **past 3 months** has						
☐	☐	☐	☐	☐	☐	increased
☐	☐	☐	☐	☐	☐	stayed about the same
☐	☐	☐	☐	☐	☐	decreased
7. Compared to September, our **level of building contracts** in October						
☐	☐	☐	☐	☐	☐	increased
☐	☐	☐	☐	☐	☐	remained roughly the same
☐	☐	☐	☐	☐	☐	decreased
8. Compared to September, our **prices** in October have						
☐	☐	☐	☐	☐	☐	risen
☐	☐	☐	☐	☐	☐	not changed
☐	☐	☐	☐	☐	☐	fallen

Your responses will be handled in strictest confidence. Legal data protection is fully guaranteed.
Privacy policy: www.ifo.de/en/Datenschutz-Umfragen

Please turn over!

Figure 2.24: Standard questions in construction, back

Road construction	Other underground construction	Public buildings	Commercial buildings	Total residential construcation	Residential buildings Buildings with at least 3 dwellings

PLANS AND EXPECTATIONS FOR THE NEXT 3 MONTHS

9. We expect our **construction activity** to

☐	☐	☐	☐	☐	☐ increase
☐	☐	☐	☐	☐	☐ remain roughly the same
☐	☐	☐	☐	☐	☐ decrease

10. We expect our **prices** to

☐	☐	☐	☐	☐	☐ increase
☐	☐	☐	☐	☐	☐ remain roughly the same
☐	☐	☐	☐	☐	☐ decrease

EXPECTATIONS FOR THE NEXT 6 MONTHS

11. We expect our **business situation** to

☐	☐	☐	☐	☐	☐ become more favorable
☐	☐	☐	☐	☐	☐ stay the same
☐	☐	☐	☐	☐	☐ become less favorable

12. The **future development** of our **business situation** is **currently**

☐	☐	☐	☐	☐	☐ easy to predict
☐	☐	☐	☐	☐	☐ moderately easy to predict
☐	☐	☐	☐	☐	☐ moderately difficult to predict
☐	☐	☐	☐	☐	☐ difficult to predict

CAPACITY UTILIZATION

13. **Utilization** of our **machine capacity** is **currently** at (standard full utilization = 100%)

30 40 50 60 70 75 80 85 90 95 100   more than 100%, namely:

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐   _____ all equipment

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐   _____ equipment for undgr. constr.

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐   _____ equipment for buildings

EMPLOYEES

14. In the **next 3 months**, **we expect** our **workforce** to

a) in total	b) skilled tradespeople	c) office empl.
☐ increase	☐	☐
☐ stay about the same	☐	☐
☐ decrease	☐	☐

15. Compared to September, in October our **workforce** has

a) in total	b) skilled tradespeople	c) office empl.
☐ increased	☐	☐
☐ stayed about the same	☐	☐
☐ decreased	☐	☐

Thank you for your input!   ID No.   1123456-123.12.1234   Construction sector – November 2021 (reverse)

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Figure 2.25: Special questions in construction

ifo - Business survey for construction sector
ifo Institute – Center for Macroeconomics and Surveys
Please respond by ...

Please base responses only on domestic locations and disregarding purely seasonal fluctuations.
Please fill in only the columns that apply to your work area.

ifo INSTITUTE
Leibniz Institute for Economic Research
at the University of Munich

ID No.   1123456-123.12.1234

Your current information status
2021

| Road construction | Other underground construction | Public buildings | Commercial buildings | Total residential construcation | Residential buildings Buildings with at least 3 dwellings |

SPECIAL QUESTIONS

QUARTERLY

MARCH - JUNE - SEPTEMBER - DECEMBER

A) **In the past 3 months**, we have held loan negotiations with banks.

☐ yes   ☐ no
If yes: **If no:**
The banks were: ☐ no need for a bank loan
☐ accommodating   ☐ other reasons
☐ normal
☐ less accommodating

HALF-YEARLY

APRIL - SEPTEMBER

A) Did you have any **problems** in the **last 6 months?**

☐ yes   ☐ no
If yes, the following:
☐ order cancellations
☐ customers defaulting on payment
☐ poaching of employees
☐ violation of VOB regulations
   including:
   ☐ customer put up hurdles to construction
   ☐ delayed acceptance of work by the customer contracts
   ☐ awarded to lowest bidder, not the most commercially viable

ANNUALLY

JULY

A1) For equipment-intensive work, we sometimes rent **equipment** and/or we hire specialist companies as **subcontractors**.
☐ yes   ☐ no

A2) Approx. _____% of our equipment capacity in 2020 was attributable to **rented equipment**.

ANNUALY

AUGUST

A) We had **job vacancies in the past 6 months**:

☐ yes   ☐ no

If yes:
a) We were looking for specialists in the following fields:
☐ skilled trades
☐ commercial professions
☐ industrial managers
☐ civil engineering
☐ apprentice tradespeople

DECEMBER

A) As a basis for **weighting** your responses in 2022, we would ask you to indicate how the **sales** you have generated so far in 2021 are distributed among the following sectors. (estimates are fine)

Road construction	Other undgr. constr.	Public buil- dings	Commercial buildings	Residential buildings
%	%	%	%	%
100 %				

B) On average, our **workforce** in 2021 totaled:

_____ workers
_____ employees total

Thank you for your input!   Construction sector – Special questions 2021