

# **WSI Labour Force Survey Wave 9**

## **Methods Report**

**December 2022**

A Study Carried Out by Kantar Public  
on Behalf of the Institute of Economic and Social Research (WSI) of the Hans Böckler  
Foundation

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# 1. Background and Task

Since the beginning of the COVID-19 pandemic in April 2020, Kantar Public has to date conducted nine waves of a panel survey of the labour force on behalf of the Institute of Economic and Social Research (WSI) of the Hans Böckler Foundation, in the course of which impacts of the pandemic and the war in Ukraine on opinions, attitudes, and (intended) behaviours of the target group and changes at individual level have been measured and analysed.

The political mood in Germany in autumn 2022 is shaped by concerns about the energy supply and energy prices, which in turn are driving inflation to levels that have not been experienced for a long time. This is accompanied by economic and political uncertainty, even though the majority of the population still endorse the German government's support measures for Ukraine and the sanctions policy towards Russia.

In addition to measuring key (time-series) indicators, the ninth wave of the survey aims to obtain current findings on policy measures and the way respondents are using energy and dealing with rising costs. In addition, this wave initiates a consolidation process aimed at future-proofing the instrument for future surveys at regular intervals. This includes:

- re-labelling the questions or the variables based on a translation overview developed and made available by the Böckler Foundation
- weighting Wave 9 based on the current microcensus/intercensal population update (*Bevölkerungsfortschreibung*)
- backweighting the previous eight waves based on the current microcensus/intercensal population update
- consistent missing-value management during data preparation in consultation with the Böckler Foundation
- a detailed methods report

The number and composition of the participants in our panel survey has naturally changed after two and a half years and nine survey waves. We therefore plan to refresh our panel study with new participants in the future. At the same time, this should improve the composition of the respondents by refreshing specific sociodemographic groups that are (by now) underrepresented. The present methods report provides initial details on this.

Responsibility for the implementation of the ninth wave lay with the Policy Research Division at Kantar Public and was supervised primarily by Oliver Sartorius and Thorsten Spengler.

## 2. Methodological Approach – Wave 1

### 2.1. Population

In consultation with the client, the survey population was defined as German-speaking members of the labour force in Germany, aged 16 years and older, with access to the Internet.

Based on the findings from representative offline studies such as the Digital-Index of the initiative D21, the share of Internet users in the German population at the time of Wave 1 was 86%.<sup>1</sup> For reasons of age, the share of Internet users in the workforce is likely to be noticeably higher, especially as the online penetration in all age groups under 60 is now well over 90% in some cases. According to the German Advertising Federation's (ZAW) framework for advertising media analyses (*ZAW-Rahmenschema für Werbeträgeranalysen*), which is widely accepted as the industry standard, a methodological reachability of 85% within a target group is sufficient to provide a representative picture of that group.

### 2.2. Survey Method

The survey is designed as an online ad hoc survey (computer assisted web Interviewing, CAWI). The questionnaire was programmed in an adaptive design – that is, the display is automatically adapted to different browsers and mobile devices (tablets, smartphones).

To rule out weaknesses in terms of logic, comprehensibility, and filtering, the script of the questionnaire was tested intensively using test links before the start of fieldwork.

### 2.3. Conducting the Survey

The panellists selected for the survey were invited by email. To participate, they had to register on the panel platform with a username and password. This ensured that only the invited target persons could take part in the survey. Multiple participation in the survey was technically impossible. Each respondent received remuneration in the form of panel points for participating in the study.

The online study started with a “soft launch” in which a limited number of panellists were invited to participate. The responses were checked for data accuracy, filtering, and technical anomalies. As the pretest did not reveal any anomalies, the full launch was started.

The fieldwork for Wave 1 was conducted between 3 and 14 April 2020.

### 2.4. Number of Cases

In Wave 1, the aim was to achieve at least 7,500 analysable interviews (net).

A total of 8,072 complete interviews were realised with the target group. The gross sample is always around 10% larger than the targeted net number of cases. This enables the exclusion of datasets that do not meet the quality standards of our screening criteria.

Three hundred and ninety-five cases were excluded in the course of this data screening and cleaning (see Section 2.7). This left **7,677 interviews**, which formed the basis for the further evaluations and analyses in Wave 1.

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<sup>1</sup> <https://initiatived21.de/publikationen/d21-digital-index-2019-2020/> (accessed on 23.3.2020).

## 2.5. Sampling Frame

The sample was drawn from the online access panel of our external partner Payback GmbH. Recruited completely offline, the Payback Panel is based on around 31 million active Payback customers. It comprises around 120,000 active panellists. Due to the offline recruitment and the resulting very good coverage of central population structures at household level, detailed quotas can also be realised. Infratest dimap and Kantar Public have an exclusive cooperation relationship with Payback for political and social science studies.

Further details on the Payback Panel can be found in the appendix to this report.

## 2.6. Sample and Sample Realisation

When drawing the sample, quotas were applied for age, gender, education, and federal state. The targets specified were based on the intercensal population update and the microcensus carried out by the Federal Statistical Office. Cross-quotas (Age x Gender, Age x Education, Age x Federal State) were also determined and specified as target figures. The quota targets and quota fulfilment (targets [gross]/actual figures [net] after data screening and cleaning/before weighting) can be found in the following overviews:

### Cross-Quotas Based on Age x Gender

TARGET (abs.)	Gender		Total
	m	f	
Age			
16-24	451	370	821
25-34	931	765	1696
35-44	919	782	1701
45-54	1114	1016	2130
55-64	885	784	1669
65+	143	90	233
Total	4443	3807	8250

ACTUAL (abs.)	Gender		ACTUAL (abs.)
	m	f	
Age			
16-24	339	390	729
25-34	876	775	1651
35-44	883	717	1600
45-54	1059	907	1966
55-64	876	665	1541
65+	108	75	183
Total	4141	3529	7670

TARGET (%)	Gender		Total
	m	f	
Age			
16-24	10.2	9.7	<b>10.0</b>
25-34	21.0	20.1	<b>20.6</b>
35-44	20.7	20.5	<b>20.6</b>
45-54	25.1	26.7	<b>25.8</b>
55-64	10.9	20.6	<b>20.2</b>
65+	3.2	2.4	<b>2.8</b>
Total	100.0	100.0	<b>100.0</b>

ACTUAL (%)	Gender		ACTUAL (%)
	m	f	
Age			
16-24	8.2	11.1	<b>9.5</b>
25-34	21.2	22.0	<b>21.5</b>
35-44	21.3	20.3	<b>20.9</b>
45-54	25.6	25.7	<b>25.6</b>
55-64	21.2	18.8	<b>20.1</b>
65+	2.6	2.1	<b>2.4</b>
Total	100.0	100.0	<b>100.0</b>

*Note.* Seven interviews in which the respondents chose the “diverse” option in response to the question about gender are missing from “ACTUAL (abs.) – Total”.

### Cross-Quotas Based on Education x Gender

TARGET (abs.)	Gender		
Education	m	f	Total
low	1290	782	2072
medium	1422	1464	2886
high	1731	1561	3292
Total	4443	3807	8250

ACTUAL (abs.)	Gender		ACTUAL (abs.)
Education	m	f	Total
low	1140	712	1852
medium	1373	1372	2745
high	1628	1445	3073
Total	4141	3529	7670

TARGET (%)	Gender		
Education	m	f	Total
low	29.0	20.5	<b>25.1</b>
medium	32.0	38.5	<b>35.0</b>
high	39.0	41.0	<b>39.9</b>
Total	100.0	100.0	<b>100.0</b>

ACTUAL (%)	Gender		ACTUAL (%)
Education	m	f	Total
low	27.5	20.2	<b>24.1</b>
medium	33.2	38.9	<b>35.8</b>
high	39.3	40.9	<b>40.1</b>
Total	100.0	100.0	<b>100.0</b>

Note. Seven interviews in which the respondents chose the “diverse” option in response to the question about gender are missing from “ACTUAL (abs.) – Total”.

### Cross-Quotas Based on Federal State x Gender

TARGET (abs.)	Gender			ACTUAL (abs.)		
Federal state	m	f	Total	m	f	Total
01 – SH	149	132	281	125	91	216
02 – HH	102	91	193	99	83	182
03 – NI	421	359	780	378	301	679
04 – HB	36	29	65	25	30	55
05 – NW	939	794	1733	893	756	1649
06 – HE	336	285	621	316	261	577
07 – RP	218	185	403	206	168	374
08 – BW	619	523	1142	571	493	1064
09 – BY	723	622	1345	692	599	1291
10 – SL	52	43	95	50	43	93
11 – BE	205	179	384	183	175	358
12 – BB	131	118	249	124	98	222
13 – MV	80	70	150	72	63	135
14 – SN	209	183	392	205	184	389
15 – ST	113	96	209	105	87	192
16 – TH	110	98	208	97	97	194
Total	4443	3807	8250	4141	3529	7670

TARGET (%)	Gender			ACTUAL (%)		
Federal state	m	f	Total	m	f	Total
01 – SH	3.4	3.5	<b>3.4</b>	3.0	2.6	<b>2.8</b>
02 – HH	2.3	2.4	<b>2.3</b>	2.4	2.4	<b>2.4</b>
03 – NI	9.5	9.4	<b>9.5</b>	9.1	8.5	<b>8.9</b>
04 – HB	0.8	0.8	<b>0.8</b>	0.6	0.9	<b>0.7</b>
05 – NW	21.1	20.9	<b>21.0</b>	21.6	21.4	<b>21.5</b>
06 – HE	7.6	7.5	<b>7.5</b>	7.6	7.4	<b>7.5</b>
07 – RP	4.9	4.9	<b>4.9</b>	5.0	4.8	<b>4.9</b>
08 – BW	13.9	13.7	<b>13.8</b>	13.8	14.0	<b>13.9</b>
09 – BY	16.3	16.3	<b>16.3</b>	16.7	17.0	<b>16.8</b>
10 – SL	1.2	1.1	<b>1.2</b>	1.2	1.2	<b>1.2</b>
11 – BE	4.6	4.7	<b>4.7</b>	4.4	5.0	<b>4.7</b>
12 – BB	2.9	3.1	<b>3.0</b>	3.0	2.8	<b>2.9</b>
13 – MV	1.8	1.8	<b>1.8</b>	1.7	1.8	<b>1.8</b>
14 – SN	4.7	4.8	<b>4.8</b>	5.0	5.2	<b>5.1</b>
15 – ST	2.5	2.5	<b>2.5</b>	2.5	2.5	<b>2.5</b>
16 – TH	2.5	2.6	<b>2.5</b>	2.3	2.7	<b>2.5</b>
Total	100.0	100.0	<b>100.0</b>	100.0	100.0	<b>100.0</b>

Note. Seven interviews in which the respondents chose the “diverse” option in response to the question about gender are missing from “ACTUAL (abs.) – Total”.

SH = Schleswig-Holstein; HH = Hamburg; NI = Lower Saxony; HB = Bremen; NW = North Rhine-Westphalia; HE = Hesse; RP = Rhineland-Palatinate; BW = Baden-Württemberg; BY = Bavaria; SL = Saarland; BE = Berlin; BB = Brandenburg; MV = Mecklenburg-Vorpommern; SN = Saxony; ST = Saxony-Anhalt; TH = Thüringen.

## Cross-Quotas Based on Education x Age

TARGET (abs.)	Age group						
Education	16-24	25-34	35-44	45-54	55-64	65+	Total
low	169	320	389	558	537	99	2072
medium	312	509	560	832	614	59	2886
high	340	867	752	740	518	75	3292
Total	821	1696	1701	2130	1669	233	8250

ACTUAL (abs.)	Age group						
Education	16-24	25-34	35-44	45-54	55-64	65+	Total
low	70	320	355	517	550	43	1855
medium	324	496	541	782	539	64	2746
high	336	839	704	668	453	76	3076
Total	730	1655	1600	1967	1542	183	7677

TARGET (%)	Age group						
Education	16-24	25-34	35-44	45-54	55-64	65+	Total
low	20.6	18.9	22.9	26.2	32.2	42.5	25.1
medium	38.0	30.0	32.9	39.1	36.8	25.3	35.0
high	41.4	51.1	44.2	34.7	31.0	32.2	39.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

ACTUAL (%)	Age group						
Education	16-24	25-34	35-44	45-54	55-64	65+	Total
low	9.6	19.3	22.2	26.3	35.7	23.5	24.2
medium	44.4	30.0	33.8	39.8	35.0	35.0	35.8
high	46.0	50.7	34.0	34.0	29.4	41.5	40.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

## 2.7. Data Screening and Cleaning

After completion of fieldwork, the quality of the data collected using CAWI technology was already high in terms of completeness, logical consistency, compliance with filters, etc., as the questionnaire had already undergone intensive testing before fieldwork began. In addition, fieldwork started with a “soft launch” in which several hundred panellists were invited to participate in the survey so that the data structure of the interviews could be checked in advance of the full launch, which did not take place until after these checks were carried out. At the end of the fieldwork, Kantar Public carried out final data screening and cleaning. Problematic interviews were identified based on the following combinations of characteristics and excluded from further analysis:

- speeding through the questionnaire: interview duration < 1/3 of the median duration
- incorrect responding to specific quality control questions
- little or no variance in responses to long item batteries (“straightlining”), measured based on the total standard deviation for selected item batteries
- high proportion of unanswered questions: proportion of “no answer” in the questionnaire as a whole and in questionnaire sections
- inconsistent response behaviour in terms of the content of specific questions
- meaningfulness of the professional titles reported in response to open questions

## 2.8. Weighting

Even after the end of fieldwork, data screening and cleaning may lead to structural biases in terms of the quota targets for the study. The screened and cleaned dataset was therefore adjusted to the structures of the survey population using factorial weighting to correct for deviations in terms of the sociodemographic characteristics age, gender, education, federal state, and sector.

When carrying out weighting, the factors were limited to a minimum value of 0.2 and a maximum value of 4.9 to prevent individual outliers from biasing the overall result. The following overview documents the fit of the marginal distributions by age, gender, education, and federal state after weighting, and the efficiency of the Wave 1 sample:

Fit	Dim.	Cells	Margin Efficiency	Margin Name
99.64%	2	7	99.9%	Education x Gender
98.40%	2	18	97.8%	Education x Age
87.57%	1	9	47.9%	Sector
99.85%	2	13	99.4%	Age x Gender
99.95%	1	3	100.0%	Gender
100.00%	1	6	99.8%	Age
99.92%	2	33	99.6%	Federal State x Gender
100.00%	1	16	99.8%	Federal State

Note. Factors ranged from 0.491 to 4.896. Efficiency: 79.14%.

### 3. Refreshing the Self-Employed/Liberal Professions Sub-Group – Wave 5

To be able to make detailed statements about the self-employed/liberal professions sub-group, which was particularly affected by the pandemic, the client decided to massively and disproportionately refresh this target group in Wave 5. A total of 1,350 interviews were conducted with self-employed persons/members of the liberal professions in the fifth wave. Of these, 208 interviews were with persons who had already participated in Wave 1, and 1,142 interviews were with persons from the refreshment sample.

#### *Weighting*

If the distribution had been exactly proportional to the share of self-employed persons in the population, only 560 interviews would have been expected within this target group. This disproportionate sampling approach was reversed during weighting. The self-employed persons/members of the liberal professions were then weighted according to age, gender, education, region, and sector so that the sub-group itself also reflects the structures correctly. In the final step, the overall sample was then weighted according to age, gender, education, region, and sector.

This weighting principle was retained in all subsequent waves.

In Wave 9, the unweighted share of self-employed persons and members of the liberal professions in the labour force as a whole is more than double the target structures according to the microcensus:

#### **Structural Targets for the Labour Force (%)**

Self-employed	
1	8.2
2	91.8
<b>Total</b>	<b>100</b>

Self-employed  
Not self-employed

*Microcensus  
2021*

#### **ACTUAL Sample (%)**

Self-employed	
1	18.7
2	81.3
<b>Total</b>	<b>100</b>

Self-employed  
Not self-employed

*WSI Labour Force Survey, Wave 9-*



## 4. Methodological Approach – Wave 9

### 4.1. Population

The definition of the Wave 9 population is the same as that for Wave 1, namely, German-speaking members of the labour force in Germany, aged 16 years and older, with access to the Internet.

### 4.2. Survey Method

The survey is designed as an online ad hoc survey (computer-assisted web interviewing, CAWI). The questionnaire was programmed in an adaptive design – that is, it was automatically adjusted to the display in different browsers and mobile devices (tablets, smartphones).

To rule out weaknesses in terms of logic, comprehensibility and filtering, the script of the questionnaire was tested intensively using test links before the start of fieldwork.

### 4.3. Conducting the Survey

The panellists selected for the survey were invited by email. To participate, they had to register on the panel platform with a username and password. This ensured that only the invited target persons could take part in the survey. Multiple participation in the survey was technically impossible. Each respondent received remuneration in the form of panel points for participating in the study.

The online study started with a “soft launch” in which a limited number of panellists were invited to participate. The responses received were checked for data accuracy, filtering, and technical anomalies. As the pretest did not reveal any anomalies, the full launch was started.

The fieldwork for Wave 9 was carried out between 23 November and 2 December 2022.

### 4.4. Sampling Frame

The sampling frame comprised the 7,677 participants from Wave 1 as well as the 1,142 self-employed persons and members of the liberal professions recruited via the refreshment conducted in Wave 5. As in the other subsequent waves, provided these persons were still members of the Payback Panel, they were invited to participate in Wave 9.

By employing this genuine panel approach (repeated interviewing of the same persons in the same thematic context), changes in relation to the population, to sub-groups, and at the individual level can be identified.

### 4.5. Number of Cases and Response Rate

The aim was to achieve the highest possible number of interviews with the original 7,677 respondents from Wave 1. In Wave 9, a total of **5,136 interviews** were realised with participants from Wave 1 and from the refreshment of self-employed persons and members of the liberal professions in Wave 5. This corresponds to a response rate of 58.2%.

The wave-specific response rates of the study were as follows:

- Wave 1 – April 2020: 7,677 interviews = 100%
- Wave 2 – June 2020: 6,309 interviews = 82%
- Wave 3 – November 2020: 6,102 interviews = 79%
- Wave 4 – February 2021 (short survey): 6,235 interviews = 81%
- Wave 5 – June 2021: 5,047 Interviews = 66%

Change of basis from Wave 5 onwards: Number of potential invitees: 7,677 (Wave 1) plus 1,142 (refreshment, Wave 5) = max. 8,819 persons (provided they were still members of the online access panel of the provider, Payback)

- Wave 6 – October 2021 (short survey): 5,454 interviews = 71% (based on Wave 1)
- Wave 7 – January 2022 (short survey): 6,419 interviews = 73%  
(of which 5,476/7,677 = 71% from W1 and 943/1,142 = 82% from W5)
- Wave 8 – April/May 2022: 6,234 = 71%  
(of which 5,322/7,677 = 69% from W1 and 912/1,142 = 80% from W5)
- Wave 9 – November 2022: 5,136 interviews = 58%  
(of which 4,324/7,677 = 56% from W1 and 812/1,142 = 71% from W5)

#### **4.6. Data Screening and Cleaning**

In contrast to Wave 1, and in consultation with the client, Kantar Public no longer carried out data cleaning in the subsequent waves after completion of fieldwork.

However, the age and gender details provided by respondents were checked for accuracy during fieldwork. In the case of implausible deviations (e.g. change of gender, deviations in age greater than +1 year), the datasets were not included in the analysis and the panellists were invited to participate in the survey once again, this time with an explicit reference to the age and gender of the target person and to the fact that it was important that the participant from Wave 1 should answer the questionnaire.

The weighted results (see Section 4.7) were delivered to the Hans Böckler Foundation in the form of a fully labelled SPSS dataset.

#### **4.7. Weighting**

The dataset was adjusted to the structures of the survey population using factorial weighting to correct for deviations in terms of the sociodemographic characteristics age, gender, education, and federal state. In Wave 9, the targets for the weighting were largely changed to correspond to the structures from the current 2021 microcensus.

- As the Federal Statistical Office has changed its reporting in its publication series, we had to switch to the 2020 microcensus for the education margins of the labour force.
- When updating the targets for sectors in the course of adjusting the weighting, we set the margin with the new targets for sectors in a more differentiated way. The weighting for this margin now functions much better (margin efficiency increased from 48% to 85%).
- As the age distribution deviates more strongly in Wave 9, the weighting had to intervene more strongly in this respect. For the margin Education x Age, we therefore combined the two lower age groups for low education this time.

The adjustments are good overall: the efficiency is 67% for the base sample and 53% for the integrated sample.

In the first weighting step, the disproportionate sampling approach due to the refreshment of the self-employed and liberal professions sub-group was compensated for:

Step 1: Compensation for the Refreshment Design

No restriction of the weighting factors

Unweighted number of cases: 5,136; benchmark value for weighting: 5,136

**Summary of Adjustment per Margin**

Fit	Dim.	Cells	Margin Efficiency	Margin name
100.00%	1	2	93.7%	Self-Employed vs. Other Members of the Labour Force

*Note.* Factors ranged from 0.446 to 1.124. Efficiency: 93.57%.

In the next adjustment-weighting step, the factors were limited to a minimum value of 0.1 and a maximum value of 4.9 in order to prevent individual outliers from biasing the overall result.

The following overview documents the fit of the marginal distributions according to age, gender, education, and federal state after the weighting of the integrated sample:

Step 2: Person Level Incl. Self-Employed Variables

Factors permitted from 0.100 to 4.900

Unweighted number of cases: 5,136; benchmark value for weighting: 5,136

**Summary of Adjustment per Margin**

Fit	Dim.	Cells	Margin efficiency	Margin name
99.96%	3	8	94.8%	Self-Employed: Education x Gender [Microcensus 2021]
99.97%	3	7	95.0%	Self-Employed: Education x Age [Microcensus 2021]
99.98%	2	14	90.5%	Self-Employed: Sector [Microcensus 2021]
99.95%	3	12	98.8%	Self-Employed: Age x Gender [Microcensus 2021]
100.00%	2	4	100.0%	Self-Employed: Gender [Microcensus 2021]
99.97%	2	7	98.5%	Self-Employed: Age [Microcensus 2021]
99.97%	2	17	98.9%	Self-Employed: Federal State [Microcensus 2021]
99.46%	2	7	99.7%	Education x Gender [Microcensus 2020]
96.19%	2	17	86.9%	Education x Age [Microcensus 2020]
99.56%	1	15	84.8%	Sector [Microcensus 2021]
99.77%	2	13	81.7%	Age x Gender [Microcensus 2021]
99.96%	1	3	99.8%	Gender [Microcensus 2021]
99.89%	1	6	82.8%	Age [Microcensus 2021]
99.96%	2	33	99.4%	Federal State x Gender [Microcensus 2021]
100.00%	1	16	99.7%	Federal State [Microcensus 2021]
100.00%	1	2	100.0%	Self-Employed vs. Other Members of Labour Force
100.00%	1	1	100.0%	Number of Cases

*Note.* Factors ranged from 0.100 to 4.898. Efficiency: 62.90%.

## 5. Structural Comparison

A systematic structural comparison between the structures of the microcensus (TARGET) and the unweighted results of the current Wave 9 (ACTUAL) allows the identification of structural weaknesses of the current sample.

At the same time, the following analyses serve as a basis for targeted future refreshments with new panellists with the aim of further structurally improving and future-proofing the instrument as part of the planned consolidation. In what follows, we therefore compare the targets for the weighting according to the microcensus (composition in %<sup>2</sup>) with the corresponding unweighted findings from Wave 9 for the following categories:

- Education x Gender
- Education x Age
- Education x Age
- Sector Affiliation (Marginal Distribution)
- Gender x Federal State

### 5.1. Education X Gender

The comparison between the targets for education by gender and the corresponding composition of the sample reveals a certain (albeit small) undercoverage of low and medium education levels. What seems more serious is the fact that male respondents are overrepresented by 3.2 percentage points in the sample. To improve the structures, female members of the labour force will therefore have to be recruited in a targeted way in future refreshments.

**Structural Targets for the Labour Force (%)**

Gender	Education			
	Low	Medium	High	Total
<b>m</b>	13.7	17.1	22.7	53.5
<b>f</b>	8.2	17.4	20.9	46.5
<b>Total</b>	21.9	34.5	43.5	100.0

*Microcensus  
2020*

**ACTUAL Sample (%)**

Gender	Education			
	Low	Medium	High	Total
<b>m</b>	12.6	16.8	27.3	56.7
<b>f</b>	7.0	16.7	19.5	43.3
<b>Total</b>	19.6	33.5	46.9	100.0

*WSI Labour Force Survey, Wave 9*

Irrespective of gender, low and medium levels of formal education are slightly underrepresented, whereas high levels of education are slightly overrepresented.

<sup>2</sup> Own calculations based on the absolute figures.

## 5.2. Education X Age

The comparison between the targets for Education x Age and the corresponding composition of the sample shows that there is a need for adjustment, especially in the age groups 16–24 years and 25–34 years. As the coverage of these young age groups in online access panels is a general structural problem, it remains to be seen whether and to what extent a successful adjustment will be possible here.

**Structural Targets for the Labour Force (%)**

Age	Education			Total
	Low	Medium	High	
16–24	1.6	3.3	4.4	9.4
25–34	3.4	6.0	11.5	20.9
35–44	4.1	6.7	10.2	21.0
45–54	5.7	9.4	9.2	24.2
55–64	6.1	8.2	7.2	21.5
65+	1.1	0.8	1.1	3.0
<b>Total</b>	<b>21.9</b>	<b>34.5</b>	<b>43.6</b>	<b>100.0</b>

*Microcensus  
2020*

**ACTUAL Sample (%)**

Age	Education			Total
	Low	Medium	High	
16–24	0.2	1.0	1.3	2.5
25–34	2.1	4.8	9.0	15.9
35–44	3.8	7.2	11.3	22.3
45–54	5.4	9.3	12.4	27.1
55–64	7.2	10.1	10.4	27.8
65+	0.9	1.1	2.5	4.5
<b>Total</b>	<b>19.6</b>	<b>33.5</b>	<b>46.9</b>	<b>100.0</b>

*WSI Labour Force Survey, Wave 9*

Low and medium levels of formal education are slightly underrepresented across all age groups, whereas high levels are slightly overrepresented.

## 5.3. Gender X Age

The comparison between the targets for Gender x Age and the corresponding composition of the sample confirms the already known finding that there is potential for re-adjustment, especially among 16 to 34-year-olds and among 35 to 44-year-old female members of the labour force.

**Structural Targets for the Labour Force (%)**

Age	Gender		Total
	m	f	
16–24	5.5	4.6	10.1
25–34	11.3	9.5	20.8
35–44	11.2	9.9	21.1
45–54	12.1	11.0	23.1
55–64	11.5	10.4	21.8
65+	1.8	1.2	3.1
<b>Total</b>	<b>53.4</b>	<b>46.6</b>	<b>100</b>

*Microcensus  
2021*

**ACTUAL Sample (%)**

Age	Gender		Total
	m	f	
16–24	1.2	1,3	2.5
25–34	7,9	8,0	15.9
35–44	13.1	9,2	22.3
45–54	15.5	11,6	27.1
55–64	16.2	11,6	27.8
65+	2.8	1,7	4.5
<b>Total</b>	<b>56.7</b>	<b>43,3</b>	<b>100</b>

*WSI Labour Force Survey, Wave 9*

Men aged 35 to 64 years are particularly overrepresented.

## 5.4. Sector Affiliation

The comparison between the targets for sector affiliation and the corresponding composition of the sample reveals above all potential for improvement in the sectors Manufacturing/Processing Industry, Education and Teaching, Trade/Motor Vehicle Industry, and Construction.

### Structural Targets for the Labour Force (%)

Sector		
<b>1</b>	1.3	Agriculture, Forestry and Fishing
<b>2</b>	8.1	Public Administration (Federal Government, Länder and Local Governments)
<b>3</b>	1.7	Energy, Water Supply, Mining
<b>4</b>	19.7	Other Manufacturing/Processing Industry
<b>5</b>	6.0	Construction
<b>6</b>	12.8	Trade, Motor Vehicle Industry
<b>7</b>	4.7	Transport and Logistics
<b>8</b>	2.9	Hospitality
<b>9</b>	3.9	Media, Information, Communication, Art
<b>10</b>	3.0	Financial and Insurance Services
<b>11</b>	0.9	Real Estate and Housing
<b>12</b>	13.7	Health and Social Services
<b>13</b>	14.9	Other Services (incl. Liberal Professions)
<b>14</b>	6.5	Education & Teaching
<b>Total</b>	100.0	

*Microcensus  
2021*

### ACTUAL Sample (%)

Sector		
<b>1</b>	0.3	
<b>2</b>	11.5	
<b>3</b>	3.8	
<b>4</b>	15.4	
<b>5</b>	3.8	
<b>6</b>	10.3	
<b>7</b>	6.4	
<b>8</b>	4.5	
<b>9</b>	6.5	
<b>10</b>	5.2	
<b>11</b>	1.4	
<b>12</b>	12.0	
<b>13</b>	16.2	
<b>14</b>	2.8	
<b>Total</b>	100.0	

*WSI Labour Force Survey, Wave 9*

Although the Payback master data also include sectors, these sectors are unfortunately not based on the Federal Statistical Office's economic sector classification system. Therefore, a re-adjustment by sector (through targeted invitation management) is possible only to a limited extent.

## 5.5. Gender X Federal State

The comparison between the targets for Federal State x Gender and the corresponding composition of the sample shows that – with the exception of Schleswig-Holstein (SH) – the targets for male members of the labour force were reached or exceeded, whereas female members of the labour force are underrepresented, especially in western German federal states.

Federal state	Gender		
	m	f	Total
1	1.9	1.7	3.5
2	1.2	1.1	2.3
3	5.1	4.4	9.5
4	0.4	0.4	0.8
5	11.2	9.7	20.9
6	4.0	3.4	7.4
7	2.7	2.3	4.9
8	7.5	6.4	13.9
9	8.9	7.8	16.7
10	0.6	0.5	1.1
11	2.3	2.1	4.5
12	1.5	1.4	3.0
13	1.0	0.9	1.9
14	2.5	2.1	4.6
15	1.3	1.1	2.4
16	1.3	1.1	2.4
<b>Total</b>	<b>53.4</b>	<b>46.6</b>	<b>100.0</b>

*Microcensus  
2021*

SH  
HH  
NI  
HB  
NW  
HE  
RP  
BW  
BY  
SL  
BE  
BB  
MV  
SN  
ST  
TH

Federal state	Gender		
	m	f	Total
1	1.8	1.3	3.1
2	1.2	1.0	2.3
3	5.2	3.7	8.9
4	0.4	0.4	0.8
5	11.6	9.2	20.8
6	4.4	3.2	7.6
7	2.8	2.2	5.0
8	7.6	5.4	13.0
9	10.1	7.2	17.4
10	0.7	0.7	1.3
11	2.5	2.2	4.8
12	1.8	1.2	3.0
13	1.0	0.8	1.7
14	3.0	2.5	5.5
15	1.3	1.0	2.3
16	1.4	1.1	2.5
<b>Total</b>	<b>56.7</b>	<b>43.3</b>	<b>100.0</b>

*WSI Labour Force Survey, Wave 9*

Note. SH = Schleswig-Holstein; HH = Hamburg; NI = Lower Saxony; HB = Bremen; NW = North Rhine-Westphalia; HE = Hesse; RP = Rhineland-Palatinate; BW = Baden-Württemberg; BY = Bavaria; SL = Saarland; BE = Berlin; BB = Brandenburg; MV = Mecklenburg-Vorpommern; SN = Saxony; ST = Saxony-Anhalt; TH = Thüringen.

The discrepancy in the case of female members of the labour force in the federal states of Baden-Württemberg (BW), Lower Saxony (NI), North Rhine-Westphalia (NRW), Bavaria (BY), and Schleswig-Holstein (SH) is comparatively large.

## 6. Questionnaire

The questionnaire in Wave 9 was (further) developed by the Hans Böckler Foundation and adjusted in several intensive rounds of consultation between the institute and the client. The final questionnaire has been made available to the client and is documented in the form of a separate Word file.

## 7. SPSS Dataset

The results of the survey have been made available to the client in the form of a fully labelled SPSS dataset that also includes the individual weighting factors.



## APPENDIX – Information on the Online Panel

Compared with access panels explicitly recruited for market research surveys, the online panel of the provider, Payback, which is used by Kantar Public in Germany for political and social research studies, is characterised by a high number of active panellists who were recruited exclusively offline and are spread across many different regions. The Payback Panel has a total of around 130,000 active panellists. The members of the Payback Online Panel are actively recruited from the members of Payback's offline customer loyalty programme. Almost all Payback cards are issued at the point of sale. In this way, the Payback Online Panel differs fundamentally from other online access panels, which are usually recruited passively online. Based on the experience gained with the Payback Panel, the Public Division of Kantar and Infratest dimap concluded an exclusive cooperation agreement with Payback for political and social science surveys in the panel. This counteracts the effect of inflationary, repeated surveying of the same panellists, which are known from survey methodology research.

The quality of the online panel used – which is determined by the number of panellists, the way in which the participants are recruited, and the panel management – is decisive for the quality of the online survey data. It is not only in Germany that conventional online access panels differ considerably in terms of quality and performance. This concerns not only the number of cases that can be realised for specific subgroups and the structure of the net sample (usually quota-based via margins) but also to the way in which the panel surveys are executed (e.g. the size of the gross sample and the field period) as well as the possibilities for comprehensively documenting the implementation of the fieldwork.

### ***Panel Recruitment***

The Payback Online Panel is recruited on the basis of membership of Payback, the largest consumer bonus programme in Germany, which comprises around 31 million consumers, or approximately every second German household. Payback households and non-Payback households do not differ significantly in their sociodemographic characteristics. The actual recruitment from the Payback community starts with the Payback Panel. To exclude incentive hunters and professional online panellists as far as possible, the Payback Panel does not allow self-motivated self-registration. Selection takes place exclusively in the form of active recruitment on the basis of the Payback data of existing customers. Specifically, the Payback member is invited by email to participate in the Payback Online Panel. This rules out multiple self-registration and, above all, selective and therefore problematic self-recruitment via websites, which is carried out by many online providers in the course of river sampling. The Payback panellists are therefore unique accounts.

The recruitment model also ensures that the panel structure reflects key characteristics of the population of Germany as a whole. Furthermore, the panellists range from customers with a weak affinity for Payback to customers with a strong affinity, thereby ruling out bias in favour of bargain hunters. As a result, the panel provides a robust picture of net household incomes in Germany. This is also evident when one compares the raw data from our surveys on various topics and indicators with those of providers that build up panel pools via website recruitment. The political preferences and attitudes of these panel pools as a whole are far removed from the actual values in the population.

In addition, fine-scale cell management when recruiting members enables detailed sample management in population and target-group studies. Payback can thus realise comparatively high numbers of cases for regional samples.

Further positive effects of offline recruitment compared with panels recruited online are the longer average duration of the interviews, more extensive responses to open questions, and very quick response times.

### ***Panel Master Data***

For the target group definitions and sampling designs, the Access Panel has over 300 selection criteria from a wide variety of areas. The areas of these “master data” range from sociodemographic variables, through living situation, media use (TV, print, online), and vehicle ownership, to hobbies and interests. The master data are collected once or twice a year so that up-to-date information is available at all times. Despite the fact that these master data are regularly updated, the information is used in joint studies with Kantar only for the management of invitations to participate in surveys. In the questionnaire itself, all relevant variables (these may be screening-relevant variables as well as sociodemographic variables) are collected again, just to be sure. However, in many cases, master data help to reduce the screening effort and to realistically assess in the planning phase the feasibility of target-group studies.

### ***Participation Incentivization and Frequency***

The panellists receive Payback points for their participation in the respective surveys. In the case of longer surveys and multi-wave surveys, the panellists may receive an additional bonus. The panellists may use the points in whatever way they wish, for example for rewards, donations, or shopping vouchers. This makes use of a very good, established, and highly accepted remuneration system. To limit the effects of panel conditioning, the number of participations is restricted to a maximum of 20 studies per year and panellist.

Because of the highly unusual processes of recruitment and panel management – compared with other panels – the panel mortality of the Payback Panel is very low. Even multiwave studies can be realised without any problems. Thus, it is also possible to identify panellists from previous studies and to survey them in new studies.