

**Documentation of  
the Bundesbank Online Panel  
Firms (BOP-F)**

**Questionnaire 15**

**Waves 33 – 34 - 35**

**October - November – December 2023**

Deutsche Bundesbank  
Research Centre

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# 1 Notes

## a General coding

For all questions, the following codes apply.

Code	Output
-9999	Dropout: The respondent did not answer the question due to dropout.
-9998	No answer: The respondent clicked "No answer" instead of answering the question.
-9997	Don't know: The respondent clicked "Don't know" instead of answering the question.
-9996	Does not apply: The respondent clicked "Does not apply to my enterprise" instead of answering the question.
-6666	Does not apply: The question or response option was not shown to the respondent due to filters or prior item non-response.
-5555	Recoded by BBk: A coding or data error that was recoded by the Bundesbank.

## b Legend for question header

Each question header includes information on the name of the question, whether it was part of the core questionnaire ("Core"), included for a specific project ("Pro"), or part of descriptive statistics ("Descript"), the broad topic and the variable name(s).

Legend	Question name	Question source	Topic	Variable name
Example 1	003	Core	Perceived problems	percprob_[a-j]
Example 2	103	Pro	Supply chains qualitative	suppchains_[a-b]

## c Question filtering and coding

Coding details, filters and conditional redirects are highlighted using *Courier*. If questions are posed to all respondents, this is not explicitly stated. For filtered questions, the filter is listed at the top and refers to the question name, e.g.:

**103 | Pro | Supply chain problems domestic or foreign | suppchain\_[a-b]**

Input filter: 001\_d = 6 | 7 | 8 | 9 | 10

## d Variable names

Variable **names** are indicated in the top right corner. If the question has multiple items, the items are indicated by underscores and a **letter**. Enumeration letters correspond to variable names. The **coding** of the variables is numeric and indicates the scale.

**X01 | Core | Perceptions qualitative | percmacro\_[a-i]**

**QUESTION:** Please consider the period from **end-June 2022** to **end-June 2023**. How did the following metrics develop in your enterprise during this period?

*Note: Please select one answer for each row.*

- 1 = Decreased significantly
- 2 = Decreased
- 3 = Stayed roughly the same
- 4 = Increased
- 5 = Increased significantly
- 9996 = Does not apply to my enterprise

- a = Access to intermediate inputs <i>:
- b = Current trade receivables:
- c = Current trade payables:
- d = Short-term liquidity:
- e = Need for credit financing:
- f = Access to financing sources <i>:
- g = Inventories (stock of intermediate products and finished goods):
- h = Sales <i>:
- i = Expenditure on energy and fuels:

## 2 List of questions

Variable name	Topic	Question number	Origin
percmacro_[a-g]	Perceptions qualitative	X01	Core
expmacro_[a-g]	Expectations qualitative	X02	Core
keyrateprob_[f-r]	Development key rate probabilistic	X04A	Core
inflexpoint	Inflation expectations quantitative	X04B	Core
inflexpoint_3y	Inflation expectations quantitative – 3 years	811A	Pro 6
inflexpoint_5y	Inflation expectations quantitative – 5 years	811B	Pro 6
salespast	Sales past quarter quantitative	X05A	Core
salesfuture_[a-e]	Sales comparable quarter prediction	X05B	Core
salesprob_[a-e]	Sales comparable quarter probabilistic	X05C	Core
pricepast	Price change past year quantitative	X06A	Core
pricefuture	Price change next year quantitative	X06B	Core
priceunc	Price change uncertainty	X06C	Core
emplpast_[a, b]	Employment past quarter	X09A	BiQ Core
emplfuture	Employment comparable quarter prediction	X09B	BiQ Core
emplunc	Employment uncertainty	X09C	BiQ Core
creduse1	Microfinance credit negotiations	X07A	Core
creduse2_[a-f]	Microfinance negotiations result	X07B	Core
financingpast_[a-g]	Financing sources past	X08A	Core
financingfuture_[a-g]	Financing sources future	X08B	Core
share_loans	Bank loans in relation to total assets	1101	Pro F 11
type_loans_[a-c]	Share of different types of bank loans	1102	Pro F 11
withdraw	Withdrawals of bank deposits	1501	Pro B 72
withdraw_rates	Withdrawals due to interest rates	1502	Pro B 72
withdraw_extent	Extent of withdrawals	1503	Pro B 72
privper	Dealing with private persons	1507	Pro Z 10
type_POS	Main used POS	1508	Pro Z 10
sector_POS	Economic sector POS	1509	Pro Z 10
paym_POS_[a-l]	Payment means POS	1510	Pro Z 10
payment_prov	Payment service provider	1511	Pro Z 10
invest_[a-h]	Investment 2021 and 2022	1512	Pro 61
change_invest1_[a1-b5]	Change investment due to COVID-19	1513A	Pro 61
change_invest2_[a, b]	Other reason change investment	1513B	Pro 61
innov_2022_[a, b]	Investment 2022	1514	Pro 61
innov_policy_[a1-b13]	Investment and key interest rate	1515	Pro 61
innov_scenario_[a1-e15] [_V2]	Change innovation due monetary policy	1516	Pro 61
invest_region_[a1-d4]	Change in investment	1504	Pro Vo 31
reason_changeA_[a-h]	Increase in domestic investment	1505A	Pro Vo 31
reason_changeB_[a-n]	No increase in domestic investment	1505B	Pro Vo 31
reason_changeC_[a-k]	Attractiveness investment abroad	1505C	Pro Vo 31
lukewarm_[a-e]	Lukewarm	1506	Pro F 41
consent	Firm characteristics implicit	D01	Descript
firmemploy_[a-b]	Firm characteristics explicit employment	D02	Descript
firmturnover_[a-b]	Firm characteristics explicit turnover	D03	Descript
firmsector	Firm characteristics explicit economic sector	D04	Descript
firmtype	Firm characteristics explicit ownership	D05	Descript
firmregion	Firm characteristics explicit region	D06	Descript
respondenttype_[a-k]	Characteristics of respondent	D07	Descript

feedback_[a-b]	Feedback questions	F01	Core
feedbackopen	Open feedback question	F02	Core
panel	Panel participation	P01	Core
contact	Contact	P02	Core

### 3 Introduction

#### 000 | Core | OPENING 1

**Welcome to the survey of firms conducted on behalf of the Deutsche Bundesbank.**

**Important information concerning the survey:**

- To navigate through the survey, please only use the “Continue” button at the bottom of the screen. Please do **not** use the buttons in your browser or the back button on your phone or tablet.
- To ensure that the individual questions are displayed correctly, use an up-to-date browser such as Google Chrome, Mozilla Firefox (version 12 or later), Apple Safari (version 6 or later), Opera (version 20 or later) or Microsoft Edge. Using older browsers, particularly Internet Explorer 8 and earlier, can result in limited functionality in terms of design and ease of use.
- During the survey, there is **no** option to go back to questions previously answered. If you would like an overview of the full questionnaire, please send a request to [unternehmensbefragung@bundesbank.de](mailto:unternehmensbefragung@bundesbank.de).
- If you have any questions, problems or comments about navigating this questionnaire, you can contact the forsa support team from Monday to Friday between 09:00 and 18:00 on the free telephone number 0800 3677202 or by email at [bundesbank-unternehmensbefragung@forsa.de](mailto:bundesbank-unternehmensbefragung@forsa.de). If you have any questions or comments on the content of the survey, please contact the Bundesbank’s project team by telephone at +49 (0)69 9566 32080 or by email at [unternehmensbefragung@bundesbank.de](mailto:unternehmensbefragung@bundesbank.de).

#### 000 | Core | OPENING 2

Thank you for taking the time to complete this survey. The Deutsche Bundesbank would like to know how the economic situation in your firm has changed over time and what you are currently expecting for the future.

The survey will take roughly 15 to 20 minutes to complete. Your answers will be treated confidentially. It would be a great help to us if you answer the questions as carefully as possible.

#### 000 | Core | OPENING 3

The Deutsche Bundesbank attaches particular importance to protecting your data. All of the information you provide will be treated confidentially in accordance with legal provisions. Only a few employees at a Bundesbank data trustee will see your survey data after pseudonymisation. Bundesbank employees will receive your data only after they have been further anonymised. Published results are completely anonymous and therefore cannot be traced back to your enterprise. Your answers will help the Deutsche Bundesbank to fulfil its statutory tasks (to learn more about the Bundesbank’s tasks, please click [here](#)).

Only effectively anonymised data can be passed on to research institutions for research purposes that are related to the Bundesbank’s tasks. You will find more information, details of how to contact the project team, and selected results of the survey on the Bundesbank’s website: <https://www.bundesbank.de/en/bundesbank/research/survey-on-firms>.

Your participation in our survey is of course voluntary. By participating in this survey, you give your consent for your data to be stored, processed and shared for the purposes of the Deutsche Bundesbank fulfilling its tasks. You may withdraw your consent at any time. However, withdrawal of your consent shall not affect the lawfulness of any processing that took place on the basis of this declaration of consent before it was withdrawn.

Input filter: `newcomer = █`

During the survey, there will be two further requests for consent to link the survey data to business statistics and for another survey (if you would like to know more about this, please click [here](#)). Of course, you can choose not to consent to the above, though we would ask you to take part in the survey and fill in the other information. Your data will help the Deutsche Bundesbank fulfil its statutory tasks.

## 4 Questions

<b>X01   Core   Perceptions qualitative   percmacro_[a-i]</b>
"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".
After the term "Access to intermediate inputs", an info box <i> with the following text is shown: "If access to intermediate inputs has deteriorated, please state "decreased" or "decreased significantly"."
After the term "Access to financing sources", an info box <i> with the following text is shown: "Access to financing sources describes the possibility of using various forms of external financing to finance your business activities, e.g. bank loans, trade credits, equity, debt securities or other financing instruments. If the possibilities of using these financing sources have deteriorated, please state "decreased" or "decreased significantly"."
After the term "Sales", an info box <i> with the following text is shown: "Please consider your sales in the third quarter of 2023 (July to September 2023) and compare them with your sales in the third quarter of 2022 (July to September 2022). In place of sales growth, banks/credit institutions should consider the development of their gross interest and commission income and their net trading income. Insurers should consider the development of their gross premiums written."
<b>QUESTION:</b> Please consider the period from <b>end-September 2022</b> to <b>end-September 2023</b> . How did the following metrics develop in your enterprise during this period?
<i>Note: Please select one answer for each row.</i>
<p>1 = Decreased significantly            2 = Decreased            3 = Stayed roughly the same            4 = Increased            5 = Increased significantly            -9996 = Does not apply to my enterprise</p>
<p>a = Access to intermediate inputs &lt;i&gt;:            b = Current trade receivables:            c = Current trade payables:            d = Short-term liquidity:            e = Need for credit financing:            f = Access to financing sources &lt;i&gt;:            g = Inventories (stock of intermediate products and finished goods):            h = Sales &lt;i&gt;:            i = Expenditure on energy and fuels:</p>
<b>X02   Core   Expectations qualitative   expmacro_[a-i]</b>
"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".
After the term "Access to intermediate inputs", an info box <i> with the following text is shown: "If you expect access to intermediate inputs to deteriorate, please state "decrease" or "decrease significantly"."
After the term "Access to financing sources", an info box <i> with the following text is shown: "Access to financing sources describes the possibility of using various forms of external financing to finance your business activities, e.g. bank loans, trade credits, equity, debt securities or other financing instruments. If you expect the possibilities of using these financing sources to deteriorate, please state "decrease" or "decrease significantly"."
After the term "Sales", an info box <i> with the following text is shown: "Please consider your expected sales in the third quarter of 2024 (July to September 2024) and compare them with your sales in the third quarter of 2023 (July to September 2023). In place of sales growth, banks/credit institutions should consider the development of their gross interest and commission income and their net trading income. Insurers should consider the development of their gross premiums written."
<b>Question:</b> How do you expect the following metrics to develop in your enterprise from <b>end-September 2023</b> to <b>end-September 2024</b> ?

Note: Please select one answer for each row.

- 1 = Decrease significantly
- 2 = Decrease
- 3 = Stay roughly the same
- 4 = Increase
- 5 = Increase significantly
- 9996 = Does not apply to my enterprise

- a = Access to intermediate inputs <i>:
- b = Current trade receivables:
- c = Current trade payables:
- d = Short-term liquidity:
- e = Need for credit financing:
- f = Access to financing sources <i>:
- g = Inventories (stock of intermediate products and finished goods):
- h = Sales <i>:
- i = Expenditure on energy and fuels:

### --- | SPLIT SAMPLE 1 - OVERVIEW | RANDOMISATION 1

Randomisation dummy: *draterandom1*

The dummy *draterandom1* splits the sample into three groups of roughly equal size (1, 2, 3). This split is linked to the randomisation in waves 30-32. Firms that were assigned to one of the three randomisation groups in waves 30-32 (irrespective of whether they responded or not in the end) should be assigned to the same group this time again.

*draterandom1* =  (firms that were in group  in waves 30-32 + one-third of newcomers)

*draterandom1* =  (firms that were in group  in waves 30-32 + one-third of newcomers)

*draterandom1* =  (firms that were in group  in waves 30-32 + one-third of newcomers)

### X04A | Core | Development key rate probabilistic | keyrateprob\_[a-r]

Input filter: *draterandom1* =  OR  OR

"Don't know" and "No answer" shown as soft prompts if no value is entered and the participant clicked "Continue".

If no values are entered, the following error message is shown: "Please enter a value in the fields or select one of the possible responses below."

Values between 0 and 100 are supported. No decimals are allowed.

The programming of the question requires the sum of the ten variables to be 100. The current sum of all entered points is shown to the respondent when answering the question. If the sum is not equal to 100, the following error message is shown: "Please note that your answers to all scenarios have to add up to 100."

Fields that were left empty should be assigned 0 after moving to the next question.

After the term "key interest rate of the European Central Bank", an info box <i> with the following text is shown: "The European Central Bank sets three different key interest rates. The one currently referred to is the deposit facility rate at which commercial banks can deposit their money with the ECB in the short term."

**QUESTION:** We would now like to ask you some questions about macroeconomic developments. In your opinion, how likely is it that the key interest rate of the European Central Bank (ECB) <i> will fluctuate within the following bands at the **end of September 2024**?

Note: The aim of this question is to determine how likely you think it is that something specific will happen in the future. You can rate the likelihood on a scale from 0 to 100, with 0 meaning you are certain that an event will not happen and 100 meaning that you are absolutely certain it will happen. Use values between the two extremes to moderate the strength of your opinion. Please note that your answers to the categories have to add up to 100. You can also leave fields empty; these will be saved as a 0.

- r = Below 0.00%:
- f = Between 0.00% and 0.50%:



g = Between 0.51% and 1.00%:	[Input field]
h = Between 1.01% and 1.50%:	[Input field]
i = Between 1.51% and 2.00%:	[Input field]
j = Between 2.01% and 2.50%:	[Input field]
k = Between 2.51% and 3.00%:	[Input field]
m = Between 3.01% and 3.50%:	[Input field]
n = Between 3.51% and 4.00%:	[Input field]
o = Between 4.01% and 4.50%:	[Input field]
p = Between 4.51% and 5.00%:	[Input field]
q = Above 5.00%:	[Input field]

--- | **SAMPLE SPLIT 1 – End** | ---

**X04B | Core | Inflation expectations quantitative | inflexpoint**

"Don't know" and "No answer" shown as soft prompts if no value is entered and the participant clicked "Continue".

Values between -100.0 and 999.0 are supported. If an invalid number is entered, the following error message is shown: "Please enter a value between -100.0 and 999.0. Only one decimal place is permitted."

After the term "rate of inflation", an info box <i> with the following text is shown: "Inflation is the percentage increase in the general price level. It is mostly measured using the consumer price index. A decrease in the price level is generally described as deflation."

**QUESTION:** What do you expect the rate of inflation <i> to be over the next **twelve months**?

*Note: If you expect the price level to increase, please enter a positive percentage value. If you expect the price level to decrease, please enter a negative percentage value. Please enter a value with a maximum of one decimal place.*

[Input field] percent

--- | **SPLIT SAMPLE 2 – OVERVIEW | RANDOMISATION 2**

Randomisation dummy: `dsalesrandom1`

The dummy `dsalesrandom1` splits the sample into two groups of roughly equal size. Firms that were assigned to one of the two randomisation groups in the waves listed below (irrespective of whether they responded or not in the end) should be assigned to the same group again this time.

`dsalesrandom1 = 1` (firms that were in group `1` in waves 30-32 + one-half of newcomers)  
`dsalesrandom1 = 0` (firms that were in group `0` in waves 30-32 + one-half of newcomers)

	<code>dsalesrandom1 = 1</code>	<code>dsalesrandom1 = 0</code>
<code>inflexpoint_3y</code>	X	
<code>inflexpoint_5y</code>		X
<code>sales</code>		X

**811A | Pro 6 | Inflation expectations quantitative – 3 years | inflexpoint\_3y**

Input filter: `dsalesrandom1 = 1`

"Don't know" and "No answer" shown as soft prompts if no value is entered and the participant clicked "Continue".

Values between -100.0 and 999.0 are supported. If an invalid number is entered, the following error message is shown: "Please enter a value between -100.0 and 999.0. Only one decimal place is permitted."

After the term "rate of inflation", an info box <i> with the following text is shown: "Inflation is the percentage increase in the general price level. It is mostly measured using the consumer price index. A decrease in the price level is generally described as deflation."

**QUESTION:** What do you expect the rate of inflation <i> to be on average over the next **three years**?

*Note: If you expect the price level to increase on average, please enter a positive percentage value. If you expect the price level to decrease on average, please enter a negative percentage value. Please enter a value with a maximum of one decimal place.*

[Input field] percent

### 811B | Pro 6 | Inflation expectations quantitative – 5 years | inflexpoint\_5y

Input filter: `dsalesrandom1 =`

"Don't know" and "No answer" shown as soft prompts if no value is entered and the participant clicked "Continue".

Values between -100.0 and 999.0 are supported. If an invalid number is entered, the following error message is shown: "Please enter a value between -100.0 and 999.0. Only one decimal place is permitted."

After the term "rate of inflation", an info box <i> with the following text is shown: "Inflation is the percentage increase in the general price level. It is mostly measured using the consumer price index. A decrease in the price level is generally described as deflation."

**QUESTION:** What do you expect the rate of inflation <i> to be on average over the next **five years**?

*Note: If you expect the price level to increase on average, please enter a positive percentage value. If you expect the price level to decrease on average, please enter a negative percentage value. Please enter a value with a maximum of one decimal place.*

[Input field] percent

### X05A | Core | Sales past quarter quantitative | salespast

Input filter: `dsalesrandom1 =`

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

If an invalid number (negative or including a comma or period) is entered, the following error message is shown: "Please enter a positive value, without a comma or period (possible input values are 0 to 999999999)."

After the term "sales", an info box <i> with the following text is shown: "In place of sales, banks/credit institutions should state their gross interest and commission income and their net trading income, whilst insurers should enter their gross premiums written."

**QUESTION:** We would now like to ask you some more questions about your enterprise. What were your enterprise's sales <i> in the **third quarter of 2023** (July to September 2023)?

*Note: Please enter an amount in full thousands of euro. If your sales were €123,500, please enter only 123 in the field. If your sales were €1,234,500, please enter only 1234 in the field.*

Sales (excluding VAT): [Input field],000 euro

### X05B | Core | Sales comparable quarter prediction | salesfuture\_[a-e]

Input filter: `dsalesrandom1 =`

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

Values between -100.0 and 999.9 are supported. If an invalid number is entered, the following error message is shown: "Please enter a value between -100.0 and 999.9."

Firms are expected to provide at least one number. Firms may not be forced to provide all five values.

When programming the questionnaire, please be mindful of scenarios in which firms provide, for instance, only three values (e.g. 1, 2, 4, NA, NA; or 1, NA, 2, NA, 3) or only two values (e.g. 1, NA, NA, NA, 2; or NA, 1, 2, NA, NA).

After the term "sales", an info box <i> with the following text is shown: "In place of sales, banks/credit institutions should state their gross interest and commission income and their net trading income, whilst insurers should enter their gross premiums written."

**QUESTION:** What changes in your sales <i> do you consider possible from the **third quarter of 2023** (July to September 2023) to the **third quarter of 2024** (July to September 2024)?

Please indicate what percentage change in your sales you would expect in the following scenarios.

Note: If you expect sales to increase, please enter a positive percentage value. If you expect sales to decrease, please enter a negative percentage value.

- a = The **lowest** potential percentage change would be: [Input field] percent
- b = A **low** potential percentage change would be: [Input field] percent
- c = A **medium** potential percentage change would be: [Input field] percent
- d = A **high** potential percentage change would be: [Input field] percent
- e = The **highest** potential percentage change would be: [Input field] percent

### X05C | Core | Sales comparable quarter probabilistic | salesprob\_[a-e]

Input filter: `dsalesrandom1 = [ ]`

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

Values between 0 and 100 are supported. No decimals are allowed.

The programming of the question requires the sum of the five variables to be 100. The current sum of all entered points is shown to the respondent when answering the question. If the sum is not equal to 100, the following error message is shown: "Please note that your answers to all scenarios have to add up to 100."

Only those fields should be active for which a value has been provided in `sales_future_[a-e]`. If only one value has been provided, this question should not be shown.

After the term "sales", an info box <i> with the following text is shown: "In place of sales, banks/credit institutions should state their gross interest and commission income and their net trading income, whilst insurers should enter their gross premiums written."

**QUESTION:** How likely do you think it is that the individual scenarios for the change in your sales <i> from the **third quarter of 2023** (July to September 2023) to the **third quarter of 2024** (July to September 2024) will materialise?

Note: The aim of this question is to determine how likely you think it is that something specific will happen in the future. You can rate the likelihood on a scale from 0 to 100, with 0 meaning you are certain that an event will not happen and 100 meaning that you are absolutely certain it will happen. Use values between the two extremes to moderate the strength of your opinion. Please note that your answers to all scenarios have to add up to 100.

- a = The likelihood of a change of around `{salesfuture[a]}`% is: [Input field]
- b = The likelihood of a change of around `{salesfuture[b]}`% is: [Input field]
- c = The likelihood of a change of around `{salesfuture[c]}`% is: [Input field]
- d = The likelihood of a change of around `{salesfuture[d]}`% is: [Input field]
- e = The likelihood of a change of around `{salesfuture[e]}`% is: [Input field]

### X06A | Core | Price change past year quantitative | pricepast

Input filter: `dsalesrandom1 = [ ]` OR `[ ]`

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

Values between -100.0 and 999.9 are supported. Only one decimal place is permitted. If an invalid number is entered, the following error message is shown: "Please enter a value between -100.0 and 999.9. Only one decimal place is permitted."

Input filter: `dsalesrandom1 = [ ]`

**QUESTION:** We would now like to ask you some more questions about your enterprise. Please consider the period from **end-September 2022** to **end-September 2023**. Please enter the average percentage change in the prices charged for your products and services in this period.

Input filter: `dsalesrandom1 = [ ]`

**QUESTION:** Please consider the period from **end-September 2022** to **end-September 2023**. Please enter the average percentage change in the prices charged for your products and services in this period.

Note: If prices increased, please enter a positive percentage value. If prices decreased, please enter a negative percentage value. Please enter a value with a maximum of one decimal place.

[Input field] percent

## --- | SAMPLE SPLIT 2 – END | ---

### X06B | Core | Price change next year quantitative | pricefuture

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

Values between -100.0 and 999.9 are supported. Only one decimal place is permitted. If an invalid number is entered, the following error message is shown: "Please enter a value between -100.0 and 999.9. Only one decimal place is permitted."

**QUESTION:** Please consider the period from **end-September 2023** to **end-September 2024**. What average percentage change in the prices charged for your products and services do you expect in this period?

Note: If you expect prices to increase, please enter a positive percentage value. If you expect prices to decrease, please enter a negative percentage value. Please enter a value with a maximum of one decimal place.

[Input field] percent

### X06C | Core | Price change uncertainty | priceunc

Input filter: a number provided in *pricefuture* (Question X06B)

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

Input filter: *pricefuture* > 0

**QUESTION:** How certain are you that the prices charged for your products and services will increase by around {*pricefuture*}% on average in the period from **end-September 2023** to **end-September 2024**?

- 1 = Very uncertain
- 2 = Rather uncertain
- 3 = Neither certain nor uncertain
- 4 = Rather certain
- 5 = Very certain

Input filter: *pricefuture* < 0

**QUESTION:** How certain are you that the prices charged for your products and services will decrease by around {*pricefuture*}% on average in the period from **end-September 2023** to **end-September 2024**?

- 1 = Very uncertain
- 2 = Rather uncertain
- 3 = Neither certain nor uncertain
- 4 = Rather certain
- 5 = Very certain

Input filter: *pricefuture* = 0

**QUESTION:** How certain are you that the prices charged for your products and services will remain roughly the same on average in the period from **end-September 2023** to **end-September 2024**?

- a = Very uncertain
- b = Rather uncertain
- c = Neither certain nor uncertain
- d = Rather certain
- e = Very certain

### X09A | BiQ Core | Employment past quarter | emplpast\_[a, b]

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

No negative values are permitted. No decimals are allowed. If an invalid number is entered, the following error message is shown: "Please enter a valid value, without a comma or period (possible input values are 0 to 9999999)."

**QUESTION:** How many employees did your enterprise have at the end of the **third quarter of 2022** (end-September 2022) and at the end of the **third quarter of 2023** (end-September 2023)?

*Note: Please consider all employees, including those working part-time.*

a = Number of employees at end-September 2022: [Input field]

b = Number of employees at end-September 2023: [Input field]

### X09B | BiQ Core | Employment comparable quarter prediction | emplfuture

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

No negative values are permitted. No decimals are allowed. If an invalid number is entered, the following error message is shown: "Please enter a valid value, without a comma or period (possible input values are 0 to 9999999)."

**QUESTION:** How many employees do you expect your enterprise to have at the end of the **third quarter of 2024** (end-September 2024)?

*Note: Please consider all employees, including those working part-time.*

Number of employees at end-September 2024: [Input field]

### X09C | BiQ Core | Employment uncertainty | emplunc

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

**QUESTION:** How certain are you that the number of employees at your enterprise will be around **{emplfuture}** at the end of the **third quarter of 2024** (end-September 2024)?

*Note: Please select one answer.*

1 = Very uncertain

2 = Rather uncertain

3 = Neither certain nor uncertain

4 = Rather certain

5 = Very certain

### X07A | Core | Microfinance credit negotiations | creduse1

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

After the term "government-sponsored loans", an info box <i> with the following explanation is shown: "Government-sponsored loans include, for example, public sector support in the form of guarantees, reduced interest rates or funding grants."

**QUESTION:** In the **third quarter of 2023** (July to September 2023), did your enterprise negotiate with one or more banks with a view to taking out a loan or establishing a credit line?

*Note: This does not include any government-sponsored loans <i>.*

- 1 = Yes
- 2 = No

### X07B | Core | Microfinance negotiations result | creduse2\_[a-f]

Input filter: *creduse1* = 1

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

**QUESTION:** What was the outcome of these negotiations?

*Note: Please select all answers that apply.*

- 0 = Category not selected
- 1 = Category selected

- a = Loan/credit line was approved for the desired amount at the desired conditions (interest, collateral, etc.)
- b = Loan/credit line was approved for the desired amount but at less favourable conditions (interest, collateral, etc.)
- c = Loan/credit line was approved for a smaller amount but at the desired conditions (interest, collateral, etc.)
- d = Loan/credit line was approved for a smaller amount and at less favourable conditions (interest, collateral, etc.)
- e = No decision has yet been made regarding the loan application
- f = Loan negotiations were concluded without a deal

### X08A | Core | Financing sources past | financingpast\_[a-g]

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

After the term "government-sponsored loans", an info box <i> with the following explanation is shown: "Government-sponsored loans include, for example, public sector support in the form of guarantees, reduced interest rates or funding grants."

**QUESTION:** Has your enterprise used the following financing sources over the past **three months**?

*Note: Please select one answer for each row. Please consider the last three full calendar months when answering this question.*

- 1 = Yes
- 2 = No, but used prior to this period
- 3 = No, never used to date

- a = Retained earnings:
- b = Bank loans (excluding overdrafts):
- c = Overdrafts:
- d = Government-sponsored loans <i>:
- e = Trade credits (including advances and trade payables):
- f = Equity:
- g = Other instruments (debt securities, other loans (including to affiliated enterprises), leases/hire purchase and factoring):

## X08B | Core | Financing sources future | financingfuture\_[a-g]

Input filter: only show items if *financingpast\_[a-g]* = 2 OR 3

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

After the term "government-sponsored loans", an info box <i> with the following explanation is shown: "Government-sponsored loans include, for example, public sector support in the form of guarantees, reduced interest rates or funding grants."

**QUESTION:** Is your enterprise planning to use the following financing sources over the next **three months**?

*Note: Please select one answer for each row. Please consider the next three calendar months when answering this question.*

1 = Yes

2 = No, but there are plans to use them at a later point in time

3 = No, no use at all planned

a = Retained earnings:

b = Bank loans (excluding overdrafts):

c = Overdrafts:

d = Government-sponsored loans <i>:

e = Trade credits (including advances and trade payables):

f = Equity:

g = Other instruments (debt securities, other loans (including to affiliated enterprises), leases/hire purchase and factoring):

## 1101 | Pro F 11 | Bank loans in relation to total assets | share\_loans

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

**QUESTION:** What is the remaining debt of all **currently** outstanding bank loans in relation to your company's total assets?

*Note: Please select one answer.*

1 = We currently have no outstanding bank loans.

2 = Less than 10%

3 = 10% to less than 20%

4 = 20% to less than 30%

5 = 30% to less than 40%

6 = 40% to less than 50%

7 = 50% to less than 60%

8 = 60% to less than 70%

9 = 70% to less than 80%

10 = 80% to less than 90%

11 = 90% to 100%

## 1102 | Pro F 11 | Share of different types of bank loans | type\_loans\_[a-c]

Input filter: `share_loans ≠ 1`

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

The programming of the question requires the sum of the variables to be 100. The current sum of all entered points is shown to the respondent when answering the question. If the sum is not equal to 100, the following error message is shown: "Please note that your answers for all loan types have to add up to 100."

**QUESTION:** What share of the sum of the remaining debt of all your **currently** outstanding bank loans is made up of the remaining debt of each of the following types of loan?

*Note: The numbers you enter for all loan types have to add up to 100.*

a = Loans with a variable interest rate: [Input field] percent

b = Loans with a fixed interest rate and a lock-in period of up to one year: [Input field] percent

c = Loans with a fixed interest rate and a lock-in period of more than one year: [Input field] percent

## --- | SPLIT SAMPLE 3 – OVERVIEW | RANDOMISATION 3

Randomisation dummy: `dqu15random1`

The dummy `dqu15random1` splits the sample into two groups.

`dqu15random1 = 1` -> one-third of the sample

`dqu15random1 = 2` -> two-thirds of the sample

	<code>dqu15random1 = 1</code>	<code>dqu15random1 = 2</code>
<code>withdraw</code>	X	
<code>withdraw_rates</code>	X	
<code>withdraw_extent</code>	X	
<code>privper</code>		X
<code>type_POS</code>		X
<code>sector_POS</code>		X
<code>paym_POS</code>		X
<code>paym_prov</code>		X

## 1501 | Pro B 72 | Withdrawals of bank deposits | withdraw

Input filter: `dqu15random1 = 1`

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

**QUESTION:** Is your enterprise considering moving its bank deposits to another bank within the next **six months**?

*Note: Please select one answer.*

1 = Yes

2 = No

## 1502 | Pro B 72 | Withdrawals due to interest rates | withdraw\_rates

Input filter: `dqu15random1 = 1` AND `withdraw = 1`

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

**QUESTION:** Are better interest rate conditions at the other bank the main reason why your enterprise is considering moving its bank deposits to another bank?

*Note: Please select one answer.*



1 = Yes  
2 = No

### 1503 | Pro B 72 | Extent of withdrawals | withdraw\_extent

Input filter:  $dqu15random1 = \blacksquare$  AND  $withdraw = 1$

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

**QUESTION:** What proportion of its deposits is your enterprise considering to move?

*Note: Please select one answer.*

1 = Less than half of its deposits  
2 = More than half, but not all of its deposits  
3 = All of its deposits

### 1507 | Pro Z 10 | Dealing with private persons | privper

Input filter:  $dqu15random1 = \blacksquare$

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

Info box after the term "private individuals": "This refers to sales to final consumers, as opposed to sales to enterprises."

**QUESTION:** Does your enterprise sell goods and/or services **directly** to private individuals <i>?

*Note: Please select one answer.*

1 = Yes  
2 = No

### 1508 | Pro Z 10 | Main used POS | type\_POS

Input filter:  $dqu15random1 = \blacksquare$  AND  $privper = 1$

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

Info box after the term "private individuals": "This refers to sales to final consumers, as opposed to sales to enterprises."

**QUESTION:** With regard to your direct sales to private individuals <i>, where do you **mainly** sell your goods and/or services?

*Note: Please select the answer that applies to the majority of your sales.*

1 = Physical point of sale (e.g. in a shop, commercial premises, restaurant or accommodation)  
2 = Online (e.g. via an app or website)  
3 = Vending machines  
4 = Private individuals' homes (e.g. household services)

### 1509 | Pro Z 10 | Economic sector POS | sector\_POS

Input filter:  $dqu15random1 = \blacksquare$  AND  $privper = 1$  AND  $type\_POS = 1$  OR  $4$

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

**QUESTION:** Which of the following descriptions best applies to your enterprise?

*Note: Please select the answer that applies to the majority of your sales.*

1 = Retailer of durable goods (e.g. clothing, sporting goods, toys, books, furniture, electronics, household goods, DIY, kitchens)  
2 = Petrol station  
3 = Pharmacy

- 4 = Provider of services outside the home (e.g. travel agency, hairdresser, mechanic, taxi, bus, train, aeroplane, doctor, dry cleaning)
- 5 = Provider of household services (e.g. household help, childcare, manual trade, home tutor)
- 6 = Provider of food/drink outside the home/delivery services (e.g. restaurant, delivery service, café, bar, snack bar, fast-food restaurant, canteen)
- 7 = Provider of entertainment/recreation (e.g. cinema, theatre, museum, football stadium, swimming pool, theme park)
- 8 = Provider of accommodation/overnight stays (e.g. hotel, guest house, camp site, holiday home)
- 9 = Retailer of goods for school/university/child daycare
- 10 = Retailer of day-to-day essential goods (e.g. bakery, butcher, drugstore, stationery store, newsagent, florist)
- 11 = Supermarket/superstore/discounter
- 12 = Market or street vendor (e.g. weekly market, agricultural products)
- 13 = Other retailer

### 1510 | Pro Z 10 | Payment means POS | `paym_POS_[a-l]`

Input filter: `dqu15random1 = 1` AND `privper = 1`

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

The order of the twelve categories is generated randomly for each respondent.

**QUESTION:** Which of the following means of payment do you accept for customer transactions?

*Note: Please select all answers that apply.*

- 0 = Category not selected
- 1 = Category selected

- a = Cash
- b = Girocard
- c = Debit card from Visa or Mastercard (e.g. V Pay, Visa Debit, Maestro or Mastercard Debit)
- d = Credit card (e.g. Visa Credit, Mastercard Credit, American Express, Diners Club)
- e = Prepaid card (e.g. Visa Prepaid, Mastercard Prepaid)
- f = Smartphone/smartwatch/armband (e.g. via Apple Pay, Google Pay)
- g = Credit transfer
- h = Direct debit
- i = Gift card/voucher/loyalty points
- j = Customer card with payment function (e.g. canteen or stadium card)
- k = Online payment systems (e.g. PayPal, giropay (formerly paydirekt), iDeal, etc.)
- l = Other

### 1511 | Pro Z 10 | Payment service provider | `paym_prov`

Input filter: `dqu15random1 = 1` AND `privper = 1`

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

**QUESTION:** With which of the following banks do you hold your main account used to settle your customers' payments?

*Note: Please select one answer.*

- 1 = Sparkasse
- 2 = Volksbank Raiffeisenbank / VR Bank
- 3 = Sparda-Bank
- 4 = Comdirect Bank
- 5 = Commerzbank
- 6 = Deutsche Bank
- 7 = DKB
- 8 = HypoVereinsbank
- 9 = ING-DiBa
- 10 = Postbank
- 11 = Santander Bank
- 12 = Targobank (previously Citibank)
- 13 = Other

--- | **SAMPLE SPLIT 3 – End** | ---

--- | **SPLIT SAMPLE 4 - OVERVIEW | FILTERING 1**

Filtering dummy: *dinnovfilter1*

The dummy *dinnovfilter1* splits the sample into two groups (0 and 1). This split is linked to the panel in waves 6-8. Firms that were part of the panel in waves 6-8 are assigned to the first group again in waves 33-35. The remaining firms are assigned to the second group.

*dinnovfilter1* = 0 -> approx. one-quarter of the sample (firms that were part of the panel in waves 6-8)

*dinnovfilter1* = 1 -> approx. three-quarters of the sample (firms that were not part of the panel in waves 6-8)

	<i>dinnovfilter1</i> = 0	<i>dinnovfilter1</i> = 1
<i>invest_[a-h]</i>	x	
<i>change_invest_[a1-b5]</i>	x	
<i>innov_2022_[a, b]</i>		x
<i>innov_policy_[a1-b13]</i>		x
<i>innov_scenario_[a1-e15]_[V2]</i>		x

**1512 | Pro 61 | Investment 2021 and 2022 | invest\_[a-h]**

Input filter: *dinnovfilter1* = 0

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

After the terms "research and development (R&D)" and "R&D activities", an info box <i> with the following explanation is shown: "R&D (research and development) is the systematic creative work undertaken to expand existing knowledge and the use of knowledge gained to develop new applications, such as new or significantly improved products/services or processes (including software development)."

After the term "other innovation activities (excluding R&D)", an info box with the following explanation is shown: "Other innovation expenditure excluding R&D is comprised of current expenditure (staff and other operating expenses including outsourced services) and expenditure for investment in fixed assets and intangible assets. They include, amongst others, the purchase of machinery, equipment, software and external knowledge (e.g. patents and licences) and expenditure for construction, design, product design, conception, training, market research, market launch and other preparatory work if it serves the development, production or marketing of innovations."

Info box <i> after the term "digitalisation measures": "Digitalisation is the application or increased use of digital technologies in enterprises/organisations. Digital innovations include both product/business process innovations that incorporate information and communication technologies, and innovations that rely to a significant degree on information and communication technologies in their development or use."

If the share of expenditure exceeds total expenditure, the following error message will be displayed: "The share of expenditure on digitalisation measures exceeds actual total expenditure. Please correct your entry."

In the following section, we would like to ask you some questions on the topic of innovations. Innovations are new or improved products or business processes (or a combination thereof) that differ substantially from prior products or business processes and that the enterprise in question has introduced to the market or utilised itself. Innovations are often divided into research and development (R&D) <i> and other innovations (excluding R&D) <i>.

**QUESTION:** How much did your enterprise spend on R&D activities <i>, other innovation activities (excluding R&D) <i> and digitalisation measures <i> in **2021** and **2022**, respectively?

*Note: If your enterprise had no expenditure for one of the areas, please enter "0".*

a = Actual expenditure for R&D activities <i> in 2021 amounted to: [Input field],000 euro  
b = of which expenditure for digitalisation measures <i> amounted to: [Input field],000 euro

a = Actual expenditure for other innovation activities (excluding R&D) <i> in 2021 amounted to: [Input field],000 euro  
d = of which expenditure for digitalisation measures <i> amounted to: [Input field],000 euro

e = Actual expenditure for R&D activities <i> in 2022 amounted to: [Input field],000 euro  
f = of which expenditure for digitalisation measures <i> amounted to: [Input field],000 euro

g = Actual expenditure for other innovation activities (excluding R&D) <i> in 2022 amounted to: [Input field],000 euro  
h = of which expenditure for digitalisation measures <i> amounted to: [Input field],000 euro

### 1513A | Pro 61 | Change investment due to COVID-19 | change\_invest1\_[a1-b5]

Input filter: *dinnovfilter1* =

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

After the terms "research and development (R&D)" and "R&D activities", an info box <i> with the following explanation is shown: "R&D (research and development) is the systematic creative work undertaken to expand existing knowledge and the use of knowledge gained to develop new applications, such as new or significantly improved products/services or processes (including software development)."

After the term "other innovation activities (excluding R&D)", an info box with the following explanation is shown: "Other innovation expenditure excluding R&D is comprised of current expenditure (staff and other operating expenses including outsourced services) and expenditure for investment in fixed assets and intangible assets. They include, amongst others, the purchase of machinery, equipment, software and external knowledge (e.g. patents and licences) and expenditure for construction, design, product design, conception, training, market research, market launch and other preparatory work if it serves the development, production or marketing of innovations."

**QUESTION:** In 2021 and 2022, what were your key reasons for spending these amounts on research and development (R&D) <i> and other innovation activities (excluding R&D) <i>?

*Note: Please select up to a maximum of three applicable answers in each column.*

0 = Category not selected

1 = Category selected

1 = We have a long-term innovation plan that we followed.

2 = Developments in the macroeconomic environment were important for our expenditure on innovation activities.

3 = We increased our expenditure on innovation activities only by the amount that we had put on hold during the COVID-19 pandemic.

4 = The COVID-19 pandemic continued to play a role in our expenditure on innovation activities.

5 = Our expenditure on innovation activities was guided by other factors and developments.

a = For R&D activities <i>:

b = For other innovation activities (excluding R&D) <i>:

### 1513B | Pro 61 | Other reason change investment | change\_invest2\_[a, b]

Input filter: *dinnovfilter1* =  AND (change\_invest1\_a =  OR change\_invest1\_b = )

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

If no answer is entered in the text field, the following error message shall be displayed: Please enter your response in the text field.

After the term "R&D activities", an info box <i> with the following explanation is shown: "R&D (research and development) is the systematic creative work undertaken to expand existing knowledge and the use of knowledge gained to develop new applications, such as new or significantly improved products/services or processes (including software development)."

After the term "other innovation activities (excluding R&D)", an info box with the following explanation is shown: "Other innovation expenditure excluding R&D is

comprised of current expenditure (staff and other operating expenses including outsourced services) and expenditure for investment in fixed assets and intangible assets. They include, amongst others, the purchase of machinery, equipment, software and external knowledge (e.g. patents and licences) and expenditure for construction, design, product design, conception, training, market research, market launch and other preparatory work if it serves the development, production or marketing of innovations."

**QUESTION:** What other factors and developments guided your spending on innovation activities in **2021** and **2022**?

*Note: Please enter your responses.*

If  $change\_invest\_a = 5$  AND  $change\_invest\_b = 5$

a = For R&D activities <i>: [Input field]

b = For other innovation activities (excluding R&D) <i>: [Input field]

If  $change\_invest\_a = 5$  AND  $change\_invest\_b \neq 5$

a = For R&D activities <i>: [Input field]

If  $change\_invest\_a \neq 5$  AND  $change\_invest\_b = 5$

b = For other innovation activities (excluding R&D) <i>: [Input field]

### 1514 | Pro 61 | Investment 2022 | innov\_2022\_[a, b]

Input filter:  $dinnovfilter1 =$

"Don't know" and "No answer" shown as soft prompts if no response selected and the participant clicked "Continue".

After the terms "research and development (R&D)" and "R&D activities", an info box <i> with the following explanation is shown: "R&D (research and development) is the systematic creative work undertaken to expand existing knowledge and the use of knowledge gained to develop new applications, such as new or significantly improved products/services or processes (including software development)."

After the term "other innovation activities (excluding R&D)", an info box with the following explanation is shown: "Other innovation expenditure excluding R&D is comprised of current expenditure (staff and other operating expenses including outsourced services) and expenditure for investment in fixed assets and intangible assets. They include, amongst others, the purchase of machinery, equipment, software and external knowledge (e.g. patents and licences) and expenditure for construction, design, product design, conception, training, market research, market launch and other preparatory work if it serves the development, production or marketing of innovations."

In the following section, we would like to ask you some questions on the topic of innovations. Innovations are new or improved products or business processes (or a combination thereof) that differ substantially from prior products or business processes and that the enterprise in question has introduced to the market or utilised itself. Innovations are often divided into research and development (R&D) <i> and other innovations (excluding R&D) <i>.

**QUESTION:** In **2022**, how much did your enterprise spend on R&D activities <i> and other innovation activities (excluding R&D) <i>?

*Note: If your enterprise had no expenditure for one of the areas, please enter "0".*

a = R&D activities <i>: [Input field],000 euro

b = Other innovation activities (excluding R&D) <i>: [Input field],000 euro

### 1515 | Pro 61 | Investment and key interest rate | innov\_policy\_[a1-b13]

Input filter:  $dinnovfilter1 =$

"Don't know" and "No answer" shown as soft prompts if no response is selected and the participant clicked "Continue".

After the term "innovation activities", an info box <i> with the following text is shown: "Innovations are new or improved products or business processes (or a combination thereof) that differ substantially from prior products or business

<p>processes and that the enterprise in question has introduced to the market or utilised itself. Innovations are often divided into research and development (R&amp;D) and other innovation activities."</p>
<p>After the term "key interest rates", an info box &lt;i&gt; with the following text is shown: "The ECB Governing Council decides on three different key interest rates: the interest rate on the main refinancing operations, the interest rate on the marginal lending facility and the interest rate on the deposit facility."</p>
<p>After the term "R&amp;D activities", an info box &lt;i&gt; with the following text is shown: "R&amp;D (research and development) is the systematic creative work undertaken to expand existing knowledge and the use of knowledge gained to develop new applications, such as new or significantly improved products/services or processes (including software development)."</p>
<p>After the term "other innovation activities (excluding R&amp;D)", an info box &lt;i&gt; with the following text is shown: "Expenditure on other innovation activities (excluding R&amp;D) comprises current expenditure (staff and other operating expenses including outsourced services) and expenditure for investment in fixed assets and intangible assets. They include, amongst others, the purchase of machinery, equipment, software and external knowledge (e.g. patents and licences) and expenditure for construction, design, product design, conception, training, market research, market launch and other preparatory work if it serves the development, production or marketing of innovations."</p>
<p><b>QUESTION:</b> The European Central Bank (ECB) has raised its key interest rates &lt;i&gt; by a total of 4.50 percentage points since July 2022. How have these <u>interest rate rises</u> impacted your enterprise's actual expenditure for innovation activities in <b>2022</b> and <b>2023</b> as well as your enterprise's planned expenditure for all innovation activities &lt;i&gt; in <b>2024</b> and <b>2025</b>?</p> <p><i>Note: Please refer to expenditure on R&amp;D activities &lt;i&gt; and other innovation activities (excluding R&amp;D) &lt;i&gt; for this question. Please select an answer for each row from the drop-down menu.</i></p> <p>1 = Decreased by 100% (eliminated completely)  2 = Decreased by between 75% and less than 100%  3 = Decreased by between 50% and less than 75%  4 = Decreased by between 25% and less than 50%  5 = Decreased by between 10% and less than 25%  6 = Decreased by less than 10%  7 = No change (0%)  8 = Increased by less than 10%  9 = Increased by between 10% and less than 25%  10 = Increased by between 25% and less than 50%  11 = Increased by between 50% and less than 75%  12 = Increased by between 75% and less than 100%  13 = Increased by more than 100%  -9996 = Does not apply to my enterprise</p> <p>a = Actual expenditure on R&amp;D and other innovation activities in 2022 and 2023 &lt;i&gt;:  b = Planned expenditure on R&amp;D and other innovation activities in 2024 and 2025 &lt;i&gt;:</p>

<p><b>1516   Pro 61   Change innovation due monetary policy   innov_scenario_[a1-e15] [_V2]</b></p>
<p>Filter: <i>dinnovfilter1</i> = <input type="checkbox"/></p>
<p>"Don't know" and "No answer" shown as soft prompts if no response is selected and the participant clicked "Continue".</p>
<p>After the term "R&amp;D activities", an info box &lt;i&gt; with the following text is shown: "R&amp;D (research and development) is the systematic creative work undertaken to expand existing knowledge and the use of knowledge gained to develop new applications, such as new or significantly improved products/services or processes (including software development)."</p>
<p>After the term "other innovation activities (excluding R&amp;D)", an info box &lt;i&gt; with the following text is shown: "Expenditure on other innovation activities (excluding R&amp;D) comprises current expenditure (staff and other operating expenses including outsourced services) and expenditure for investment in fixed assets and intangible assets. They include, amongst others, the purchase of machinery, equipment, software and external knowledge (e.g. patents and licences) and expenditure for construction, design, product design, conception, training, market research, market launch and</p>

other preparatory work if it serves the development, production or marketing of innovations.”

After the term “key interest rates”, an info box <i> with the following text is shown: “The ECB Governing Council decides on three different key interest rates: the interest rate on the main refinancing operations, the interest rate on the marginal lending facility and the interest rate on the deposit facility.”

After the term “innovation activities”, an info box <i> with the following text is shown: “Innovations are new or improved products or business processes (or a combination thereof) that differ substantially from prior products or business processes and that the enterprise in question has introduced to the market or utilised itself. Innovations are often divided into research and development (R&D) and other innovation activities.”

**QUESTION:** To what extent would your enterprise change its planned expenditure on all innovation activities <i> for **2024** and **2025** if the European Central Bank were to change its key interest rates <i> as follows in its next few meetings?

*Note: Please refer to expenditure on R&D activities <i> and on other innovation activities (excluding R&D) <i> for this question. Please select an answer for each row from the drop-down menu.*

- 1 = Decreased by 100% (eliminated completely)
- 2 = Decreased by between 75% and less than 100%
- 3 = Decreased by between 50% and less than 75%
- 4 = Decreased by between 25% and less than 50%
- 5 = Decrease by between 10% and less than 25%
- 6 = Decrease by between 5% and less than 10%
- 7 = Decrease by less than 5%
- 8 = No change (0%)
- 9 = Increase by less than 5%
- 10 = Increase by between 5% and less than 10%
- 11 = Increase by between 10% and less than 25%
- 12 = Increase by between 25% and less than 50%
- 13 = Increase by between 50% and less than 75%
- 14 = Increase by between 75% and less than 100%
- 15 = Increase by more than 100%
- 9996 = Does not apply to my enterprise

#### Answering options waves 33 and 34 (October and November 2023)

- a = Increase in key interest rates of 1.00 percentage point (main refinancing rate at 5.50%):
- b = Increase in key interest rates of 0.50 percentage point (main refinancing rate at 5.00%):
- c = Decrease in key interest rates of 0.50 percentage point (main refinancing rate at 4.00%):
- d = Decrease in key interest rates of 1.00 percentage point (main refinancing rate at 3.50%):
- e = Decrease in key interest rates of 1.00 percentage point (main refinancing rate at 3.50%) and ECB announcement of no further interest rate changes up until the end of 2025:

#### Answering options wave 35 (December 2023) (\_V2)

- a = Increase in key interest rates of 1.00 percentage point (main refinancing rate at 5.50%):
- b = Increase in key interest rates of 0.50 percentage point (main refinancing rate at 5.00%):
- c = Decrease in key interest rates of 0.50 percentage point (main refinancing rate at 4.00%):
- d = Decrease in key interest rates of 1.00 percentage point (main refinancing rate at 3.50%):
- e = No change in key interest rates (main refinancing rate at 4.50%) and ECB announcement of no further interest rate changes up until the end of 2025:

--- | **SAMPLE SPLIT 4 – End** | ---

### 1504 | Pro Vo 31 | Change in investment | invest\_region\_[1a-4d]

After the term “investment”, an info box <i> with the following text is shown: “In Germany, investment comprises investment in fixed assets (e.g. commercial property, machinery, IT hardware or motor vehicles) and intangible investment (e.g. software and databases, patents or research and development). Abroad, investment is to be understood as foreign direct investment (FDI). These investments abroad arise from

the acquisition of direct ownership rights in the form of branches, foreign subsidiaries, equity holdings, land and buildings and reinvestments of profits from previous investments."

"Don't know" and "No answer" shown as soft prompts if no response is selected and the participant clicked "Continue".

**QUESTION:** How has your enterprise **recently** changed its investment <i> in Germany and abroad, and how will your enterprise change its investment <i> in the near future?

*Note: Please select one answer for each row.*

1 = No investment made or planned in these years

2 = Decreases made or planned

3 = No changes made or planned

4 = Increases made or planned

a = Investment in Germany in 2023, compared with 2022:

b = Investment in Germany in 2024, compared with 2023:

c = Investment abroad in 2023, compared with 2022:

d = Investment abroad in 2024, compared with 2023:

### 1505A | Pro Vo 31 | Increase in domestic investment | reason\_changeA\_[a-h]

Input filter: `invest_region_a = 4 AND invest_region_c = 1 OR 2 OR 3`

"Don't know" and "No answer" shown as soft prompts if no response is selected and the participant clicked "Continue".

After the term "investment", an info box <i> with the following text is shown: "In Germany, investment comprises investment in fixed assets (e.g. commercial property, machinery, IT hardware or motor vehicles) and intangible investment (e.g. software and databases, patents or research and development). Abroad, investment is to be understood as foreign direct investment (FDI). These investments abroad arise from the acquisition of direct ownership rights in the form of branches, foreign subsidiaries, equity holdings, land and buildings and reinvestments of profits from previous investments."

After the term "digital transformation", an info box <i> with the following text is shown: "Digital transformation is the process of continuous development of digital technologies, including investment in information and communication technologies related to social media, big data, cloud services, smart devices, online communication services, e-commerce, the internet of things, artificial intelligence or blockchain, for example."

After the term "green transformation", an info box <i> with the following text is shown: "Green transformation is the process of sustainable and climate-neutral adjustments made to enterprises' economic activity, with investments in renewable energy, energy efficiency and other green technologies, for example."

After the term "research and development", an info box <i> with the following text is shown: "Research and development (R&D) is the systematic creative work undertaken to expand existing knowledge and the use of knowledge gained to develop new applications, such as new or significantly improved products/services or processes (including software development)."

**QUESTION:** What factors led your enterprise to increase its investment <i> in Germany in 2023?

*Note: Please select all answers that apply.*

0 = Category not selected

1 = Category selected

a = Automation (robotics)

b = Expansion of business activities (new locations or expansion of capacity in existing locations)

c = Digital transformation <i>

d = Green transformation <i>

e = Research and development <i>

f = Attractive business location conditions

g = Competition

h = Other factors



**1505B | Pro Vo 31 | No increase in domestic investment | reason\_changeB\_[a-n]**Input filter: *invest\_region\_a* = 1 OR 2 OR 3 AND *invest\_region\_c* = 1 OR 2 OR 3

"Don't know" and "No answer" shown as soft prompts if no response is selected and the participant clicked "Continue".

After the term "investment", an info box <i> with the following text is shown: "In Germany, investment comprises investment in fixed assets (e.g. commercial property, machinery, IT hardware or motor vehicles) and intangible investment (e.g. software and databases, patents or research and development). Abroad, investment is to be understood as foreign direct investment (FDI). These investments abroad arise from the acquisition of direct ownership rights in the form of branches, foreign subsidiaries, equity holdings, land and buildings and reinvestments of profits from previous investments."

After the term "macroeconomic environment", an info box <i> with the following text is shown: "Here, the macroeconomic environment describes the economic framework in which the enterprise is situated, the conditions of which the enterprise is generally unable to influence directly, e.g. financing costs, price and wage developments, and aggregate supply and demand."

**QUESTION:** What factors led your enterprise to keep its investment <i> in Germany unchanged, decrease its investment in Germany, or make no investment in Germany in **2023**?

*Note: Please select all answers that apply.*

0 = Category not selected

1 = Category selected

a = Shortage of (skilled) labour

b = High wage costs

c = High energy costs

d = Lack of materials or commodities

e = Inefficient public administration

f = Poor transport infrastructure

g = Poor digital infrastructure

h = High taxes and public levies

i = Low public funding

j = Unfavourable macroeconomic environment <i>

k = Uncertainty regarding regulatory frameworks

l = Other factors

m = Unchanged, lower or no need for investment due to large investments made in the previous year

n = Unchanged, lower or no need for investment due to other reasons

**1505C | Pro Vo 31 | Attractiveness investment abroad | reason\_changeC\_[a-k]**Input filter: *invest\_region\_c* = 4

"Don't know" and "No answer" shown as soft prompts if no response is selected and the participant clicked "Continue".

After the term "investment", an info box <i> with the following text is shown: "In Germany, investment comprises investment in fixed assets (e.g. commercial property, machinery, IT hardware or motor vehicles) and intangible investment (e.g. software and databases, patents or research and development). Abroad, investment is to be understood as foreign direct investment (FDI). These investments abroad arise from the acquisition of direct ownership rights in the form of branches, foreign subsidiaries, equity holdings, land and buildings and reinvestments of profits from previous investments."

After the term "macroeconomic environment", an info box <i> with the following text is shown: "Here, the macroeconomic environment describes the economic framework in which the enterprise is situated, the conditions of which the enterprise is generally unable to influence directly, e.g. financing costs, price and wage developments, and aggregate supply and demand."

**QUESTION:** Is investment <i> abroad more attractive than investment in Germany to your enterprise at present?

*Note: Please select all answers that apply.*

0 = Category not selected

1 = Category selected

- a = No:
- b = Yes, due to better availability of (skilled) labour abroad:
- c = Yes, due to lower wage costs abroad:
- d = Yes, due to lower energy costs abroad:
- e = Yes, due to improved availability of materials or commodities abroad:
- f = Yes, due to better efficiency of public administration abroad:
- g = Yes, due to better transport infrastructure abroad:
- h = Yes, due to better digital infrastructure abroad:
- i = Yes, due to lower taxes and public levies abroad:
- j = Yes, due to higher public funding abroad:
- k = Yes, due to a better macroeconomic environment <i> abroad:

### 1506 | Pro F | Lukewarm | lukewarm\_[1a-5e]

"Don't know" and "No answer" shown as soft prompts if no response is selected and the participant clicked "Continue".

The order of answer options a-e is generated randomly for each respondent.

**QUESTION:** Due to their potential impact on the economy and on the stability of prices and the financial system, the topics of climate change and climate policy have taken on increasing importance, including for the Bundesbank. To what extent do you agree or disagree with the following statements regarding climate change?

*Note: Please select one answer for each row.*

- 1 = Strongly disagree
- 2 = Generally disagree
- 3 = Somewhat agree
- 4 = Generally agree
- 5 = Strongly agree

- a = People will find new technical solutions to avoid serious repercussions of climate change:
- b = Without further efforts towards climate protection, climate change will have serious global repercussions in the coming decades:
- c = Climate change is caused by people:
- d = The global climate protection measures currently planned will harm the global economy more than they benefit the climate:
- e = The German climate protection measures currently planned will harm the German economy more than they benefit the climate:

## 5 Descriptive questions

### D01 | Descript | Firm characteristics implicit | firmid

Input filter: `newcomer = 1`

**QUESTION:** The information collected needs to be categorised in order to complete it. When evaluating the survey data, the Bundesbank would therefore like to merge this information with data it has on record to fulfil its tasks and which are kept in a separate database of enterprises at its premises in Frankfurt am Main, Germany. If you do not consent to this, the Bundesbank will rely on you to categorise this information yourself by means of additional questions. As you can see there, these data relate to the size, balance sheet, legal form, economic sector and other structural details of your enterprise. Your consent is required to merge these data with the survey data.

The data records will be merged at a data trustee – the Deutsche Bundesbank’s Data Service Centre (DSC). The security of your data is ensured when this information is subsequently processed at the DSC. Your consent is of course voluntary. You may withdraw it at any time. However, withdrawing your consent shall not affect the lawfulness of any processing that has taken place on the basis of this declaration of consent before it was withdrawn.

1 = Yes, consent granted.

2 = No, consent not granted.

3 = I am not authorised to grant consent.

### D02 | Descript | Firm characteristics explicit employment | firmemploy

Input filter: `newcomer = 1` OR `ask_again = 1`

“Don’t know” and “No answer” shown as soft prompts if no response is selected and the participant clicked “Continue”.

Supported values are  $\geq 0$ . No decimals are allowed. If an invalid number (negative or including comma or a period) is entered, the following error message is shown: “Please enter a valid value, without a comma or period (possible input values are 0 to 999999).”

**QUESTION:** Approximately how many employees did your enterprise have on **31 December 2022**?

[Input field]

### D03 | Descript | Firm characteristics explicit turnover | firmturnover

Input filter: `newcomer = 1` OR `ask_again = 1`

“Don’t know” and “No answer” shown as soft prompts if no response is selected and the participant clicked “Continue”.

Supported values are  $\geq 0$ . No decimals are allowed. If an invalid number (negative or including comma or a period) is entered, the following error message is shown: “Please enter a valid value, without a comma or period (possible input values are 0 to 99999999).”

After the term “sales”, an info box *<i>* with the following text is shown: “In place of sales, banks/credit institutions should state their gross interest and commission income and their net trading income, whilst insurers should enter their gross premiums written.”

**QUESTION:** What were the sales *<i>* of your enterprise in **2022**?

*Note: Please enter an amount in full thousands of euro. If your sales were €123,500, please enter only 123 in the field. If your sales were €1,234,500, please enter only 1234 in the field.*

Sales (excluding VAT) in 2022: [Input field],000 euro

<b>D04   Descript   Firm characteristics explicit economic sector   firmsector</b>
Input filter: <i>newcomer</i> = <input type="checkbox"/>
"Don't know" and "No answer" shown as soft prompts if no response is selected and the participant clicked "Continue".
After the term "economic sector", an info box <i> with the following text is shown: "All economic sectors as classified in the IAB Establishment Panel are listed here."
After the term "Agriculture, hunting and forestry, fishing", an info box <i> with the following text is shown: "Crop and animal production, hunting and related services; forestry and logging; fishing and aquaculture."
After the term "Mining and quarrying, electricity and water supply", an info box <i> with the following text is shown: "Mining of coal and lignite; petroleum and natural gas extraction; mining of metal ores; other mining and quarrying; mining support service activities; electricity, gas, steam and air conditioning supply; water supply."
After the term "Manufacture of non-durable consumer products", an info box <i> with the following text is shown: "Manufacture of textiles; apparel; leather, leather goods and shoes; wood and of products of wood and cork, except furniture; paper and paper products; printing; reproduction of recorded media."
After the term "Manufacture of industrial goods", an info box <i> with the following text is shown: "Coke and refined petroleum products, manufacture of: chemical products; pharmaceutical products; rubber and plastic products; other non-metallic mineral products; metal production and processing."
After the term "Manufacture of capital and durable consumer goods", an info box <i> with the following text is shown: "Machinery and equipment; manufacture of motor vehicles and motor vehicle parts, other transport equipment, other manufacturing, repair and installation of machinery and equipment; fabricated metal products; computers and electronic and optical products; electrical equipment; furniture."
After the term "Information and communication", an info box <i> with the following text is shown: "Publishing activities; film, video and television programme production; cinemas; sound recording and music publishing activities; programming and broadcasting activities; telecommunication; computer programming, consultancy and related activities; information service activities."
After the term "Financial and insurance activities", an info box <i> with the following text is shown: "Provision of financial services; insurance, reinsurance and pension funding (excluding compulsory social security); activities auxiliary to financial and insurance services."
After the term "Business support, scientific and other professional services", an info box <i> with the following text is shown: "Real estate activities; legal and accounting activities; activities of head offices, management consultancy; architectural and engineering activities; technical testing and analysis; research and development; advertising and market research; other professional, scientific and technical activities; veterinary activities; rental and leasing activities; employment activities; travel agency, tour operator reservation service and related activities; security and investigation activities; services to buildings and landscape activities; office administrative, office support and other business support activities."
After the term "Other service activities", an info box <i> with the following text is shown: "Creative, arts and entertainment activities; libraries, archives, museums and other cultural activities; gambling and betting activities; sports activities and amusement and recreation activities; repair of computers and personal and household goods; other personal service activities."
<b>QUESTION: To which <u>economic sector</u> &lt;i&gt; can your enterprise <b>best</b> be assigned?</b>
<i>Note: Please select one answer.</i>
1 = Agriculture, hunting and forestry, fishing <i>
2 = Mining and quarrying, electricity and water supply <i>
3 = Sewerage and waste management
4 = Food products, beverages and tobacco
5 = Manufacture of non-durable consumer products <i>
6 = Manufacture of industrial goods <i>
7 = Manufacture of capital and durable consumer goods <i>
8 = Construction
9 = Wholesale, sale and repair of motor vehicles
10 = Retail (except of motor vehicles and motorcycles)

11 = Transportation and warehousing  
12 = Information and communication <i>  
13 = Accommodation and food service activities  
14 = Financial and insurance activities <i>  
15 = Business support, scientific and other professional services <i>  
16 = Education  
17 = Health and social services  
18 = Other service activities <i>  
19 = Activities of membership, religious and other organisations (excluding social work activities and sport)  
20 = Public administration, defence, social security

## D05 | Descript | Firm characteristics explicit ownership | firmtype

Input filter: *newcomer* =

**QUESTION:** How would you describe your enterprise?

*Note: Please select all answers that apply.*

1 = Yes

2 = No

- a = Independent profit-driven enterprise with financial autonomy
- b = Branch of another enterprise
- c = Subsidiary of another enterprise
- d = Non-profit institution
- e = Family business

## D06 | Descript | Firm characteristics explicit region | firmregion

Input filter: *newcomer* =

**QUESTION:** In which federal state is your enterprise's head office in Germany based?

- 1 = Baden-Württemberg
- 2 = Bavaria
- 3 = Berlin
- 4 = Brandenburg
- 5 = Bremen
- 6 = Hamburg
- 7 = Hesse
- 8 = Mecklenburg-West Pomerania
- 9 = Lower Saxony
- 10 = North Rhine-Westphalia
- 11 = Rhineland-Palatinate
- 12 = Saarland
- 13 = Saxony
- 14 = Saxony-Anhalt
- 15 = Schleswig-Holstein
- 16 = Thuringia

## D07 | Descript | Characteristics of respondent | respondenttype\_[a-k]

No input filter

**QUESTION:** We would now like to learn more about your role in your enterprise. In which area of your enterprise do you work?

*Note: Please select all answers that apply.*

1 = Yes

2 = No

a = Management board

b = Finance/control/accounting

c = Sales/marketing/communication

d = Another area (please specify): [Input field] respondenttype\_e

**QUESTION:** Which job title best describes your role?

*Note: Please select all answers that apply.*

1 = Yes

2 = No

f = Owner/managing director/executive board member/holder of general commercial power of attorney

g = Head of department

h = Team leader

i = Administrator

j = Other (please specify): [Input field] respondenttype\_k

## 6 Feedback

### F01 | Core | Feedback questions | feedback\_[a-b]

No input filter

"Don't know" and "No answer" shown as soft prompts if no response is selected and the participant clicked "Continue".

**QUESTION:** How **difficult** did you find the survey overall?

- 1 = Very difficult
- 2 = Somewhat difficult
- 3 = Neither easy nor difficult
- 4 = Somewhat easy
- 5 = Very easy

**QUESTION:** How did you find **the length** of the survey?

- 1 = Far too long
- 2 = Somewhat too long
- 3 = Just right
- 4 = Somewhat too short
- 5 = Far too short

### F02 | Core | Open feedback question | feedbackopen

No input filter

**QUESTION:** Thank you for taking part in the survey of firms. If you have any suggestions or criticism about the survey, please let us know here.

- 1 = [Input field]
- 2 = No, nothing/no answer

## 7 Willingness to participate

### P01 | Core | Panel participation | panel

Input filter: *newcomer* =

**QUESTION:** In order to find out how your enterprise is dealing with the current economic challenges and to see how your enterprise develops over the next few years, we would, going forward, like to invite you to complete additional surveys at intervals of three months. We will need to keep your contact details on file so that we can get in touch with you about the new surveys. To do this, we require your consent under the German Data Protection Act (*Datenschutzgesetz*).

Your contact details will be kept separately from the questionnaire and solely for the purpose of this further survey. They will never be traced back to the answers you have provided. Your information will remain anonymous as described above and your data will never be passed on to third parties. Once the final survey has been completed, your contact details will be permanently deleted. The data protection statement on the processing of personal contact details, as well as contact details for the data protection officer and information about the rights of data subjects can be found in the general data protection notice at <https://www.bundesbank.de/en/bundesbank/research/survey-on-firms/survey-on-the-expectations-of-firms-855892>

We would be very grateful if you decided to continue participating in our research project. Of course, this is also voluntary and you can withdraw your consent at any time.

I agree that my address may be kept on file for further surveys:

1 = Yes

2 = No

### P02 | Core | Contact | contact

Input filter: *newcomer* =

**QUESTION:** To make it easier for us to contact you about new surveys, please provide us with an email address that we can use to contact your enterprise. This email address will not be used for any other purpose and will be treated with the same level of confidentiality as your other contact details.

*Note: Please type your email address in the text field.*

[Input field]

-9998 No answer