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Technical Information: (202) 691-6199 • orsinfo@bls.gov • www.bls.gov/ors

Media Contact: (202) 691-5902 • pressoffice@bls.gov

# OCCUPATIONAL REQUIREMENTS IN THE UNITED STATES - 2021

The flexibility to pause work and take short, unscheduled breaks throughout the workday was available to 55.6 percent of civilian workers in 2021, the U.S. Bureau of Labor Statistics reported today. The choice of sitting or standing was available to 43.2 percent of civilian workers. Significant discretion over when tasks were worked on, or self-paced work, was available to 16.5 percent of workers, and 9.6 percent were able to complete critical job functions while teleworking. Only permanent, and not temporary or ad hoc telework arrangements, such as those made in response to the Coronavirus pandemic, are included in telework estimates.

The ability to pause work was available to 95.3 percent of workers in computer and mathematical occupations, and 47.6 percent of these workers were able to telework. (See chart 1 and table 1.)

The ability to pause work was available to 97.3 percent of workers in management occupations, and 29.6 percent of these workers were able to telework. (See chart 1 and table 1.)

100% 80% 60% 40% 20% 0% Computer and Management Civilian workers Production **Building and grounds** mathematical occupations occupations cleaning and occupations maintenance occupations Pause control ■ Choice to sit or stand ■ Self-paced workload ■ Telework available

Chart 1. Percentage of workers with job requirements that allow flexibility by occupation, 2021

The ability to pause work was available to 42.4 percent of production workers and telework was not available to 99.8 percent of these workers. (See chart 1 and table 1.)

The ability to pause work was available to 69.5 percent of building and grounds cleaning and maintenance workers. None of these workers were able to telework. (See chart 1 and table 1.)

## Coronavirus (COVID-19) Pandemic Impact on the 2021 Occupational Requirements Survey

Response rates for 2021 were comparable with prior releases and no changes in estimation procedures were necessary. Additional information is available at www.bls.gov/covid19/home.htm.

## Environmental exposures and low postures

Seven percent of civilian workers were exposed to loud noise, 7.5 percent were exposed to hazardous contaminants, 9.5 percent were exposed to heights, and 11.3 percent worked in proximity to moving mechanical parts. Low postures were required for 58.7 percent of civilian workers. (See chart 2 and table 2.)

Low postures indicate the percentage of workers required to complete critical tasks while crawling, crouching, kneeling, or stooping. The duration of low posture work is also provided where possible. When performing critical tasks in low postures is required, the use of certain low postures is measured. If the work does not dictate the use of a certain low posture, the worker's choice of low posture is published.

Thirty-six percent of carpenters were exposed to loud noise, and all carpenters were required to perform work in low postures. (See chart 2 and table 2.)

Loud noise exposure was present for 39.1 percent of highway maintenance workers. Low postures were required for 98.6 percent of these workers. (See chart 2 and table 2.)

Thirty-five percent of bus and truck mechanics were exposed to loud noise, and 96.5 percent of these workers were required to perform work in low postures. (See chart 2 and table 2.)

100% 80% 60% 40% 20% 0% Civilian workers Carpenters Highway maintenance Bus and truck mechanics workers Loud noise ■ Hazardous contaminants Heights ■ Moving mechanical parts ■ Low postures

Chart 2. Percentage of workers with environmental exposures and low postures by occupation, 2021

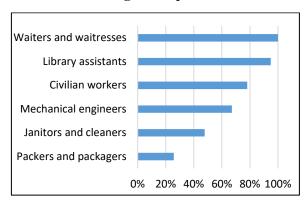
Stooping was required for 18.8 percent of civilian workers when completing critical tasks. Ten percent of workers were required to crouch, 7.3 percent were required to kneel, and 3.7 percent of workers were required to crawl.

For civilian workers, the choice to perform critical tasks in the stooping posture was available to 39.0 percent of workers. The choice to crouch was available to 38.2 percent of civilian workers, kneeling was available to 33.3 percent, and crawling was available to 5.1 percent.

# Cognitive and mental requirements

- Interaction with the general public was required for 78.1 percent of workers. (See chart 3 and table 3.)
- Work was checked by a supervisor more than once per day for 34.5 percent of workers.
- More than basic people skills were required for 61.1 percent of workers.
- A supervisor was present for 64.8 percent of workers.

# Chart 3. Percentage of workers required to interact with the general public, 2021



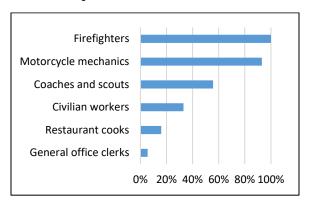
# Education, training, and experience

- Thirty percent of workers had no minimum education requirement, and a high school diploma was required for 39.8 percent.
- On-the-job training was required for 78.7 percent of workers.
- Prior work experience was required for 47.0 percent of workers.
- Credentials were required for 46.1 percent of workers. Licenses, a type of credential, were required for 19.4 percent of workers.

#### Environmental conditions

- Thirty-three percent of workers were exposed to the outdoors. (See chart 4 and table 4.)
- Constant outdoor exposure, more than 2/3 of the workday, was required for 4.3 percent of workers.
- Exposure to wetness was present for 34.1 percent of workers.
- Personal protective equipment to mitigate noise was used by 10.7 percent of workers.

Chart 4. Percentage of workers with outdoor exposure, 2021



# Physical demands

- On average, civilian workers spent 56.8 percent of the workday standing and 43.2 percent of the workday sitting.
- Reaching overhead was required for 45.1 percent of workers.
- Keyboarding was required for 66.1 percent of workers, and frequent keyboarding, between 1/3 and up to 2/3 of the workday, was required for 25.4 percent of workers.
- A sedentary strength level was required for 28.5 percent of civilian workers. An additional 33.3 percent had a light strength level, and 28.2 percent had a medium strength level requirement.

#### **Technical Note**

The Occupational Requirements Survey (ORS) provides job-related information about the physical demands; environmental conditions; education, training, and experience; as well as cognitive and mental requirements in the U.S. economy.

Additional job requirement estimates are available at www.bls.gov/ors/data.htm. For information on estimation concepts and methods see the ORS website at www.bls.gov/ors and the Handbook of Methods at www.bls.gov/opub/hom/ors/home.htm.

<u>Sample size:</u> The ORS is a nationally representative establishment-based survey. Estimates are produced from a probability sample of 28,900 establishments. There were 14,500 private industry and 3,000 state and local government responding establishments that provided approximately 84,800 occupational observations. The 2021 estimates represent 135,979,200 civilian workers.

These estimates are from three of five samples and are considered preliminary. Data from all five samples collected between September 2018 and July 2023 will be aggregated to produce the final estimates with an expected reference year of 2023.

<u>Standard errors</u>: Standard errors provide users a measure of the precision of an estimate to ensure that it is within an acceptable range for their intended purpose.

Collected and imputed data are included in the standard error calculation. For further information and how to use the standard errors see www.bls.gov/ors/se.htm.

## Major terms:

Critical job function – This is the main purpose and the primary pay factor for the job. It consists of critical tasks that are integral to the job.

Critical tasks – Activities workers must perform to carry out their critical job function(s).

Choice of low posture – Ability to select low posture to perform critical tasks. Workers may be required to perform some critical tasks in a specific low posture and other critical tasks may allow for choice in low postures.

Choice of sitting or standing – The ability to alternate between positions. Three conditions must exist: (1) workers typically have the flexibility to choose between sitting and standing throughout the workday; (2) there are no assigned periods during the workday to sit or stand; and (3) no external factors determine whether workers must sit or stand.

Hazardous contaminants – Exposure to substances that have a negative impact on the respiratory system, eyes, skin, or other living tissue. Biohazards such as blood or other bodily fluids are not considered hazardous contaminants.

Telework – Ability to perform the critical job function off work premises, typically from home. Workers must have a formal arrangement with the employer and telework must be available to all workers in the job. Temporary or ad hoc telework arrangements, such as those made in response to the Coronavirus pandemic, are not included.

Table 1. Percentage of workers with selected flexibilities, 2021

Occupation and occupational group		ity to paus	e work	Choice of sitting or standing			Workload is self-paced		Telework		
Occupation and occupational group	Yes	No	Standard error	Yes	No	Standard error	Yes	Standard error	Yes	No	Standard error
All workers	55.6	44.4	0.5	43.2	56.8	[1]	16.5	[1]	9.6	90.4	[1]
Management occupations	97.3	2.7	[1]	88.9	11.1	1.4	60.0	1.4	29.6	70.4	2.1
General and operations managers	97.6	2.4	0.8	90.2	9.8	1.6	61.8	3.1	27.9	72.1	3.5
Business and financial operations occupations	97.3	2.7	[1]	95.9	4.1	[1]	49.8	2.4	40.8	59.2	3.3
Computer and mathematical occupations	95.3	4.7	1.0	90.8	9.2	1.1	38.3	2.7	47.6	52.4	4.2
Computer user support specialists	83.1	16.9	3.8	71.5	28.5	5.8	2.9	1.2	28.0	72.0	6.2
Architecture and engineering occupations	93.8	6.2	2.6	85.5	14.5	3.7	51.1	5.0	29.3	70.7	2.8
Life, physical, and social science occupations	81.9	18.1	6.0	75.5	24.5	4.3	53.1	5.7	16.7	83.3	3.1
Community and social service occupations	82.0	18.0	2.9	82.7	17.3	2.2	21.8	2.4	12.5	87.5	3.5
Legal occupations	94.6	5.4	2.6	90.7	9.3	1.8	45.3	4.5	50.1	49.9	6.6
Educational instruction and library occupations	40.6	59.4	1.3	71.6	28.4	1.6	30.5	1.2	4.0	96.0	[1]
Arts, design, entertainment, sports, and media occupations	74.2	25.8	4.1	72.2	27.8	3.0	27.8	3.4	27.3	72.7	2.3
Healthcare practitioners and technical occupations	42.1	57.9	1.5	33.3	66.7	1.4	3.9	0.8	1.7	98.3	0.6
Healthcare support occupations	37.6	62.4	2.8	20.2	79.8	3.6	-	-	0.8	99.2	[1]
Protective service occupations	13.7	86.3	1.5	9.9	90.1	1.5	4.8	1.2	-	-	-
Food preparation and serving related occupations	21.1	78.9	0.9	1.3	98.7	[1]	0.5	[1]	-	-	-
Building and grounds cleaning and maintenance occupations	69.5	30.5	2.8	10.1	89.9	1.9	16.1	2.2	-	100.0	[2]
Landscaping and groundskeeping workers	62.6	37.4	9.4	5.6	94.4	2.2	8.9	1.8	-	100.0	[2]
Personal care and service occupations	38.2	61.8	3.6	23.9	76.1	3.7	4.0	0.8	-	99.6	[1]
Sales and related occupations	42.3	57.7	2.8	32.2	67.8	1.8	7.8	1.1	10.2	89.8	1.1
Office and administrative support occupations	72.4	27.6	0.9	81.3	18.7	0.9	10.4	0.6	9.3	90.7	1.2
Farming, fishing, and forestry occupations	71.8	28.2	13.0	35.4	64.6	8.5	-	-	-	-	-
Construction and extraction occupations	59.0	41.0	2.4	11.2	88.8	1.2	14.2	1.0	-	99.7	[1]
Installation, maintenance, and repair occupations	69.7	30.3	2.4	20.5	79.5	2.9	11.8	2.4	-	99.2	[1]
Production occupations	42.4	57.6	1.7	16.1	83.9	0.8	6.2	0.8	-	99.8	[1]
Team assemblers	30.0	70.0	4.7	5.1	94.9	2.3	0.5	[1]	-	100.0	[2]
Transportation and material moving occupations	30.9	69.1	2.8	5.9	94.1	0.8	3.6	0.6	-	-	-

<sup>[1]</sup> Standard error is less than 0.5.

<sup>[2]</sup> The standard error is not available for this estimate.

Table 2. Percentage of workers with environmental exposures and low postures, 2021

Occupation and occupational group		l noise	Exposed to hazardous contaminants		Exposed to heights			In proximity to moving mechanical parts			Low postures required			
	Yes	Standard error	Yes	No	Standard error	Yes	No	Standard error	Yes	No	Standard error	Yes	No	Standard error
All workers	7.0	[1]	7.5	92.5	[1]	9.5	[1]	[1]	11.3	88.7	[1]	58.7	41.3	0.5
Management occupations	1.9	[1]	2.4	97.6	[1]	3.5	0.8	0.8	3.4	96.6	0.6	19.3	80.7	1.0
Business and financial operations occupations	0.5	[1]	0.6	99.4	[1]	1.6	0.5	0.5	0.7	99.3	[1]	12.0	88.0	1.4
Computer and mathematical occupations	-	-	-	100.0	[1]	0.8	[1]	[1]	-	99.9	[1]	22.8	77.2	1.6
Architecture and engineering occupations	2.9	1.0	8.0	92.0	1.9	11.1	2.0	2.0	13.1	86.9	3.5	27.6	72.4	4.1
Life, physical, and social science occupations	1.3	0.5	27.6	72.4	5.2	8.7	1.5	1.5	7.7	92.3	2.5	48.3	51.7	3.3
Community and social service occupations	-	-	-	99.0	0.5	-	[1]	[1]	-	100.0	[1]	30.4	69.6	2.9
Legal occupations	-	-	-	100.0	[2]	-	[2]	[2]	-	100.0	[2]	11.4	88.6	2.9
Educational instruction and library occupations	1.8	0.6	1.8	98.2	0.5	0.7	[1]	[1]	1.0	99.0	[1]	53.8	46.2	2.0
Arts, design, entertainment, sports, and media occupations	8.3	2.4	-	98.9	0.8	5.3	1.5	1.5	-	98.1	1.0	37.1	62.9	4.3
Healthcare practitioners and technical occupations	0.7	[1]	7.4	92.6	0.8	-	[1]	[1]	1.4	98.6	[1]	75.0	25.0	1.8
Healthcare support occupations	-	-	2.9	97.1	0.6	-	[2]	[2]	1.0	99.0	[1]	82.9	17.1	2.0
Protective service occupations	14.6	1.4	25.8	74.2	2.0	28.5	2.0	2.0	9.7	90.3	1.9	82.3	17.7	2.2
Food preparation and serving related occupations	9.4	1.5	1.4	98.6	[1]	1.5	[1]	[1]	7.7	92.3	0.9	80.6	19.4	1.8
Building and grounds cleaning and maintenance occupations	8.1	1.5	20.5	79.5	1.8	21.2	1.3	1.3	27.8	72.2	1.5	97.3	2.7	0.5
Personal care and service occupations	11.4	1.5	10.4	89.6	1.8	2.0	0.9	0.9	0.8	99.2	[1]	73.7	26.3	3.8
Sales and related occupations	0.5	[1]	1.1	98.9	[1]	5.1	[1]	[1]	1.1	98.9	[1]	62.2	37.8	1.5
Office and administrative support occupations	0.9	[1]	-	99.6	[1]	0.7	[1]	[1]	0.7	99.3	[1]	23.4	76.6	0.9
Farming, fishing, and forestry occupations	35.3	9.8	-	92.0	4.9	28.7	7.8	7.8	30.6	69.4	7.5	89.1	1	7.8
Construction and extraction occupations	21.3	2.2	30.9	69.1	1.7	65.8	2.0	2.0	49.3	50.7	2.1	93.3	6.7	2.2
Carpenters	36.0	7.2	28.1	71.9	6.7	86.5	4.8	4.8	84.4	15.6	6.0	100.0	1	[1]
Highway maintenance workers	39.1	7.2	45.9	54.1	7.0	46.2	6.0	6.0	76.3	23.7	4.5	98.6	1	1.1
Installation, maintenance, and repair occupations	16.3	1.4	34.2	65.8	1.3	52.1	2.8	2.8	50.4	49.6	2.2	95.8	4.2	0.8
Bus and truck mechanics and diesel engine specialists	35.0	8.9	61.5	38.5	8.7	50.6	10.8	10.8	62.5	37.5	6.0	96.5	-	2.8
Production occupations	22.5	1.3	18.7	81.3	2.0	10.7	1.2	1.2	48.6	51.4	1.8	69.5	30.5	1.0
Transportation and material moving occupations	18.7	1.8	6.5	93.5	0.9	10.7	1.6	1.6	13.8	86.2	1.1	84.8	15.2	1.2

<sup>[1]</sup> Standard error is less than 0.5.

<sup>[2]</sup> The standard error is not available for this estimate.

Table 3. Percentage of workers required to interact with the general public, 2021

Occupation and occupational group	Required	Not required	Standard error
All workers	78.1	21.9	0.5
Management occupations	88.6	11.4	1.0
General and operations managers	89.2	10.8	2.2
Business and financial operations occupations	79.2	20.8	2.6
Human resources specialists	87.0	13.0	5.1
Computer and mathematical occupations	51.3	48.7	3.8
Web developers	53.6	46.4	10.0
Architecture and engineering occupations	62.9	37.1	2.9
Civil engineers	77.9	22.1	7.7
Life, physical, and social science occupations	69.8	30.2	5.2
Chemists	56.9	43.1	8.1
Legal occupations	98.4	1.6	0.6
Educational instruction and library occupations	97.5	2.5	[2]
Instructional coordinators	85.7	14.3	5.9
Arts, design, entertainment, sports, and media occupations	82.9	17.1	1.8
Graphic designers	66.1	33.9	7.6
Healthcare practitioners and technical occupations	96.9	3.1	0.5
Nurse practitioners	100.0	-	[3]
Healthcare support occupations	96.4	3.6	0.6
Personal care aides	95.3	4.7	1.4
Protective service occupations	98.0	2.0	0.7
Correctional officers and jailers	93.4	6.6	2.0
Food preparation and serving related occupations	86.2	13.8	0.6
Chefs and head cooks	84.7	15.3	3.4
Building and grounds cleaning and maintenance occupations	55.5	44.5	3.3
Maids and housekeeping cleaners	79.4	20.6	3.4
Personal care and service occupations	98.4	1.6	0.7
Childcare workers	100.0	-	[3]
Sales and related occupations	99.8	[1]	[2]
Cashiers	100.0	-	[3]
Office and administrative support occupations	89.4	10.6	1.0
Office clerks, general	86.6	13.4	2.0
Construction and extraction occupations	43.7	56.3	1.4
Construction laborers	22.4	77.6	5.1
Installation, maintenance, and repair occupations	65.1	34.9	1.7
Automotive service technicians and mechanics	76.6	23.4	4.9
Production occupations	15.3	84.7	1.4
Machinists	11.6	88.4	2.8
Transportation and material moving occupations	61.1	38.9	1.4
Heavy and tractor-trailer truck drivers	82.8	17.2	5.6

<sup>[1]</sup> Estimate is less than 0.5 percent.

<sup>[2]</sup> Standard error is less than 0.5.

<sup>[3]</sup> The standard error is not available for this estimate.

Table 4. Percentage of workers exposed to the outdoors, 2021

Occupation and occupational group	Exposed	Not exposed	Standard error
All workers	33.0	67.0	0.5
Management occupations	24.0	76.0	1.2
General and operations managers	28.5	71.5	2.3
Business and financial operations occupations	8.9	91.1	1.1
Human resources specialists	2.0	98.0	0.8
Computer and mathematical occupations	1.4	98.6	0.5
Computer network support specialists	2.7	97.3	0.9
Architecture and engineering occupations	32.7	67.3	2.7
Civil engineers	83.1	16.9	6.1
Life, physical, and social science occupations	38.7	61.3	4.9
Physicists	-	100.0	[1]
Community and social service occupations	24.3	75.7	2.6
Community health workers	39.0	61.0	10.4
Educational instruction and library occupations	42.6	57.4	2.0
Instructional coordinators	4.6	95.4	2.0
Arts, design, entertainment, sports, and media occupations	30.5	69.5	2.9
News analysts, reporters, and journalists	94.1	5.9	1.7
Healthcare practitioners and technical occupations	7.8	92.2	0.7
Nurse practitioners	-	100.0	[1]
Healthcare support occupations	31.1	68.9	1.3
Personal care aides	49.8	50.2	5.3
Protective service occupations	89.1	10.9	1.1
Correctional officers and jailers	85.7	14.3	3.3
Food preparation and serving related occupations	33.5	66.5	1.2
Chefs and head cooks	10.0	90.0	3.3
Building and grounds cleaning and maintenance occupations	73.7	26.3	3.4
Maids and housekeeping cleaners	40.1	59.9	5.3
Personal care and service occupations	52.5	47.5	5.1
Childcare workers	84.9	15.1	5.0
Sales and related occupations	26.6	73.4	1.7
Cashiers	24.4	75.6	1.6
Office and administrative support occupations	5.2	94.8	0.5
Office clerks, general	5.5	94.5	2.2
Farming, fishing, and forestry occupations	85.0	15.0	6.2
Construction and extraction occupations	94.0	6.0	0.7
Electricians	94.4	5.6	1.8
Installation, maintenance, and repair occupations	82.4	17.6	1.8
Automotive service technicians and mechanics	79.4	20.6	5.3
Production occupations	11.8	88.2	1.0
Machinists	7.1	92.9	2.5
Transportation and material moving occupations	58.3	41.7	1.5
Heavy and tractor-trailer truck drivers	93.6	6.4	3.0

<sup>[1]</sup> The standard error is not available for this estimate.

Table 5. Percentage of workers with specific vocational preparation requirements, 2021

	SVP I	evel 1	SVP I	evel 2	SVP level 3		
Occupation and occupational group		onstration	demonstration	d short on, up to and 1 month	Over 1 month, up to and including 3 months		
	Estimate	Standard error	Estimate	Standard error	Estimate	Standard error	
All workers	2.8	[1]	31.0	0.5	4.6	[1]	
Healthcare support occupations	7.0	1.4	45.6	3.8	8.4	0.7	
Personal care aides	16.4	6.5	62.1	8.6	6.3	3.1	
Protective service occupations	2.8	0.5	29.6	1.9	8.3	0.9	
Correctional officers and jailers	3.5	1.4	8.0	2.5	27.9	4.1	
Security guards	1.1	[1]	59.1	4.7	5.6	1.3	
Food preparation and serving related occupations	3.7	0.6	70.8	1.1	1.8	[1]	
Cooks, fast food	-	-	86.0	4.8	-	-	
Fast food and counter workers	5.3	0.9	86.8	2.2	-	-	
Dishwashers	19.8	5.3	79.7	5.3	-	-	
Hosts and hostesses, restaurant, lounge, and coffee shop	-	-	94.1	1.3	-	-	
Building and grounds cleaning and maintenance occupations	4.7	1.1	68.6	1.3	4.5	1.4	
Janitors and cleaners	9.6	2.1	69.8	2.3	1.9	0.6	
Maids and housekeeping cleaners	-	-	91.7	2.7	-	-	
Personal care and service occupations	5.7	1.0	51.8	4.5	5.4	1.4	
Animal caretakers	-	-	84.3	3.5	-	-	
Ushers, lobby attendants, and ticket takers	-	-	86.4	6.1	-	-	
Amusement and recreation attendants	5.2	2.4	92.5	2.8	-	-	
Recreation workers	-	-	75.7	14.0	-	-	
Sales and related occupations	2.0	0.6	59.9	2.0	4.3	[1]	
Cashiers	-	-	96.6	0.7	0.6	[1]	
Counter and rental clerks	-	-	75.9	9.2	-	-	
Retail salespersons	5.4	1.9	76.1	1.6	3.2	0.5	
Office and administrative support occupations	2.0	0.5	27.9	1.0	7.3	0.7	
Hotel, motel, and resort desk clerks	-	-	67.2	10.1	14.1	6.9	
Receptionists and information clerks	2.6	0.9	57.3	3.4	5.3	1.6	
Office clerks, general	2.7	0.9	28.4	3.2	6.5	1.2	
Farming, fishing, and forestry occupations	-	-	42.5	8.7	-	-	
Construction and extraction occupations	3.5	0.8	22.3	1.7	7.6	1.4	
Construction laborers	14.8	4.6	44.6	8.0	8.6	2.4	
Installation, maintenance, and repair occupations	1.5	0.7	10.3	1.6	4.6	0.8	
Tire repairers and changers	-	-	75.8	10.1	-	-	
Production occupations	2.2	0.6	34.2	1.5	11.3	1.6	
Laundry and dry-cleaning workers	-	-	91.1	5.1	-	-	
Helpersproduction workers	-	-	87.1	5.4	-	-	
Transportation and material moving occupations	7.7	0.9	55.4	2.1	7.1	0.7	
Driver/sales workers	-	-	80.9	5.1	-	-	
Bus drivers, school	8.6	1.9	78.8	4.3	6.8	3.0	
Cleaners of vehicles and equipment	12.5	5.8	78.8	6.8	-	-	
Laborers and freight, stock, and material movers, hand	15.8	1.8	67.5	2.4	4.9	1.0	
Packers and packagers, hand	14.2	5.1	77.1	3.7	-	-	
Stockers and order fillers	3.7	1.6	81.7	4.3	4.2	1.0	

<sup>[1]</sup> Standard error is less than 0.5.