

New Monthly Enterprises Survey

Issue 12. (04.2023)
Ukrainian Business in Wartime

Project implementation:

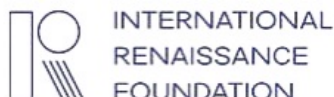


Institute for Economic Research and Policy Consulting

Financial support:



The project is implemented with the financial support of the European Union



International Renaissance Foundation



Atlas Network

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The publication was prepared as part of the project "For Fair and Transparent Customs", funded by the European Union and co-financed by the International Renaissance Foundation, and the ATLAS Network (USA). Its content is the responsibility of the Institute for Economic Research and Policy Consulting and does not necessarily represent the position of the European Union, the Renaissance Foundation, or the ATLAS Network.

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ABOUT THE NEW MONTHLY ENTERPRISES SURVEY “UKRAINIAN BUSINESS IN WARTIME”

Dear ladies and gentlemen, we present you with the **twelfth issue** of the business managers’ monthly survey “Ukrainian Business in Wartime.”

The need for comprehensive information on the economic situation is crucial for economic policy in wartime. The Institute for Economic Research and Policy Consulting conducts a monthly enterprise survey using the Business Tendency Survey approach to quickly collect information on the current economic state at the enterprise level. The methodology is designed to assess the situation from the “base level”: the judgments and expectations of key economic agents such as entrepreneurs and business managers.

The monthly survey consists of two parts: the regular one and the special one.

Respondents will regularly answer questions on the changes in key activity indicators and short-term forecasts for future changes in the same indicators. This entails the dynamics of output (production), sales, exports, debt, new orders, employment, etc. We will also focus on estimates and expectations of the changes in the business climate and business activity at the enterprise in the next six months. This part of the survey applies the business tendency survey methodology, harmonized according to the Joint Harmonized EU Program of Business and Consumer Surveys (BCS) requirements. Where applicable, we will use comparisons with the data from the quarterly business survey “Business Opinion” that have been conducted since 1998.

The special part of the monthly enterprise survey is devoted to the war's impact on the production activity of enterprises and exports and the assessment of government policy on business support. The industry dimension in data analysis is used in the issue. In this issue, a new section of the special part is devoted to the innovations.

The monthly survey of business managers is a part of a change in the activities of the project “For Fair and Transparent Customs”, funded by the European Union and co-financed by the International Renaissance Foundation, and the ATLAS Network (USA). Monthly trends will be presented in reports such as this one. Quarterly trends will continue to be published in the “Business Survey: Industry” reports, which have been published by the IER since July 2002.

We are grateful to the analytical system YouControl (<https://youcontrol.com.ua/>) for the opportunity to use the data to form a panel sample.

Content

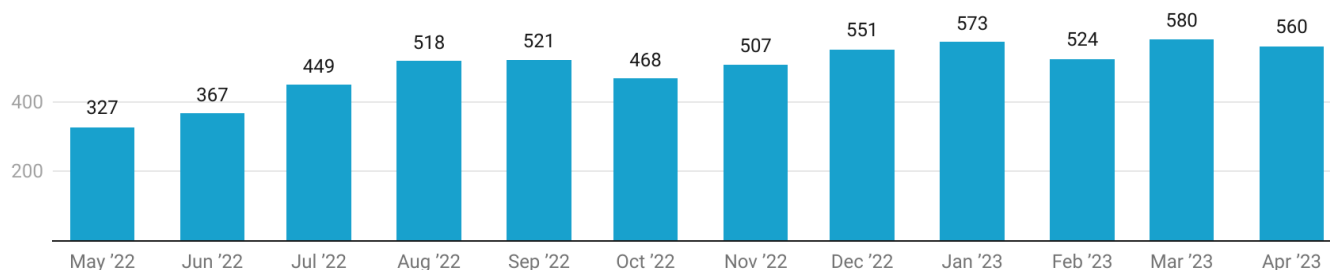
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PRACTICAL QUESTIONS AND ANSWERS TO HELP TO READ THIS REPORT

Who do we survey? This survey uses a panel sample; that means we survey the same business entities. Building such a sample takes time. During the twelfth wave of the survey, the answers of 560 respondents were received.

Fig. 1 Number of enterprises surveyed



They include mainly industrial enterprises (93%) located in 21 of the 27 regions of Ukraine: Vinnytsya, Volyn, Dnipropetrovsk, Zhytomyr, Zakarpattia, Zaporizhzhya, Ivano-Frankivsk, Kyiv, Kirovohrad, Lviv, Odesa, Poltava, Rivne, Sumy, Ternopil, Khmelnytsky, Cherkasy, Chernivtsi, Chernihiv and Kharkiv regions and in the Kyiv city. Enterprises of all sizes in terms of the number of workers are represented among the respondents.

Fig. 2 Number of enterprises surveyed by size

	Jul.22	Aug.22	Sep.22	Oct.22	Nov.22	Dec.22	Jan.23	Feb.23	Mar.23	Apr.23
Micro	50	64	55	49	53	58	67	59	64	57
Small	128	142	138	133	138	156	161	158	189	180
Medium	169	183	191	172	203	214	212	190	208	214
Large	102	129	137	114	113	123	133	117	119	109

How do we collect data? Data was collected using a combination of several data collection methods: telephone interviews of business representatives filling out their responses into an online check-list, and, in some cases, self-completion of the online check-list by representatives of enterprises who expressed their desire during the previous telephone contact to enter data into the online check-list themselves.

How are our indices calculated? All indices are calculated according to a single methodology. We count responses as +1 when the company responds that the rate has increased, 0 if it has not changed, and -1 if it has decreased. For example, if out of 100 respondents, 20 indicated an increase in production, 50 respondents reported its reduction, and 30 said that everything remained unchanged, the corresponding value of the index will be -0.30. A positive (negative) index value means that the share of enterprises where production has increased is larger (smaller) than the number of those where production has decreased. Each index bigger than +0.05 or less than -0.05 is statistically significant, and different from zero with a 5% error probability.

How to "read" our indicators? Our indicators are called "indices," which is a synonym of the term "balance index" or "balance indicator." All indices are the difference between the shares of respondents who reported a decrease and those who reported an increase in the indicator. The bigger the index value, the bigger the rate of indicator growth; the smaller the index value, the bigger the rate of indicator decline. For most indicators, a higher value of the index means a positive trend, except for indicators of debts, the number of workers on forced leave, and difficulties in finding personnel. Everything is the opposite here. The larger the index, the greater the rate of debt growth or the increase in the number of people on forced leave and hardships (this is bad), the smaller the index, the greater the rate of debt reduction, the decrease in the number of people on forced leave or hardships (this is good).

When the survey was conducted? The field stage of the twelfth wave lasted from April 17 to 30, 2023. The enterprises' managers compared the results of work in April 2023 with March 2023, assessed the state of the

indicators at the time of the survey (April 2023), and gave forecasts for the next two, three, or six months, depending on the question. For some questions (where it was indicated), the results of the work were compared to ones in the pre-war period (before February 24, 2022). Respondents gave forecasts for the next three months of work.

MAIN RESULTS

In April, enterprises showed their best results for the entire survey period and remained optimistic (albeit somewhat less than before) about the near future. The importance of "unsafe to work" as an obstacle to doing business has decreased. Assessments of the current situation in the country and the business activity at the enterprise have increased, and expectations, while remaining high, have become somewhat more restrained than a month ago. The dynamics of production indicators were the best for the entire survey period. Uncertainty over the six- and three-month horizons continues to decrease (excluding exports and employment). But the longer-term future remains unclear for business: uncertainty over the two-year horizon is high and increased slightly in April compared to May 2023. At the same time, the enterprises' plans for the next two years remain cautiously positive, and short-term expectations, although reduced, remain very optimistic.

OVERALL INDICATORS OF BUSINESS CLIMATE AND ECONOMIC ENVIRONMENT

- In April 2023, compared to March, the CURRENT BUSINESS ACTIVITY AT THE ENTERPRISE INDEX increased from -0.10 to -0.02.
- In April, compared to March, enterprises' expectations regarding changes in business activity in the six-month horizon slightly decreased, from 0.48 to 0.46, after increasing for four months in a row.
- In April, the value of the OVERALL ECONOMIC ENVIRONMENT INDEX increased less significantly than the estimates of the business activity: from -0.10 to -0.07.
- Expectations regarding changes in the overall economic environment in half a year, and forecasts regarding business activity, have also decreased. The index of expected changes in the overall economic environment decreased from 0.50 to 0.43.
- At the same time, the two-year expectations regarding the prospects for the expansion of business activity remained unchanged. The value of THE INDEX OF THE EXPECTED CHANGES IN BUSINESS ACTIVITY in two years in April, as in March, is 0.23.
- The level of uncertainty in the two-year horizon has remained unchanged for the fourth month, and for the six-month and three-month horizons, the decrease has been recorded for several months in a row.

PRODUCTION

- In April 2023, the PRODUCTION INDEX increased from 0.18 to 0.24; it happened due to a decrease in the share of enterprises where production was reduced and a simultaneous increase in the share of enterprises where production volumes increased.
- Business expectations for the next three months remain high, but there is a downward trend after rising for four consecutive months. The INDEX OF EXPECTED CHANGES IN PRODUCTION VOLUMES decreased from 0.58 to 0.45.

DEMAND AND SALES

- The sales growth rate and increase in the number of new orders accelerated. The SALES INDEX increased from 0.18 in March to 0.23 in April, and the NEW ORDERS INDEX increased from 0.20 to 0.23.
- The expectations of enterprises regarding demand for the next three months remain high, but there is a trend to decrease them (similarly to production). The values of the INDEX OF EXPECTED CHANGES IN SALES and the INDEX OF EXPECTED CHANGES IN NEW ORDERS decreased, respectively, from 0.59 to 0.46 and from 0.59 to 0.45.

DEBTS

- In April compared to March 2023, there were no significant changes in the current indicators of debts. The value of accounts receivable is -0.20 (was -0.22), and the indicator of account payables is -0.24 (was -0.25). The indicator of tax arrears is -0.26 (for two months in a row, it was -0.29).
- In the three-month horizon, no significant changes are expected, although the indicators have slightly decreased. The INDEX OF EXPECTED CHANGES IN ACCOUNTS RECEIVABLES decreased from -0.28 to -0.32. The INDEX

OF EXPECTED CHANGES IN ACCOUNT PAYABLES also decreased slightly, from -0.31 to -0.33, as did the indicator of tax arrears, which decreased from -0.28 to -0.30.

EMPLOYMENT

- The employment reduction rate at enterprises remained unchanged; the NUMBER OF WORKERS INDEX is -0.07 (it was -0.06 in March).
- In the next three months, companies do not expect significant changes; the INDEX OF EXPECTED CHANGES decreased insignificantly, from 0.06 to 0.04.
- The trend to reduce the number of workers on forced leave continues to gradually accelerate. The value of the corresponding index decreased in February compared to March, from -0.19 to -0.23; in the three months, enterprises do not expect any changes (as in March, in April, the corresponding index is -0.26).
- After a significant decrease in the difficulty of finding workers of various qualifications in March, the indicator increased in April. The value of the corresponding index for skilled workers increased from 0.14 to 0.25, and the difficulty of finding unskilled workers increased from 0.06 to 0.11.

AVAILABILITY OF ORDERS

- In April 2023, enterprises were provided with orders for an average of 3 months (median). It is the same as in January-March 2023.
- The percentage of those who do not have orders for more than one month decreased (from 10% in March to 8% in April).

OBSTACLES TO DOING BUSINESS IN WARTIME

- In April 2023, rising prices for raw materials and goods remained at the top of the list of war-related business obstacles.
- The importance of power, water, or heat supply cuts as an obstacle decreased in April and moved from second to sixth place on the list.
- Difficulties transporting raw materials have moved into second place, although the absolute magnitude of this obstacle remains unchanged.
- Businesses were slightly safer in April, with the percentage of respondents saying it was unsafe to work continued to decline (this survey wave ended before Russia activated missile strikes in late April to May 2023).
- In April, among the obstacles to the growth of production, analyzed using the list of obstacles of the long-term survey "Business Tendency Survey", which IER had conducted until 2021, the unfavorable political situation was most often mentioned.
- The importance of an unfavorable regulatory climate in this list of obstacles has decreased compared to 2021 due to a decrease in the importance of all three components: high regulatory pressure, taxes, and corruption.

PRODUCTION CAPACITIES DURING THE WAR PERIOD

- In April 2023, enterprises accelerated the recovery of production. The highest level of production capacity utilization was recorded during the entire period of the survey. The combined share of businesses operating at near full and full capacity reached 58%. It is the highest figure for all survey waves (49% in February and 52% in March).
- Despite the challenges of the war, only 3% of surveyed enterprises reported that they stopped their activities during the war. Also, only 2% of enterprises operate at less than 25% of pre-war production volumes.
- Medium-sized businesses are the best at maintaining production at near full and full capacity compared to the pre-war period at 68% in April (61% in March and 58% in February), the highest since the survey began.

- The food industry remains a leader in industrial recovery. In April, 73% of food industry companies were operating at near full or full capacity, the highest figure for the industry over the observation period (compared to 66% in March and February, and 62% in January). A record corresponding indicator was also recorded in the light industry: 65%.
- Capacity utilization increased in most industries. However, the situation remains difficult in metallurgy and metalworking, where only 20% of enterprises are operating at almost full and full capacity (22% in March).

POWER CUTS EFFECT

- In March 2023, power cuts stopped being a problem for almost all enterprises. For example, in March, only about 5% of enterprises temporarily suspended work due to power outages (28% in February and 73% in January).
- 95% of enterprises did not face cuts (39% in February and 14% in January). Another 30% of businesses worked all the time, even if there were power outages (14% in January and 33% in February).
- As in February, in March, there were almost no enterprises with the most critical losses (more than half of working hours), although there were 5% of such enterprises in January, 11% in December, and 6% in November.
- On average, businesses lost only 2% of total work hours due to power cuts in February, which is the best figure compared to previous months (6% in February, 15% in January, 23% in December, and 21% in November).
- The situation has almost leveled off for enterprises of different sizes. Micro-enterprises lost an average of 3% of working hours in March, small enterprises - 4%, medium-sized enterprises - 1%, and large enterprises - 3%.
- Time losses are almost none in the woodworking industry, construction materials production, and metallurgy. At the same time, the highest losses are in light (7%) and printing (5%) industries.

EXPORTING ENTERPRISES

- In April, 64% of respondents reported that they were exporters before the war, continued or started exporting during the war for the first time.
- Most businesses managed to establish exports in wartime conditions. 84% of respondents indicated that they exported before the war, and also continued to export during the last 12 months (87% as of March).
- Some businesses cannot overcome new challenges for export activities. 16% of enterprises exported before the war started. But could not resume exports during the last 12 months.
- Only a small share of enterprises was able to start exporting for the first time. 1% of enterprises started exporting for the first time precisely during the war (during the last 12 months).
- Among micro-businesses, 44% of enterprises exported before the war but had no export activity during the last 12 months.
- The most difficult situation is the restoration of exports in the construction materials production sector. For example, 50% of the industry's enterprises exported before the war but had no exports in the last 12 months.
- The best situation was in the woodworking industry, where only 5% of enterprises had no exports during the last 12 months.
- Export recovery continued in April. The value of the export index increased from 0.09 to 0.11. The share of enterprises with reduced export volumes remained almost unchanged (17.9% in April against 16.9% in March), while the share of enterprises with increased export volumes increased from 22.3% to 24.5%.
- Entrepreneurs expect further acceleration of export growth rates for the next three months. However, the INDEX OF EXPECTED CHANGES IN EXPORTS decreased significantly from 0.49 to 0.37. In particular, the share of enterprises that plan to increase exports decreased from 48.5% to 39.6%.

ENTERPRISES' INNOVATIVE ACTIVITIES

- For most enterprises, the introduction of innovations is relevant to varying degrees. 23% of enterprises indicate that the innovation introduction is very important; it is their work priority. For 46% of enterprises, innovations are relevant in the case of certain (competitive) situations.
- The relevance of innovation increases with the size of the enterprise: the introduction of new products and processes is a priority for 8% of micro and 38% of large enterprises.
- The full-scale war forced many enterprises to reduce expenses on innovative activities (introduction of technologically new and/or technologically improved products, production processes). For example, 42% of enterprises reported they reduced expenses, while only 19% of companies increased expenses on innovative activities.
- Almost three-quarters (73%) of enterprises indicate that special long-term support programs at the industry level are necessary to stimulate innovative activity.
- Many enterprises need fiscal incentives (41%), measures that would help establish business contacts with relevant innovators (32%), and train relevant specialists (32%).

GOVERNMENT POLICY

- In April 2023, the share of positive assessments of state policy regarding business support decreased for the second month and amounted to 13%, while the percentage of negative assessments did not change: 11%.
- As before, businesses mostly neutrally assessed government policy on business support: 61% of respondents.

INDICATORS AND EXPECTATIONS FOR THE HALF-YEAR PERIOD

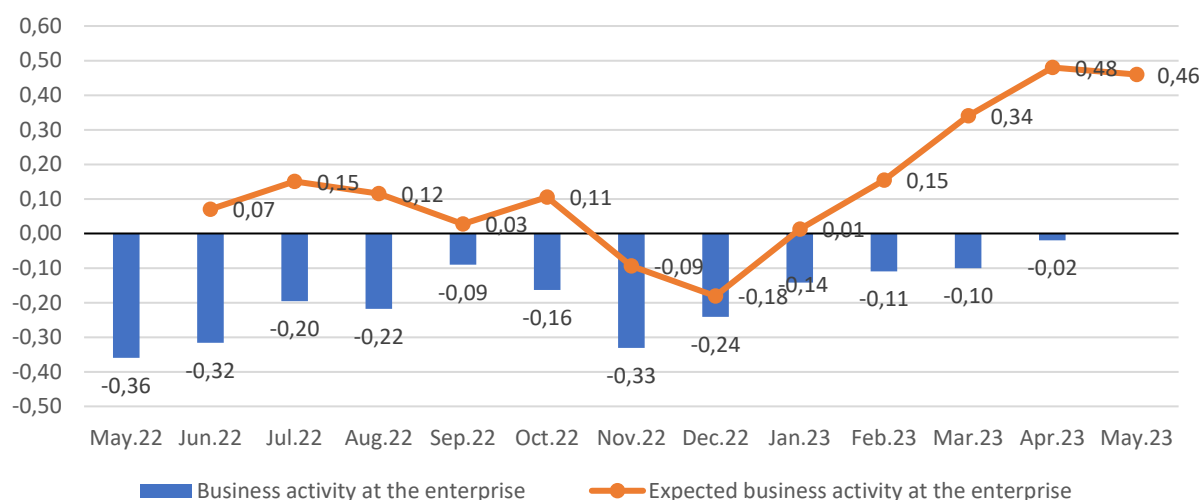
BUSINESS ACTIVITY AT THE ENTERPRISE

In April 2023, the trend to improve the current indicators is maintained. In April, compared to March, the value of the current BUSINESS ACTIVITY INDEX increased from -0.10 to -0.02. The share of respondents who assessed the current financial and economic situation at the enterprise as bad decreased from 21.1% to 13.0%. At the same time, the share of those who positively assessed the business activity at the enterprise remained almost unchanged and amounted to 7.8% (there were 7.3%). The share of respondents who consider the financial and economic situation at the enterprise to be satisfactory increased from 71.6% to 79.2%.

Expectations for the six months slightly decreased after improving for four consecutive months; the INDEX OF EXPECTED CHANGES IN BUSINESS ACTIVITY decreased from 0.48 to 0.46, although this is not a statistically significant change. The share of "pessimists" decreased from 5.4% to 3.2%, and the share of "optimists" decreased from 52.2% to 50.1%. The share of those who do not expect any changes increased from 42.4% to 46.6%.

The share of respondents who could not give a forecast regarding changes in the business activity at the enterprise for six months has been gradually decreasing for several months in a row and is 20.7% (It was 22.6%).

Fig.3. Business activity at the enterprise, indices



BUSINESS ACTIVITY AT THE ENTERPRISE COMPARED TO A SIMILAR PERIOD OF THE LAST YEAR

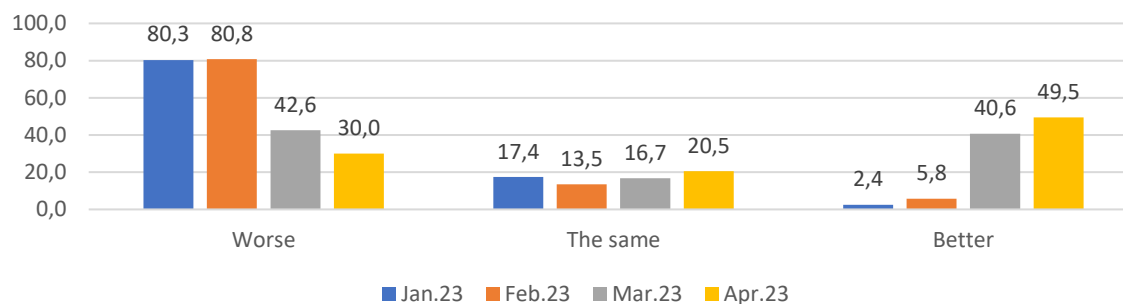
A comparison of the business activity at the enterprise with the same period last year shows further improvement in the situation. The value of the CURRENT BUSINESS ACTIVITY INDEX (YEAR TO YEAR) increased in April from 0.02 to 0.23. It became possible due to an increase in the share of "optimists" and a decrease in the share of "pessimists." The share of respondents who indicated the worsening of the situation decreased from 42.6% to 30.0%. At the same time, the share of respondents whose business activity improved increased from 40.6% to 49.5%. At the same time, the share of those who believe nothing has changed compared to last year increased only slightly, from 16.7% to 20.5%.

Size. Business activity assessments depend on the size of the enterprise. Compared to last year, large enterprises feel the best; their indicator is 0.44. The indicator of micro (0.20) and medium (0.19) companies is approximately the same. The indicator of small enterprises is the lowest and is 0.04.

Region. Cherkasy region has the highest index (1.00), and Odesa region has the lowest index (-1.00).

Sector. The highest value of the index was recorded for the chemical industry (0.57) and construction materials production (0.38). The engineering (0.03) and food (0.07) industries have the worst indicators.

Fig.4. How do you assess the business activity at the enterprise compared to last year?, % of respondents

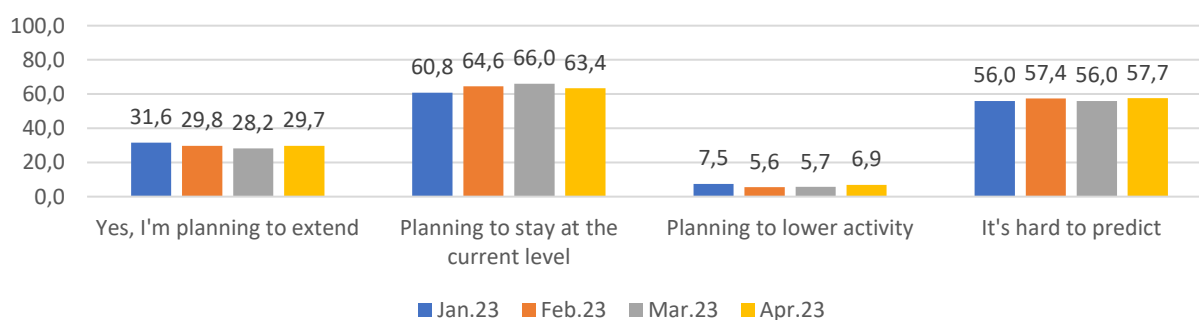


EXPANSION PLANS FOR THE NEXT TWO YEARS

Expectations regarding business activity for the next six months are still positive but unchanged. THE INDEX OF EXPECTED CHANGES IN BUSINESS ACTIVITY in two years in April, as in March, is 0.23. The percentage of those who plan to expand their activities in the next two years has hardly changed and is 29.7% (it was 28.2% in March), and the percentage of those who plan to reduce their activities in March is 6.9% (it was 5.7%). At the same time, the share of those who plan to stay at the current level slightly decreased, from 66.1% to 63.4%.

It is important to note that the percentage of those who could not give a forecast for such a long period also remains unchanged and amounts to 57.7% (it was 56%).

Fig.5. Do you plan to expand the company's activities in the next two years?, % of respondents



Size. Among enterprises of all sizes, large (0.49) and micro-enterprises (0.32) are the most optimistic about the future. The indicator of small enterprises is 0.25, and the lowest is the indicator of medium enterprises (0.07).

Region. Significant regional differences were registered. There is a group of areas with a predominance of positive expectations and, conversely, groups with negative expectations. Zaporizhzhya (1.00) and Chernihiv (0.85) regions have the highest expectations. The lowest indicator of expectations is in Dnipropetrovsk (-0.18) and Rivne (-0.13) regions, which are the only ones with a negative value.

Sector. Expectations vary by industry. Metalworking (0.36) and woodworking (0.29) industries have the highest expectations. The indicator for construction materials production is the only one with a negative value (-0.13).

OVERALL ECONOMIC ENVIRONMENT

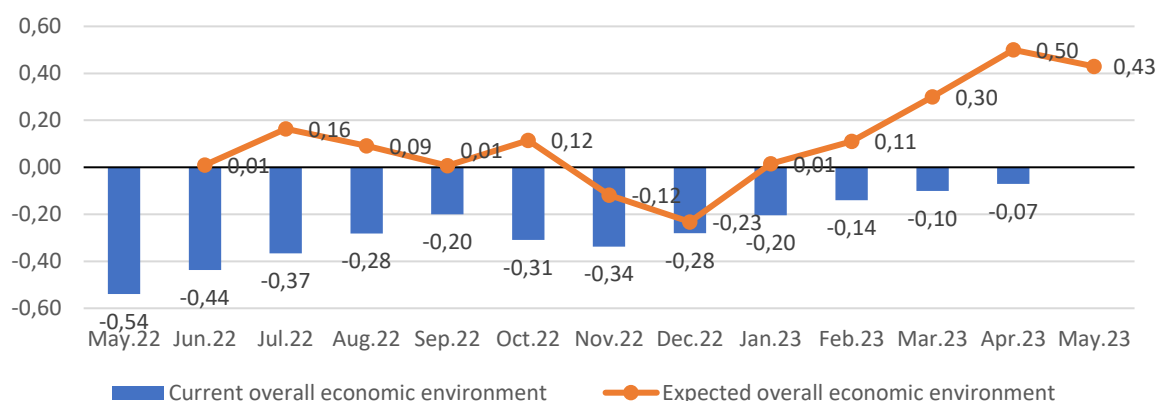
The assessment of the overall economic environment continued to improve. The value of the corresponding INDEX increased in April compared to March from -0.10 to -0.07. The share of those who assess the overall economic environment as bad decreased from 22.2% to 17.8%, while the share of those who give positive assessments remained almost unchanged at 6.9% (from 7.4%). The share of those who consider the overall economic environment satisfactory increased from 70.4% to 75.3%.

Enterprise forecasts regarding changes in the overall economic environment for the next six months have worsened: the INDEX OF EXPECTED CHANGES IN THE OVERALL ECONOMIC ENVIRONMENT decreased from 0.50 to 0.43. The

share of "optimists" regarding changes in the overall economic environment decreased significantly, from 53.4% to 46.9%, while the share of "pessimists" remained almost unchanged at 3.9% (it was 4.3%). The share of those who believe the overall economic environment will not change during the next six months increased from 42.3% to 49.3%.

The share of those who could not give forecasts regarding the overall economic environment decreased from 25.0% to 23.4%.

Fig.6. Overall economic environment, indices

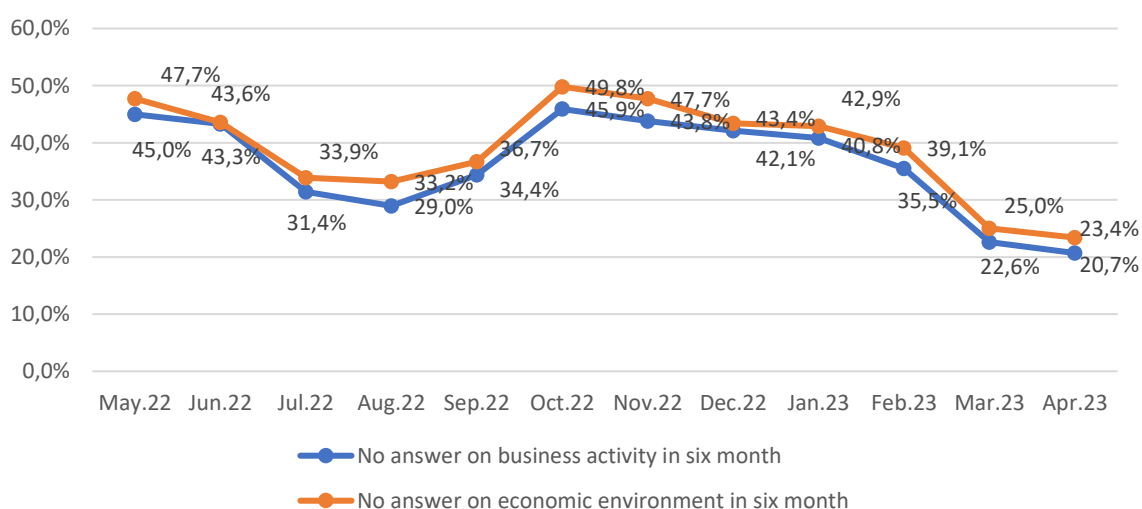


UNCERTAINTY

Half-year expectations

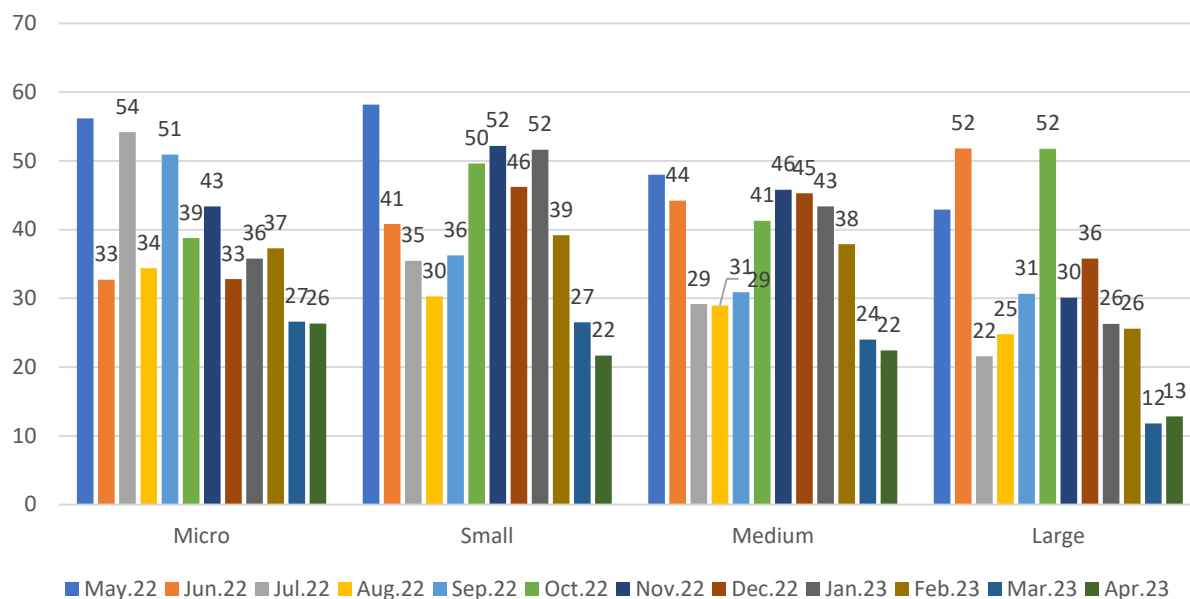
The level of uncertainty in forecasts of both the business activity at the enterprise and the overall economic environment continues to decrease for several months in a row. The share of respondents who could not give a forecast regarding changes in the business activity at the enterprise in six months decreased from 22.6% to 20.7%, and the overall economic environment in the country as a whole - from 25.0% to 23.4%.

Fig.7. The level of the business activity and the overall economic environment uncertainty, % of respondents



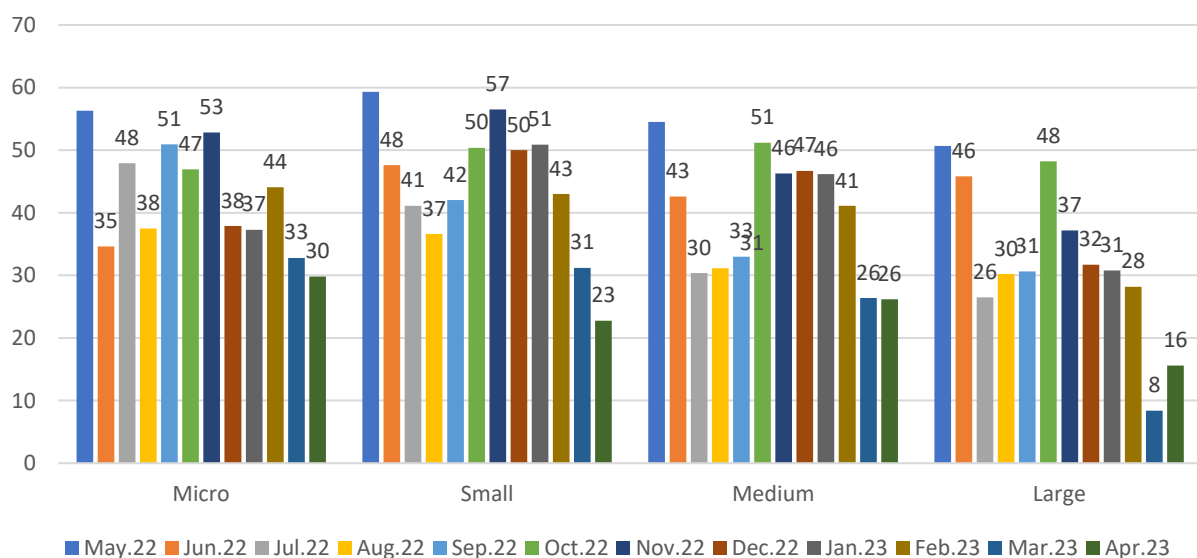
The level of uncertainty regarding the business activity at the enterprise and its dynamics depends on the size of the enterprise. In April, the uncertainty indicator decreased the most for small businesses (from 27% to 22%). At the same time, indicators of micro (26% in April versus 27% in March) and medium (22% in April versus 24% in March) enterprises remained unchanged. The indicator of large enterprises also remained almost unchanged, although it is the only one that slightly increased (from 12% to 13%, which is not a statistically significant change).

Fig.8. The share of respondents unable to answer the question about the change in the business activity in six months



Uncertainty about the overall economic environment, as in the case of business activity, depends on the size of the enterprise. In April, the uncertainty index decreased for micro (from 33% to 30%) and small (from 31% to 23%) enterprises. For medium-sized enterprises, the indicator remained unchanged at 26%. The indicator of large enterprises is the only one where a percentage increase from 8% to 16% was recorded.

Fig.9. The share of respondents unable to answer the question regarding the change in the overall economic environment in the six months



Three-month expectations

In the three-month, there is also a gradual decrease in uncertainty for all production indicators. Uncertainty indicators remain the highest for debts. The percentage for receivables decreased slightly from 17.4% to 16.4%, and the level of uncertainty for payables remained unchanged (16.3% vs. 16.7%). The level of uncertainty for tax (15.2%) arrears and for new orders (10.0%) remained unchanged. Although the level of uncertainty remained unchanged, it slightly increased for the number of workers (from 12.8% to 14.1%), for the number of workers on forced leave (from 15.3% to 15.9%), and for stocks of finished goods (from 10.0% to 10.4%).

Fig.10. The share of enterprises unable to forecast the change of the indicator in three months, % of respondents

	May.22	Jun.22	Jul.22	Aug.22	Sep.22	Oct.22	Nov.22	Dec.22	Jan.23	Feb.23	Mar.23	Apr.23
Accounts receivable	27.8	15.1	11.4	16.6	14.1	25.9	37.5	35.0	23.7	24.4	17.4	16.4
Accounts payable	26.6	15.0	11.4	16.2	14.1	25.9	36.9	35.4	23.2	23.9	16.7	16.3
Workers on forced leave	21.1	9.8	10.0	13.7	11.1	17.7	14.0	15.0	15.0	17.2	15.3	15.0
Tax arrears	0.0	13.6	12.7	14.5	12.5	24.6	35.7	33.0	22.9	21.8	15.2	15.0
Number of workers	14.7	7.6	10.7	15.6	12.9	17.5	15.0	14.0	14.0	13.4	12.8	14.1
Stocks of finished goods	25.7	11.4	10.2	13.5	12.7	23.1	13.8	13.6	13.4	11.3	10.0	10.4
New orders	19.3	9.3	11.1	15.3	14.0	17.3	14.0	13.6	12.2	11.6	10.0	10.0
Stocks of raw materials	21.4	10.6	10.9	14.1	12.7	16.0	14.0	13.6	12.4	11.6	10.5	9.8
Sales	17.4	9.3	9.4	15.1	12.1	17.3	14.0	13.6	11.3	11.5	10.2	9.3
Production	16.5	10.1	8.2	14.3	11.7	17.1	14.0	13.6	12.2	11.5	10.0	8.6
Export	19.4	13.9	6.2	13.9	12.9	15.2	11.8	13.6	8.4	7.8	6.9	7.0

ENTERPRISE PERFORMANCE INDICATORS AND SHORT-TERM EXPECTATIONS

PRODUCTION

Changes compared to the previous month

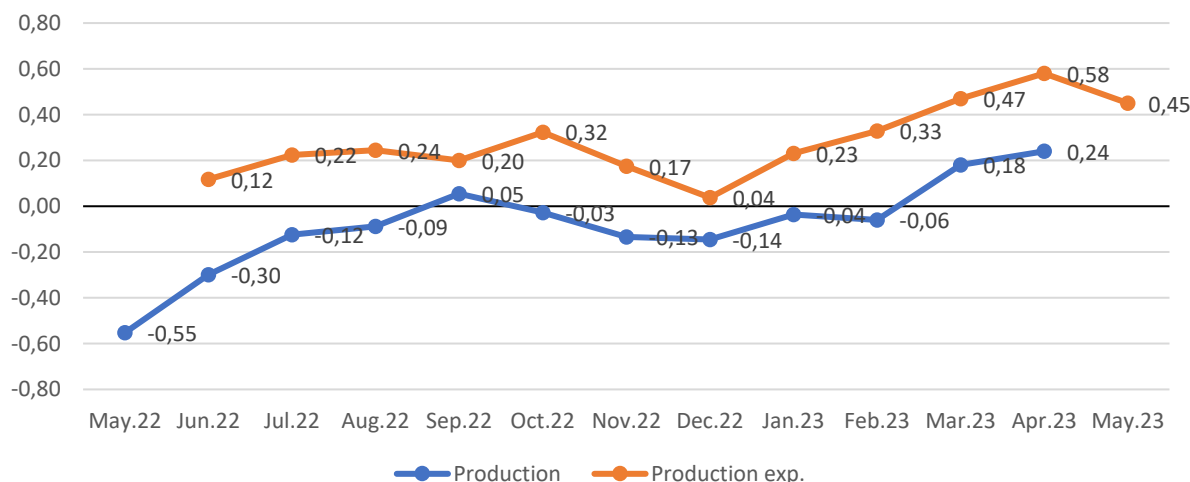
In April, compared to March, current indicators continued to improve. The PRODUCTION INDEX increased from 0.18 to 0.24. It happened due to a further **decrease** in the share of enterprises where production **decreased**, from 14.3% to 11.4%, and a simultaneous **increase** in the share of enterprises where production volumes **increased**, from 27.5% to 30.9%. At the same time, the share of industries where there were no changes changed only slightly, decreasing from 58.2% to 57.7%.

Size. A significant difference between enterprises of different sizes was recorded. Large (0.33) and medium (0.24) enterprises felt the best, for which the index is the highest. The indicator of small enterprises is 0.16. Microenterprises have the worst indicators; their index is -0.12. It is the only one with a negative value.

Region. Regional differences are significant (the largest value is 1.00, and the smallest is -0.29). The enterprises of Poltava (1.00), Ternopil (0.47), and Ivano-Frankivsk (0.44) regions achieved the best results. The lowest values of the index were recorded for enterprises of Volyn (-0.05), Kharkiv (-0.20), and Chernivtsi (-0.29) regions.

Sector. Index values vary across sectors and industries. The best situation is in the food (0.35) and woodworking (0.31) industries and in the construction materials production (0.30). The lowest value is for the woodworking industry (-0.06); it is the only indicator with a negative value.

Fig.11. Production indices



Expected changes in production

The indicator of production plans worsened after several months of growth. The INDEX OF EXPECTED CHANGES IN PRODUCTION decreased from 0.58 to 0.45. The share of enterprises planning to increase production decreased significantly, from 60.1% to 50.2%, while the share of those planning to decrease production increased from 3.8% to 6.1%. The share of those who do not expect changes increased from 36.1% to 43.8%.

Size. Production expectations depend on the size of the enterprises. The small (0.52) and medium (0.47) enterprises have the highest indicator of expectations. The indicator of large enterprises is 0.35. Micro-enterprises, whose index is 0.21, have the lowest expectations for production volumes.

Region. Enterprise plans depend significantly on the region of location. Poltava, Ternopil, and Ivano-Frankivsk (1.00 for each) regions, as well as Lviv (0.96) and Odesa (0.78) regions, have the most optimistic plans for production growth. Zaporizhzhya (-0.04) and Cherkasy (-0.14) regions have the lowest indicators of expectations.

Sector. Production expectations for three months depend on the industry. The highest indicators are for the mechanical engineering (0.59) and food (0.53) industries. The printing industry (0.25) and construction materials production (0.24) have the lowest indicators.

SALES

Changes compared to the previous month

In March, the rate of sales DECREASE slowed down. The SALES INDEX increased from 0.18 to 0.23, as did the production index. It happened due to the fact that the share of enterprises that decreased sales decreased from 15.5% to 11.6%, and at the same time, the share of enterprises that increased sales grew from 28.4% to 30.8%. The share of enterprises in which there were no changes was almost unchanged in March and amounted to 57.5% (it was 56.0% in March).

Size. The SALES INDEX of large (0.30) and medium (0.25) enterprises is higher. The indicator of medium enterprises is 0.15. Micro-enterprises have the lowest and only negative value of the index - -0.11.

Region. The highest value of the SALES INDEX was recorded for Poltava (0.94), Ternopil (0.47), and Ivano-Frankivsk (0.44) regions. The indicators of Khmelnytsky (-0.03), Volyn (-0.05), Kharkiv (-0.20), and Chernivtsi (-0.26) regions have a negative value.

Sector. The food (0.35) and chemical (0.29) industries have the highest SALES INDEX. The lowest and only negative value is for the woodworking (-0.03) industry.

Expected changes in sales

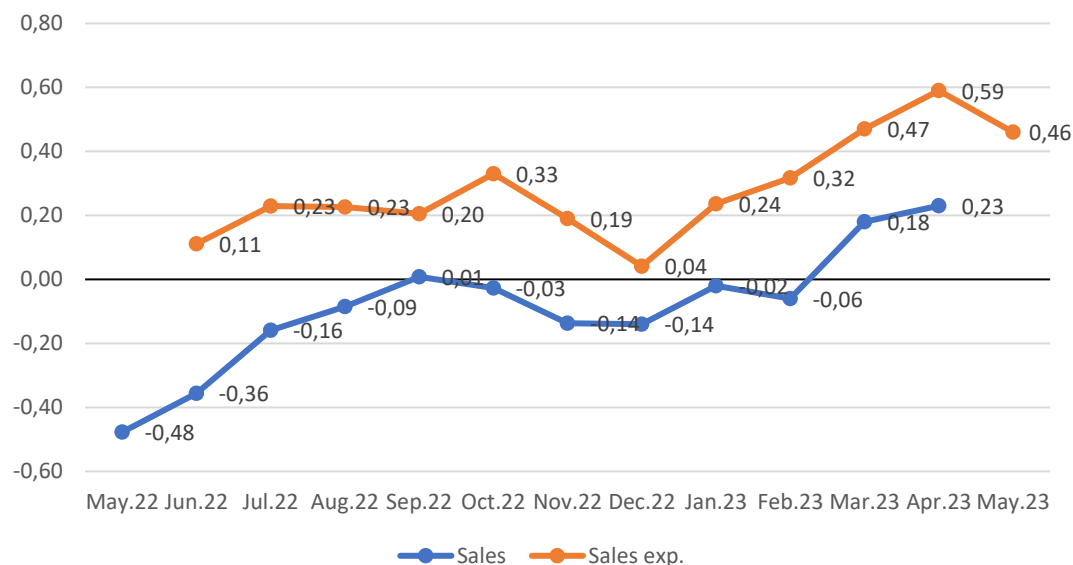
Sales expectations, as well as production expectations, worsened after several months of growth. The INDEX OF EXPECTED CHANGES in sales decreased from 0.59 to 0.46. The share of respondents who plan to increase sales volumes in the next three months decreased from 60.6% to 51.5%, while the share of those who expect them to decrease increased from 4.4% to 6.9%. At the same time, the percentage of respondents who believe nothing will change has increased from 34.9% to 41.6%.

Size. Indicators of expectations for medium (0.50) and small (0.52) enterprises are approximately the same. The indicator of large enterprises is 0.35. The indicator of micro-enterprises is the lowest and is 0.15.

Region. The best expectations were recorded in Poltava, Ternopil, and Ivano-Frankivsk regions (1.00 for each), as well as in Lviv (0.96) and Odesa (0.78) regions. Instead, the indicators for Zaporizhzhya (-0.04) and Cherkasy (-0.14) are the only ones with a negative value.

Sector. Engineering (0.61), food (0.53), and light (0.48) industries have the highest sales expectations. The indicator of expectations for construction materials production (0.24) is the lowest.

Fig.12. Sales indices



EXPORT

Changes compared to the previous month

In April, compared to March, export indicators increased slightly. The value of the EXPORT INDEX increased from 0.09 to 0.11, which is the highest indicator for the entire survey period. The share of respondents whose export volumes decreased remained almost unchanged in April and amounted to 17.9% (it was 16.9%). At the same time, the share of enterprises that increased export volumes increased from 22.3% to 24.5%. And the share of enterprises whose export volumes did not change slightly decreased, from 60.9% to 57.6%.

Size. The highest and positive values of the EXPORT INDEX are for large (0.17) and medium (0.15) enterprises. The indicator of small enterprises is -0.09. The lowest is the indicator for micro-enterprises - -0.53.

Region. Ternopil (0.89), Ivano-Frankivsk (0.67), and Lviv (0.60) regions have the highest indicators. Sumy region (-1.00) has the lowest value.

Sector. The EXPORT INDEX for the metalworking (0.31) and food (0.24) industries is the highest. The indicators of the woodworking industry (-0.11), mechanical engineering (-0.11), and printing industry (-0.17) have a negative value.

Expected changes in export

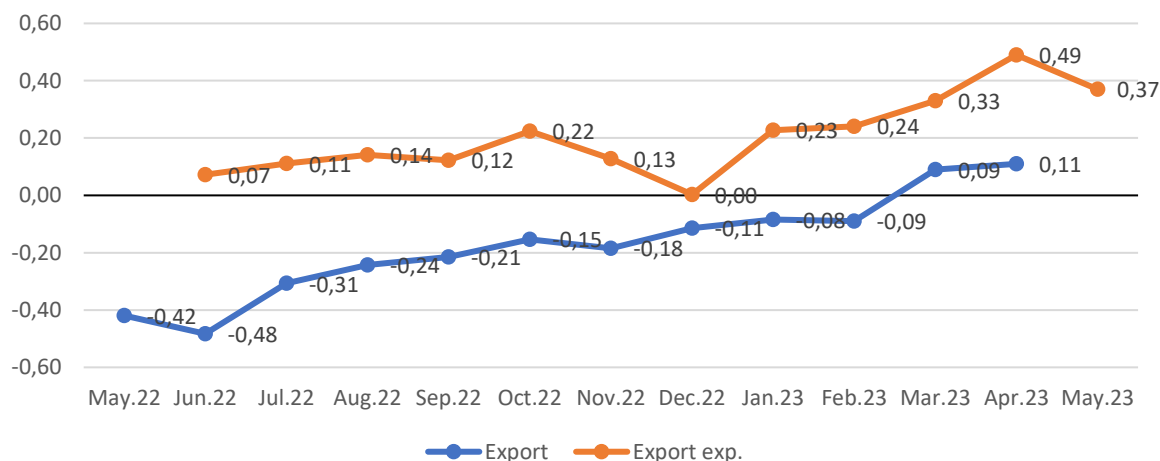
For the next three months, entrepreneurs expect a reduction in export growth rates. The INDEX OF EXPECTED CHANGES IN EXPORT decreased from 0.49 to 0.37. The share of companies planning to increase exports decreased from 48.5% to 39.6%, while the share of those planning to decrease exports increased from 3.6% to 6.2%. The share of those who do not expect any changes increased from 47.9% to 54.3%.

Size. Medium (0.42) and large (0.34) enterprises have the highest rate of export expectations. The indicator of small enterprises is 0.27. The lowest value is for micro-enterprises (0.04).

Region. The HIGHEST VALUE OF THE INDEX OF EXPECTED CHANGES was recorded for enterprises in Ivano-Frankivsk, Ternopil, and Lviv regions (1.00 for each) and Poltava region (0.87). The worst are the expectations of business representatives of Cherkasy (-0.08), Sumy, and Zaporizhzhya regions (zero for each).

Sector. The food and chemical (0.45 for each) sectors and metalworking (0.42) have the highest value of the index of expected changes in exports. The construction materials production and the printing industry have the lowest value (zero for each industry).

Fig. 1. Export indices



STOCKS OF RAW MATERIALS

Changes compared to the previous month

The reduction rate of raw material stocks has accelerated, as evidenced by the decrease in the value of the RAW MATERIALS STOCKS INDEX from 0.06 to 0.02. The share of respondents reporting an increase in raw material stocks over the past month decreased from 23.4% to 21.9%. At the same time, the share of respondents who pointed to its reduction slightly increased. The share of entrepreneurs for whom nothing has changed compared to last month is 57.0% (it was 56.5%).

Size. The RAW MATERIALS STOCKS INDEX is higher and about the same for small (0.03) and medium (0.07) enterprises. The indicator of large enterprises is -0.04. The indicator of micro-enterprises is the lowest and is -0.23.

Region. Poltava (1.00), Ternopil (0.63), and Ivano-Frankivsk (0.44) regions have the highest indicators. The indicators of Kyiv (-0.48) and Cherkasy (-0.43) regions are the lowest.

Sector. Food (0.08), engineering (0.03), and light (0.02) industries have a positive value. Indicators of other industries have a negative value, but the lowest are indicators of the chemical (-0.21) and printing (-0.23) industries.

Expected changes in stocks of raw material

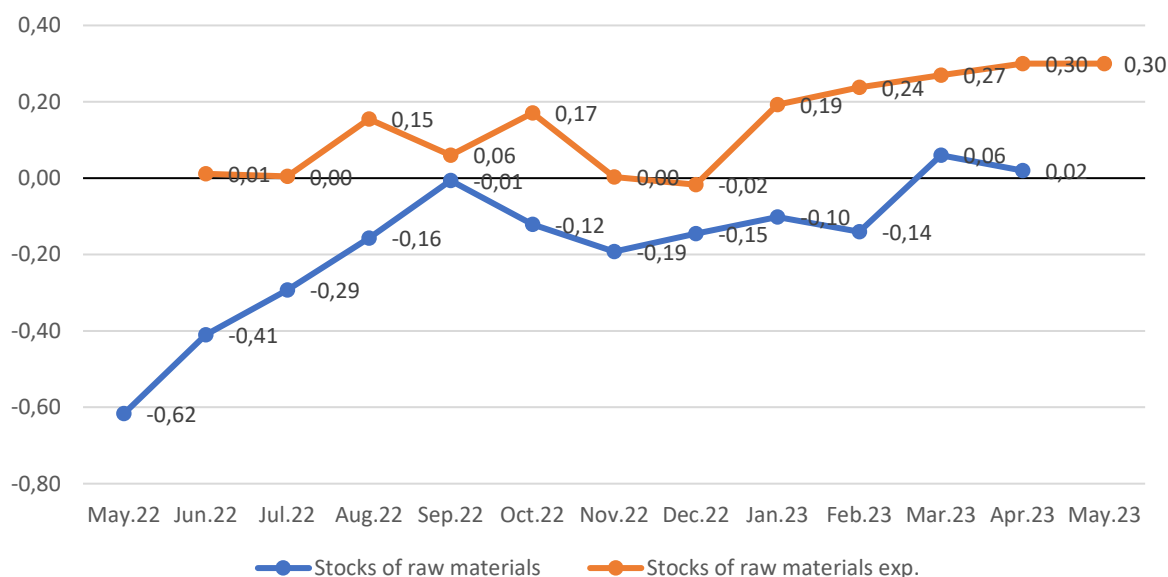
The indicator of expectations for the next three months remained unchanged: the INDEX OF EXPECTED CHANGES IN RAW MATERIAL STOCKS as last time is 0.30. At the same time, the number of respondents who expect an increase in raw material stocks decreased from 39.5% to 37.9%, while the share of those who believe that raw material stocks will decrease almost did not change and is 10.2% (as 10.6 %). The share of those who think the situation will not change has increased from 49.9% to 51.9%.

Size. The INDEX OF EXPECTED CHANGES IN RAW MATERIAL STOCKS is higher for medium-sized (0.34) enterprises, while the indicator for small (0.29) and large (0.28) enterprises is about the same. Microenterprises have the lowest and negative value of the indicator (-0.10).

Region. Poltava, Ternopil (1.00 for each), Lviv (0.96), Ivano-Frankivsk (0.89), and Odesa (0.78) regions have the HIGHEST INDEX OF EXPECTED CHANGES IN RAW MATERIAL STOCKS. The city of Kyiv (-0.47) and Cherkasy (-0.21) regions have the lowest value of the index.

Sector. The food (0.42), chemical (0.21), and metalworking (0.20) industries have the highest indicator of expectations regarding changes in raw material stocks. The woodworking industry has the lowest indicator, which is equal to zero.

Fig.14. Stocks of raw material indices



STOCKS OF FINISHED GOODS

Changes compared to the previous month

The indicator of stocks of finished goods decreased after a two-month increase. The value of the corresponding index in April compared to March decreased from -0.30 to -0.35. The share of respondents who reported a decrease in stocks of finished goods increased from 38.3% to 40.6%. And the share of respondents who reported an increase in stocks decreased from 7.3% to 5.2%. The share of respondents who did not feel any changes at all is 54.2% (it was 54.3%).

Size. The value of the index is slightly higher for large enterprises (-0.30). The indicator of medium (-0.38), small (-0.35), and micro enterprises (-0.39) is approximately the same.

Region. The value of the index depends on the region. For Kyiv city enterprises, the indicator is 0.22. The indicator of Kyiv, Chernihiv, and Poltava regions is zero. The indicators of all other regions have a negative value, but the lowest is the index of Ivano-Frankivsk and Lviv (-1.00 for each) regions.

Sector. The mechanical engineering indicator is the only one with a positive value (0.13). Indicators of the food (-0.51) and printing (-0.56) industries have the lowest value.

Expected changes in stocks of finished goods

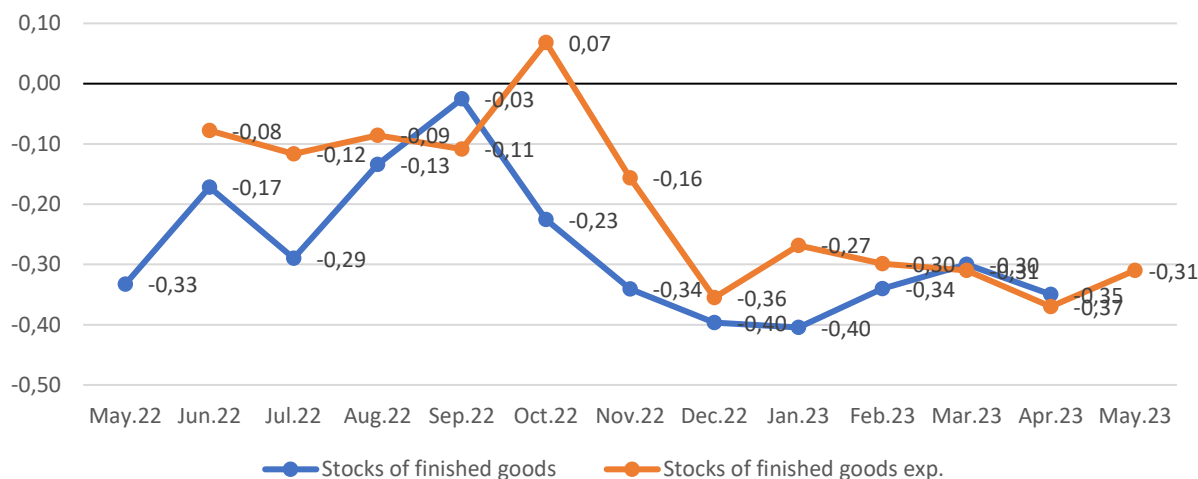
In the future, entrepreneurs expect an increase in the indicator. The INDEX OF EXPECTED CHANGES IN FINISHED GOODS stocks increased from -0.37 to -0.31. The share of respondents who believe that the stocks of finished goods will decrease in the next three months decreased from 42.7% to 37.7%, while the share of those who expect them to increase remained almost unchanged at 5.1% (it was 5.6%). The percentage of those who believe that nothing will change has increased from 51.6% to 57.3%.

Size. The value of the indicator depends on the size of the enterprise. The indicator is approximately the same for large (-0.20) and micro-enterprises (-0.26). The indicator of medium-sized enterprises is (-0.35). The value of small enterprises is the lowest (-0.40).

Region. Vinnytsya (0.29) and Kyiv (0.22) regions have the highest indicator of expectations. The indicator of the Chernihiv and Poltava regions is zero. The indicator of expectations for all other regions has a negative value and is the lowest for Ivano-Frankivsk and Lviv (-1.00 for each region).

Sector. The value of the index is the highest and the only one with a positive value for mechanical engineering (0.04). Indicators of the food industry (0.49) and printing and light industry (-0.36 for each) are the lowest.

Fig.15. Stocks of finished goods indices



NEW ORDERS

Changes compared to the previous month

The dynamics of new orders continue to improve. The NEW ORDERS INDEX in April compared to March increased, albeit slightly, from 0.20 to 0.23, which became the highest indicator for the entire survey period. The share of respondents reporting an increase in new orders increased from 29.0% to 31.1%, while the share of those reporting a decrease in new orders decreased from 14.2% to 11.5%. The share of those who did not feel any changes remained almost unchanged at 57.5% (it was 56.8%).

Size. The index value depends on the enterprise size and is the highest for large enterprises (0.32). The indicator of medium-sized enterprises is (0.22), and the indicator of small enterprises is (0.18). The indicator of micro-enterprises has a negative value and is -0.11.

Region. Among the regions, new orders grew the most in Poltava (0.88), Ternopil (0.63), and Ivano-Frankivsk (0.44) regions, while in Khmelnytskyi (-0.03), Sumy (-0.05), Kharkiv (-0.15) and Chernivtsi (-0.26) regions there was the largest decrease in new orders.

Sector. In the previous month, the situation with new orders was the best for the food industry (0.37) and construction materials production (0.30). The woodworking industry has the lowest indicator with a negative value (-0.10).

Expected changes in new orders

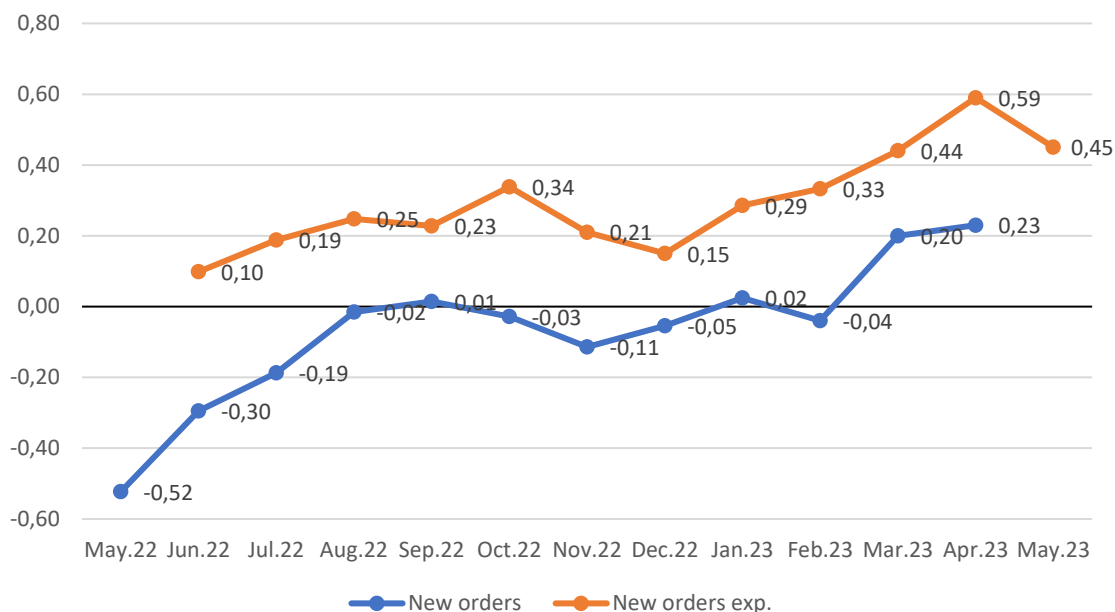
Growth in new orders is expected to slow down in the next three months. The value of the INDEX OF EXPECTED CHANGES IN NEW ORDERS decreased from 0.59 to 0.45 after several months of growth. The share of those expecting an increase in new orders decreased from 59.3% to 48.8%. At the same time, the share of respondents who believe that the number of orders will decrease increased from 3.3% to 5.2%. The share of those who do not expect any changes in the next three months increased from 37.4% to 46.0%.

Size. The indicator of expectations is the highest for small (0.52) and medium (0.47) enterprises. The indicator of large enterprises is 0.36. The indicator of expectations of micro-enterprises is the lowest and is 0.12.

Region. Index values have significant regional differences. In Poltava, Ternopil, and Ivano-Frankivsk (1.00 for each) regions, the business expects an increase in new orders to a greater extent than in other regions. However, the indicators of Zaporizhzhya (-0.04) and Cherkasy (-0.03) are the lowest.

Sector. The best expectations for new orders are in the food industry and engineering (0.54 for each industry) and light industry (0.43). The indicators of construction materials production (0.24) and metalworking (0.30) are the lowest.

Fig.16. New orders indices



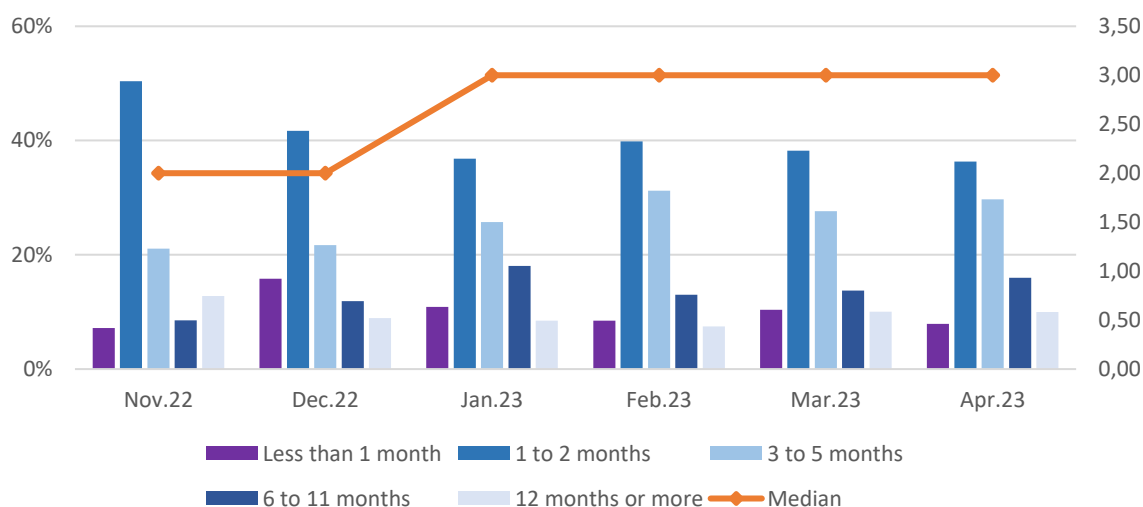
NEW ORDERS

Availability of orders

In April 2023, the average term of new order availability for surveyed enterprises was three months (median value). It is the same as in January-March 2023, but more than at the end of 2022, when the average order supply period was two months.

In April, positive changes were observed regarding the availability of orders for the medium and long term. Thus, compared to March, there were more enterprises with orders for three months or more. If, in March, this share was 51%, then in April it was 56%. Also, in April, the share of businesses with orders for only up to one month decreased slightly: to 8% from 10% in March 2023.

Fig.17. Period for which enterprises are provided with orders (% of respondents)



Size. Medium and large enterprises are provided with orders for a longer term than small and micro enterprises. Thus, the average term for order availability for medium-sized enterprises in April was three months, and for large ones - four months (median value). About a third of medium and large enterprises have orders for six

months or more. At the same time, for micro and small enterprises, the average term of providing with orders was two months, and more than half of them have orders for up to two months only.

Sector. In April 2023, the longest average term of new orders was recorded in the mechanical engineering industry: an average of four months (median). Metallurgy, chemical, food, and printing industries, are also marked by relatively longer average terms of orders: three months in each of these industries.

Instead, the shortest terms of orders - two months on average - were recorded in construction materials production and the woodworking industry. More than half of the enterprises in these industries have orders for only up to two months.

Region. There are significant differences in order availability between enterprises in different regions¹. The average term of order availability is the longest for enterprises in the Kyiv region, where on average, it was 12 months (median value). These terms are comparatively long for enterprises of Vinnytsia (8 months), Odesa (7 months), Volyn (6 months), and Poltava (5 months) regions. On the other hand, the shortest average period of orders - only one month - was recorded in the Kharkiv, Chernivtsi, and Chernihiv regions and the city of Kyiv.

ACCOUNT RECEIVABLES

Changes compared to the previous month

The receivables indicator has remained unchanged for several months in a row. The value of the ACCOUNTS RECEIVABLES INDEX in April is -0.20 (it was -0.22 in March). The share of those who reported a decrease in debt is 33.4% (it was 34.9%). And the share of those with debt increased slightly increased, from 10.8% to 12.4%. The share of those for whom nothing has changed is 54.2% (it was 54.3% last month).

Size. The situation with account receivables is about the same for medium (-0.26), small (-0.23), and micro enterprises (-0.20). The indicator of large enterprises is the highest and is -0.09.

Region. Significant regional differences in the values of this indicator were recorded. In terms of regions, the largest increase in receivables was recorded in Kyiv (0.33) and Vinnytsia (0.31) regions. The lowest is the indicator for Lviv and Ternopil (-1.00 for each) regions, Zhytomyr (-0.89) region, and Sumy and Ivano-Frankivsk regions (-0.86 for each).

Sector. Metalworking and construction materials production have the highest and positive value (0.09 for each industry). The light and food industries (-0.29 for each sector) have the lowest indicators.

Expected changes in account receivables

In the three months, entrepreneurs expect a slight improvement in the indicator. The INDEX OF EXPECTED CHANGES IN ACCOUNTS RECEIVABLES decreased from -0.28 to -0.32. The share of respondents expecting an increase in this indicator decreased from 6.2% to 4.8%, while the share of those expecting it to decrease slightly increased from 36.4% to 38.2%. The share of those who believe nothing will change is 57.0% (it was 57.4%).

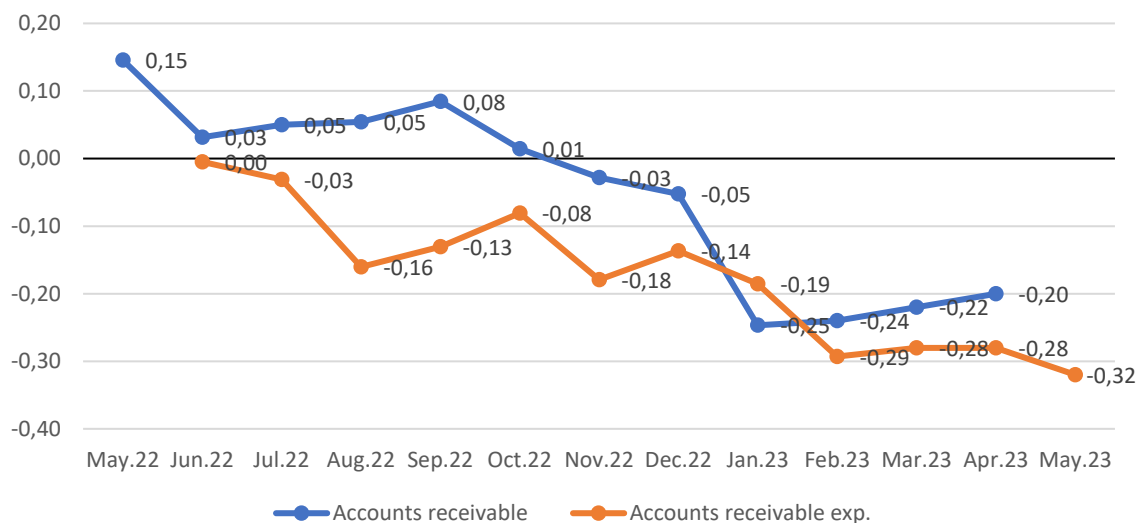
Size. The large (-0.17) and micro-enterprises (-0.20) have a higher indicator. The indicator of medium (-0.39) and small (-0.40) is much lower.

Region. Vinnytsia region (0.22) and Kyiv city (0.21) have the highest indicator values. The indicators of Sumy, Ternopil, Lviv, and Ivano-Frankivsk regions are the lowest (-1.00 for each).

Sector. The highest indicator of expectations for the increase in receivables is for mechanical engineering (0.04), which is the only one with a positive value. All other indicators have a negative value, and the lowest indicator is for the metalworking and food industries (-0.40 each).

¹ Regions in which no enterprises were surveyed are not included in the comparison. For more details, see the "Sample" section.

Fig.18. Account receivables indices



ACCOUNT PAYABLES

Changes compared to the previous month

In April, the indicator of account payables remained unchanged. The ACCOUNTS PAYABLE INDEX is -0.24 (it was -0.25). The share of respondents who reported an increase in debt increased slightly, from 6.9% to 8.3%, and the share of those for whom accounts payable decreased was 33.0% (from 34.2%). The share of those for whom nothing has changed over the past month is 58.6% (it was 59.0%).

Size. The indicator of small (-0.28) and medium (-0.31) companies is lower and better. The indicator of micro-enterprises is -0.18. Large enterprises have the highest rate of payables: -0.12.

Region. Significant regional differences were recorded. The situation with the accumulation of account payables is the worst in Vinnytsya (0.23), Zakarpattya (0.13), Chernihiv (0.12), Kirovohrad (0.11), and Kyiv (0.10) regions. The best situation is in Lviv, Sumy, and Ternopil regions (-1.00 for each).

Sector. The highest is the indicator of mechanical engineering, which is the only one with a positive value (0.13). All other indicators are negative, but the lowest values are for food (-0.34), light (-0.31), and printing (-0.33) industries.

Expected changes in account payables

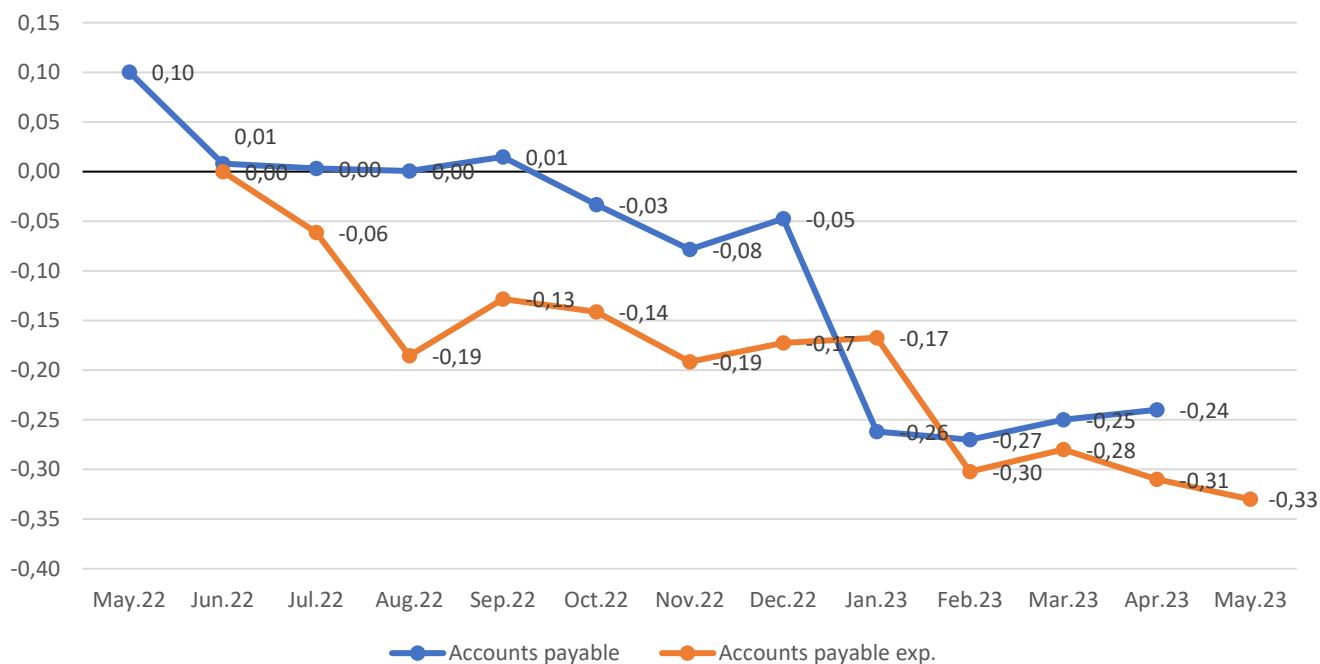
Entrepreneurs expect a slight decrease in the indicator for the next three months. The INDEX OF EXPECTED CHANGES IN ACCOUNT PAYABLES is gradually decreasing for the second month in a row and is -0.33 (it was -0.31). The share of those expecting a decrease in account payables increased slightly, from 35.4% to 36.8%, while the share of those expecting an increase in account payables decreased slightly, from 3.2% to 2.5%. The share of respondents who believe nothing will change also slightly decreased from 61.3% to 60.8%.

Size. The indicator of expected account payables is higher and approximately the same for large (-0.19) and micro-enterprises (-0.23). The indicator of medium (-0.41) and small (-0.39) enterprises is lower and significantly better.

Region. The indicator of expected account payables is positive and higher than zero for Vinnytsya (0.22), Kirovohrad (0.13) and Cherkasy (0.03) regions. The indicator of expectations for Zakarpattya, Zaporizhzhya and Poltava regions is zero. Sumy, Lviv, Ivano-Frankivsk and Ternopil regions (-1.00 for each) have the lowest indicators.

Sector. Among the industries, the indicators of mechanical engineering are the highest (-0.07). The construction materials production (-0.32), light (-0.33), and food (-0.43) industries have the lowest value.

Fig.19. Account payables indices



TAX ARREARS

Changes compared to the previous month

The tax arrears rate reduction has somewhat accelerated. The TAX ARREARS INDEX in April compared to March slightly increased, from -0.29 to -0.26. The share of enterprises that reported a decrease in tax arrears for the past month is 30.1% (it was 31.5%), and the share of respondents who indicated an increase in tax arrears increased slightly, from 0.03% to 2.7%. The share of those who believe no changes have taken place has slightly decreased, from 68.3% to 67.2%.

Size. Tax arrears indicators are the highest for large enterprises (-0.15). The indicator for micro-enterprises is (-0.21) and for medium-sized enterprises - -0.30. The lowest value is for small enterprises (-0.35).

Region. There are significant differences in the value of this indicator by region. The highest and only positive value is for the Kirovohrad region (0.07). The indicator of Kyiv, Cherkasy, Chernihiv, Poltava, Zaporizhzhya, and Zakarpattya regions is zero. The indicators of other regions have a negative value, and the lowest are the indicators of the Lviv and Ternopil regions (-1.00 for each) and the Sumy and Ivano-Frankivsk regions (-0.86 for each).

Sector. The indicator of tax arrears of mechanical engineering has the highest value which is zero. The values of the printing (-0.44) and light (-0.34) industries are the lowest.

Expected changes in tax arrears

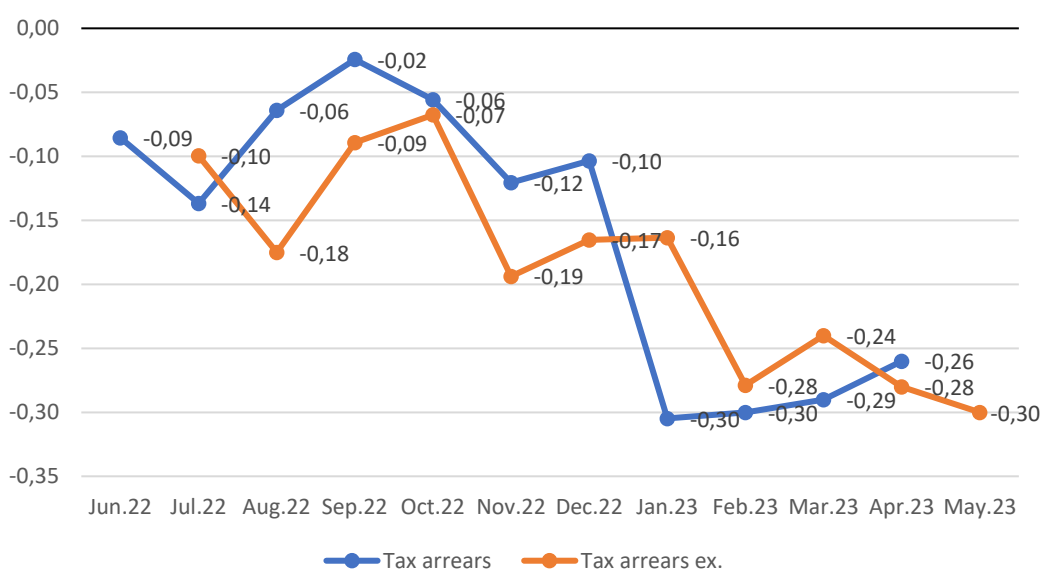
For the next three months, entrepreneurs expect a slight improvement in the indicator. The INDEX OF EXPECTED CHANGES IN TAX ARREARS decreased slightly, from -0.28 to -0.30. The share of those who predict a decrease in tax arrears increased from 30.9% to 33.2%, while the share of those who expect it to increase remained almost unchanged at 2.0% (it was 1.5%). The share of those who do not expect changes decreased from 67.6% to 64.8%.

Size. Indicators of expectations regarding tax arrears are better for small (-0.37) and medium (-0.39) enterprises. The indicator of microenterprises is -0.21. The indicator of large enterprises (-0.13) is higher and worse than others.

Region. In the regional distribution, the indicator of expectations of Vinnytsya (0.29) and Kirovohrad (0.13) regions is the highest. The indicator of the Cherkasy, Chernihiv, Poltava, Zakarpattya, and Zaporizhzhya regions is zero. The indicator of Lviv, Ivano-Frankivsk, and Ternopil regions and the city of Kyiv is the lowest (-1.00 for each).

Sector. The highest indicator of tax arrears expectations is mechanical engineering, which has a positive (0.10) value. Indicators of other industries have a negative value, but the lowest is the indicator for the printing (-0.37) and food (-0.39) industries.

Fig.20. Tax arrears indices



NUMBER OF WORKERS

Changes compared to the previous month

The rate of employment reduction has remained unchanged for several months in a row. The NUMBER OF WORKERS INDEX in April is -0.07 (it was -0.06 in March). The share of respondents who reported a decrease in the number of workers involved in all enterprise operations increased slightly, from 10.6% to 11.2%. And the share of those who indicated an increase decreased slightly from 3.1 % to 2.3%. The share of those for whom nothing has changed remained almost unchanged at 86.5% (it was 86.2%).

Size. The indicator is higher and approximately the same for medium (-0.06) and large (-0.05) enterprises. For small enterprises, the indicator is -0.10. The value of micro-enterprises is the lowest (-0.26).

Region. The indicators of Kyiv (0.10), Zaporizhzhya (0.07), Chernihiv (0.06), and Zhytomyr (0.05) regions are higher than zero. Kharkiv (-0.37) and Chernivtsi (-0.31) regions have the lowest value.

Sector. The indicator of the printing industry is the highest and is equal to zero. The indicators of metalworking (-0.24) and construction materials production (-0.19) have the lowest values.

Expected changes in the number of workers

In the next three months, entrepreneurs also do not expect significant changes in the indicator: the INDEX OF THE EXPECTED CHANGES IN NUMBER OF WORKERS, as in the previous month, decreased only slightly, from 0.06 to 0.04. Changes in the percentage distribution are insignificant. The share of respondents who believe the number of workers at the enterprise will increase decreased from 8.3% to 5.6%, and the share of those who expect a

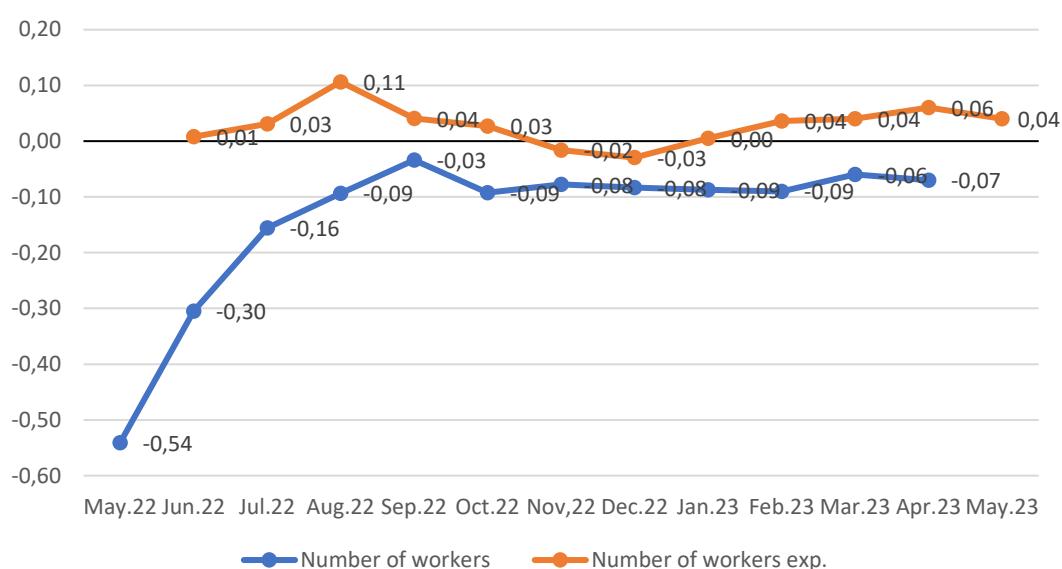
reduction in the number of workers is 3.1% (it was 3.4%). The share of those who believe that nothing will change has increased from 88.3% to 91.2%.

Size. The indicator of large enterprises (0.07) is the highest. The indicator of small (0.01) and medium (0.03) enterprises is approximately the same. The indicator of small enterprises is the only one with a negative value and is -0.08.

Region. The value of the index of expected changes in the number of workers significantly depends on the region where the enterprise is located. The highest indicator of expectations was recorded in the city of Kyiv (0.21) and Vinnytsya (0.14) region. The lowest and negative value of the indicator is for Sumy (-0.06) and Chernivtsi (-0.09) regions.

Sector. The printing (0.08) and light (0.05) industries have the highest expectations index. Construction materials production has the lowest and only negative indicator (-0.08).

Fig.21. Number of workers indices



WORKERS ON FORCED LEAVE

Changes compared to the previous month

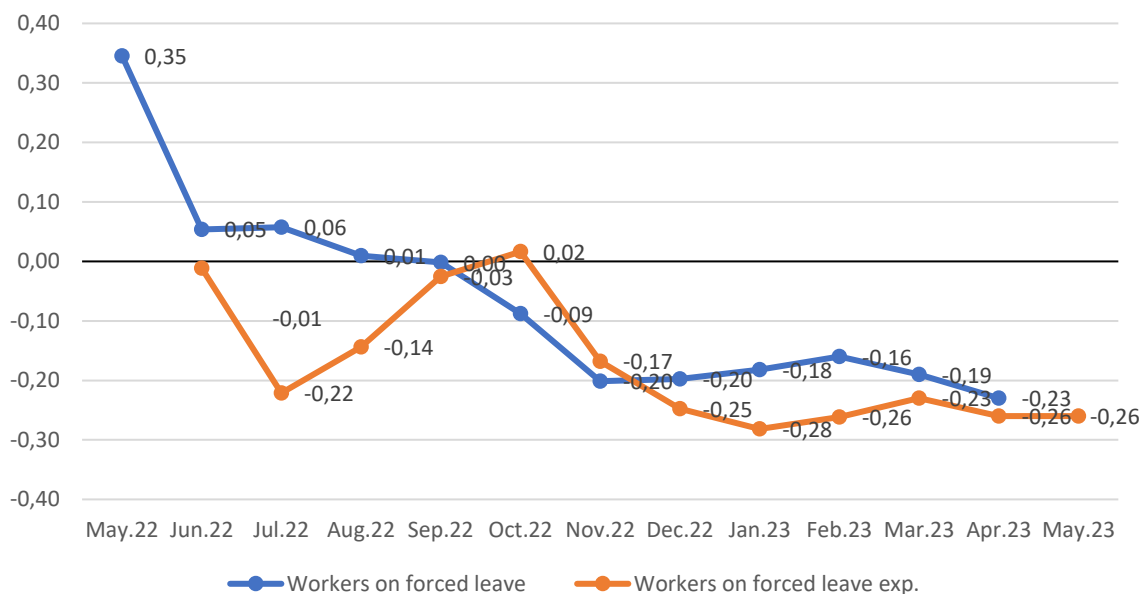
Indicators of the number of workers on forced leave remain without significant changes, although the indicator gradually decreases for the second month in a row. The INDEX OF CHANGES IN NUMBER OF WORKERS ON FORCED LEAVE in March compared to February slightly decreased, from -0.19 to -0.23. The share of business representatives who reported an increase in the number of employees on forced leave decreased from 4.7% to 2.5%, while the share of those who indicated a decrease increased slightly, from 23.9% to 25.3%. The share of those for whom the situation has not changed over the past month has slightly increased, from 71.5% to 72.2%.

Size. Microenterprises have the highest and only positive indicator, which is 0.03, while all other indicators have a negative value. The indicator of large enterprises is -0.14 and of medium-sized enterprises - -0.25. The indicator of small enterprises (-0.31) is the lowest.

Region. The growth of the indicator is observed to the greatest extent for enterprises of Khmelnytsky (0.50) and Volyn (0.02) regions, which have a positive value of the indicator, and most often, a decrease in the number of workers on forced leave is reported in Lviv and Ivano-Frankivsk regions (-1.00 for each).

Sector. Metalworking has the worst indicators in terms of the number of workers on forced leave, whose value is zero. The indicators of the food (-0.33) and printing (-0.36) sectors are the lowest.

Fig.22. Number of workers on forced leave indices



Expected change in the number of workers on forced leave

Businesses that have workers on forced leave do not expect any changes in the next three months. The INDEX OF EXPECTED CHANGES IN THE NUMBER OF WORKERS ON FORCED LEAVE is -0.26, the same as last time. The share of those enterprises in which the number of workers on forced leave is expected to increase is 0.05 (it was 0.09%). The share of those who believe that the number of such employees at their company will decrease is 27.1% (it was 27.3%). The share of those who believe there will be no changes is 72.4% (it was 71.8%).

Size. The indicator of large (-0.15) and micro-enterprises (-0.10) is higher and about the same. The indicator of medium-sized enterprises is -0.28. The indicator of small enterprises is the lowest (-0.36).

Region. The indicator of the Vinnytsya region is the only one with a positive (0.14) value. The indicators of Lviv, Ternopil and Ivano-Frankivsk regions (-1.00 for each) are the lowest.

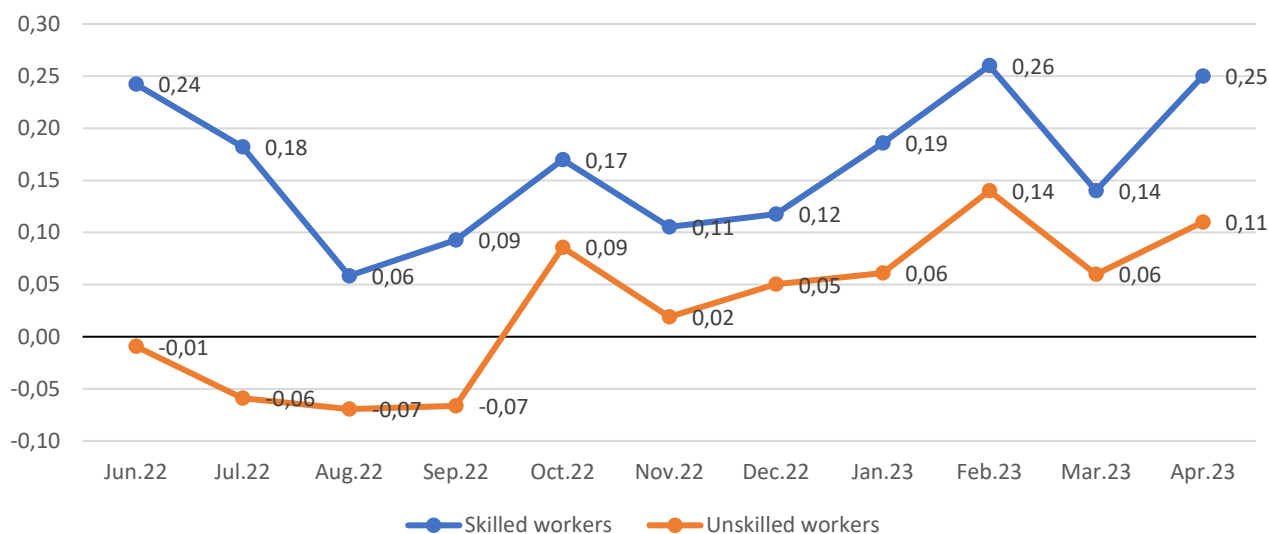
Sector. The highest indicator of expectations regarding the number of workers on forced leave is for the chemical industry (-0.12). The lowest indicator is the food industry (-0.37).

SKILLED AND UNSKILLED WORKERS

After a significant decrease in the indicator of difficulties in finding both skilled and unskilled workers in March, the indicator increased again in April. The value of the INDEX OF DIFFICULTIES IN FINDING SKILLED WORKERS increased from 0.14 to 0.25. The value of the index of difficulties in finding unskilled workers increased from 0.06 to 0.11.

The share of company managers who indicated that skilled workers are more difficult to find increased from 19.9% to 26.9%. At the same time, the share of those who find it more difficult to find unskilled workers remained almost unchanged (13.7% versus 13.3%). The percentage of those who find it easier to find skilled workers remained almost unchanged at 4.3% (it was 5.0%), while the share of those who find it easier to find unskilled workers decreased slightly, from 7.0% to 4.9%. At the same time, the share of those who do not feel any changes in the search for skilled workers decreased from 75.0% to 68.8%, and for unskilled workers, the percentage increased from 79.7% to 81.3%.

Fig.23. Skilled and unskilled workers indices



Skilled workers

Size. Depending on the size of the enterprise, the value of the index is the lowest for micro-enterprises (0.06). The indicator is approximately the same for small (0.22) and medium (0.20) ones. The highest value of the indicator is for large enterprises (0.35).

Region. Significant regional differences in the labor market were recorded. It is easiest to find unskilled workers in Odesa (-0.17), Ternopil, and Kyiv (-0.05 each) and Rivne (-0.03) regions, whose indicators have a negative value. The biggest difficulties with finding unskilled workers are in Poltava (1.00), Zhytomyr (0.91), and Dnipropetrovsk (0.85) regions.

Sector. Chemical (0.12) and woodworking (0.16) industries have fewer difficulties with finding skilled workers. It is more difficult to find skilled workers for the metalworking (0.65) and light (0.41) industries.

Unskilled workers

Size. It is easiest to find unskilled workers for micro-enterprises whose only indicator has a negative value. The indicator of small enterprises is 0.05. The value for medium (0.12) and large (0.14) enterprises is about the same.

Region. It is easiest to find unskilled workers in Sumy (-0.59), Chernivtsi (-0.12), and Kharkiv (-0.12) regions, whose indicators have a negative value. The biggest difficulties with finding unskilled workers are in Zhytomyr (0.77), Dnipropetrovsk (0.65), and Khmelnytsky (0.45) regions.

Sector. The worst indicators for finding unskilled workers are observed in the light industry (0.23) and metalworking (0.22); the lowest value is for printing, woodworking, and chemical industries, whose indicator is zero.

SPECIAL PART OF THE SURVEY

THE IMPACT OF WAR ON ENTERPRISES

Challenges for businesses in wartime

In April 2023, the ranking of obstacles to doing business related to a full-scale Russian invasion was topped by the **rising prices for raw materials and supplies**, which was named an obstacle by 68% of surveyed enterprises. This problem came out on top for the second month in a row. In March, it was reported by the same share of respondents, and it was also the most common problem for the businesses surveyed.

Difficulties transporting raw materials or goods through the territory of Ukraine took second place in the rating of obstacles. This problem affected 43% of surveyed enterprises, which also does not differ from the results of March.

The importance of **the problem of rising prices for raw materials and supplies** continued to grow gradually in April. If, at the end of 2022, it was reported by no more than 30%, then by April 2023, this share increased to 37%. As a result, this problem took third place in the rating of obstacles.

Supply chain disruptions were significantly less reported in April than just a month ago. If in March, 42% of surveyed enterprises complained about this problem, then in April - 33%. At the same time, this problem remained in fourth place among obstacles to business caused by war.

The fifth place in this rating was occupied by the problem of **labor shortage due to conscription and migration of workers**. If in January 2023 it was indicated by 22% of enterprises, then in April - already 31%. However, the lack of workers due to migration or mobilization was most often reported in May-July 2022: more than 34% of respondents.

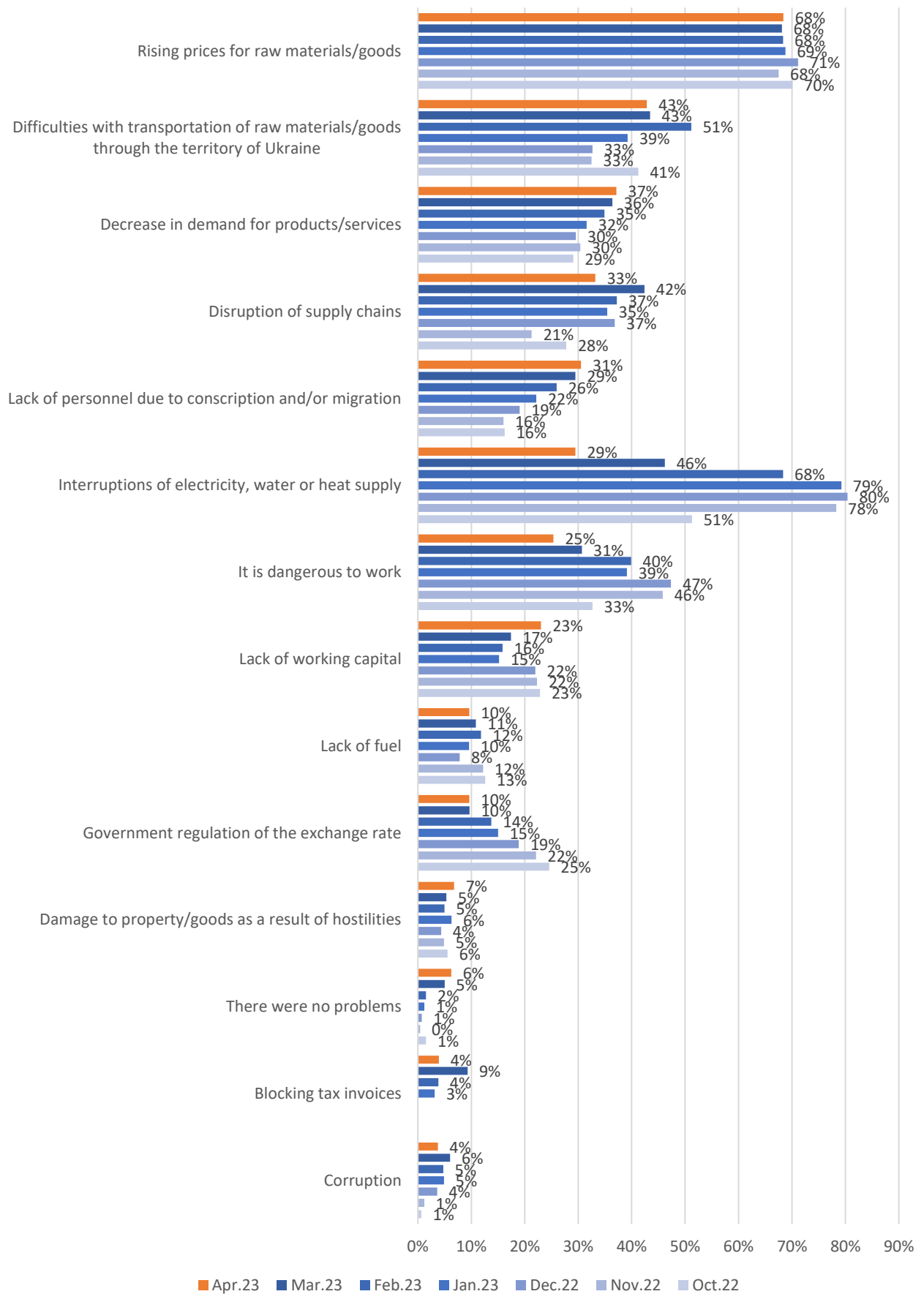
Power, water, and heat supply cuts, which topped the list of problems to doing business caused by a full-scale Russian invasion from November 2022 to February 2023, dropped to sixth place in April. The negative impact of power outages was reported by 29% of enterprises. This share reached its maximum value from November 2022 to January 2023, when these outages prevented the work of approximately 80% of surveyed businesses.

Also, in April, companies spoke relatively less often about the fact that it is **unsafe to work**. This month, marked not so much by Russian missile attacks in most regions of Ukraine, 25% of enterprises reported it is unsafe to work. Because of this, the respective problem took seventh place in the rating of obstacles caused by war. We should note that this survey wave ended before Russia intensified its missile attacks in late April - early May 2023.

The lack of working capital was at the eighth place in this rating. It became an obstacle for 23% of respondents. And the ninth place was shared by the **lack of fuel** and **state regulation of the exchange rate**. Each of these problems was indicated by 10% of enterprises. And if the lack of fuel and the exchange rate were reported about as often in April as in March, the lack of working capital became a more tangible problem. It was mentioned less often in March (17%).

Up to 7% of enterprises indicated the remaining problems: **damage to property or goods due to military actions**, **blocking of tax invoices**, and **corruption**. In addition, 6% of businesses surveyed in April 2023 said they did not experience any problems.

Fig.24. The most important problems for the surveyed businesses



Challenges for businesses by size. As the size of the surveyed enterprises increases, the negative impact on them of such obstacles as rising prices for raw materials or supplies, difficulties transporting raw materials or supplies, and lack of labor force due to migration or mobilization of workers increases.

Thus, the share of enterprises that report rising prices increased from 60% among micro and 61% among small enterprises to 79% among large ones. The share of those who encountered difficulties with transportation grew from 40% among micro and 42% among small enterprises to 49% among large ones. And the share of businesses lacking staff ranges from 11% among micro-enterprises to 41% among large ones.

On the other hand, as the size of enterprises decreases, the importance of the problem of low demand increases: its decrease is reported by 56% of micro-enterprises, and for medium-sized and large enterprises, this share decreases to 30% and 32%, respectively.

Challenges for businesses by sector. The top concern for businesses surveyed in April 2023 – rising prices for raw materials or supplies – had the greatest impact on the chemical and printing industries, with more than 80% of businesses in these industries citing this issue².

Difficulties transporting raw materials or goods through the territory of Ukraine are most often reported in metallurgy (56%) and a decrease in demand - in the construction materials production industry (63%). In the chemical industry, the highest share of respondents who faced supply chain disruptions was recorded (71%), and the lack of labor force due to the mobilization or workers migration was reported to the greatest extent by representatives of metallurgy and mechanical engineering (more than 50%).

Challenges for businesses by region. Rising prices for raw materials or supplies are most often complained about by surveyed businesses in Zhytomyr, Ivano-Frankivsk, and Poltava regions: here, 90% or more of respondents reported this problem³. Difficulties transporting raw materials or goods through the territory of Ukraine were the most significant problem for business in the Vinnytsia and Zaporizhzhya regions (more than 80%).

Businesses in Vinnytsya and Khmelnytsky regions most often reported a decrease in demand (more than 80%), and businesses in Volyn and Sumy regions reported a break in supply chains (more than 60%).

The war impact on production growth

Before the full-scale Russian invasion, the Institute for Economic Research and Policy Consulting conducted quarterly surveys of industrial enterprises as part of the “Business Tendency Survey: Industry” project⁴. It was quarterly monitoring of the assessments and expectations of the managers of industrial enterprises regarding changes in the overall business environment and the performance enterprise indicators, which also included their assessment of obstacles to production growth. Every quarter, enterprises were asked to choose obstacles from a defined list that were most relevant to them.

In the April 2023 business survey, we used this list of obstacles to compare how much they have changed for the Ukrainian industry now during the war. Last time this survey was based on the results of the 4th quarter of 2021. And then the main problem for the surveyed business was the restrictions related to the coronavirus epidemic. Here we provide a comparison with the results of the 1st quarter of 2021 (to analyze the possible seasonal impact of some obstacles, since this survey was also conducted in April-May) and also the 4th quarter of 2021 since it was conducted in January-February 2022 year before the full-scale Russian invasion.

² This analysis does not consider enterprises in the agriculture, construction, trade, and services sectors and enterprises included in the "Other production" category.

³ Regions in which no enterprises were surveyed are not included in the comparison. For more details, see the "Sample" section.

⁴ See more about the Business Tendency Survey: Industry project and read the survey reports on the IER website: http://www.ier.com.ua/ua/publications/regular_products/business_idea_industry

In April 2023, surveyed enterprises most often called the **unfavorable political situation** an obstacle (51%), by which they probably also understood the war. For comparison, in 2021, significantly fewer respondents indicated this obstacle (33% in the 1st quarter and 27% in the 4th).

Compared to the hard military and political situation, **low demand** was cited as an obstacle by fewer respondents: 39%. Before the full-scale Russian invasion, the importance of this problem was more pronounced against the background of other obstacles: 70% of industrial enterprises reported this in the spring of 2021 and 54% in early 2022.

As in the surveys of the Business Opinion Survey series, in this one we calculated the proportion of businesses hindered by an **unfavorable regulatory climate**, taking into account all those who selected at least one of the three obstacles: **high regulatory pressure**, **frequent changes in economic legislation**, and **corruption**. In April 2023, the share of such enterprises was 32%. It is less than it was in 2021 due to a decrease in the frequency of reports on all three obstacles that form an unfavorable regulatory climate.

Thus, in April 2023, 20% of surveyed enterprises reported that their growth was hindered by **high regulatory pressure**. In 2021, this share was larger and was 30% in both the 1st and 4th quarters. **Frequent changes in economic legislation** and **corruption** in April 2023 were also less frequently discussed: 30% and 26% of enterprises, respectively.

At the same time, such an obstacle as **high competitive pressure** became less relevant in connection with the war: it was reported by 15% of enterprises in April, while in 2021, these shares reached 57% (in the 4th quarter) and 64% (in the 1st mu).

Table 1. Obstacles to production growth

	Q1 2021	Q4 2021	Q1 2023
Unfavorable political situation	33%	27%	51%
Low demand	70%	54%	39%
Unfavorable regulatory climate	43%	39%	32%
<i>High regulatory pressure</i>	30%	30%	20%
<i>Frequent changes in economic legislation</i>	30%	26%	13%
<i>Corruption</i>	27%	15%	7%
Liquidity problems	54%	40%	27%
Excessive taxation	51%	44%	21%
Lack of raw materials	33%	24%	18%
High competitive pressure	64%	57%	15%
Availability of loans	30%	21%	13%
Lack of skilled workers	19%	20%	12%
High loan rates	35%	21%	9%
Lack of production capacity	18%	15%	9%
Problems with the power supply	13%	25%	4%
Outdated technologies	22%	17%	3%
Restrictions due to COVID-19	85%	41%	-

Size. The larger the size of the enterprises, the more often they say that the unfavorable political situation (which includes war) prevents their production growth. The corresponding share of respondents increases from 30% among micro-enterprises to 61% among large ones.

Regarding the impact of low demand, the situation is the opposite: micro and small enterprises are more likely to mention this problem (more than 40%) than medium (36%) and large (35%) enterprises.

Unfavorable regular climates also affect larger businesses more than the smallest businesses. Thus, among small, medium, and large enterprises, the share of those for whom this obstacle is relevant is 30% or more, while among micro-businesses - 12%.

Sector. In most industries, businesses cite unfavorable political situation, including the impact of war, as the main obstacle to increased production. The second most important problem - low demand - is most often called an obstacle by representatives of construction materials production (67%), mechanical engineering, and the woodworking industry (more than 50%).

The unfavorable regulatory climate hinders the growth of the food and chemical industries (more than 40%) the most. Surveyed businesses in these industries indicate high regulatory pressure more often than the rest of the enterprises (more than 25%). In turn, in the woodworking industry, another obstacle that affects the regulatory climate is mentioned more often than in others - corruption (19%). And frequent changes in economic legislation hinder approximately every fifth food industry enterprise (21%).

Region. The surveyed enterprises of the Vinnytsya, Dnipropetrovsk, Zhytomyr, Zakarpattya, and Zaporizhzhya regions most often talk about the unfavorable political situation, including the war, as an obstacle to growth (more than 80%)⁵. Low demand is particularly felt in Zaporizhzhya, Kirovohrad, Sumy, and Khmelnytsky regions (more than 60%).

The largest shares of enterprises whose growth is hindered by an unfavorable regulatory climate are recorded in Lviv (86%), Ternopil (74%), Ivano-Frankivsk (72%), and Rivne (65%) regions, as well as in the city of Kyiv (52%). In the Lviv, Ternopil, and Ivano-Frankivsk regions, industrial enterprises more often than in other regions report such an obstacle as high regulatory pressure (more than 60%). In the Lviv region, businesses complain about frequent changes in economic legislation (46%), and in the Rivne and Ternopil regions - about corruption (32% and 26% of respondents, respectively).

[The war impact on capacity/production volumes](#)

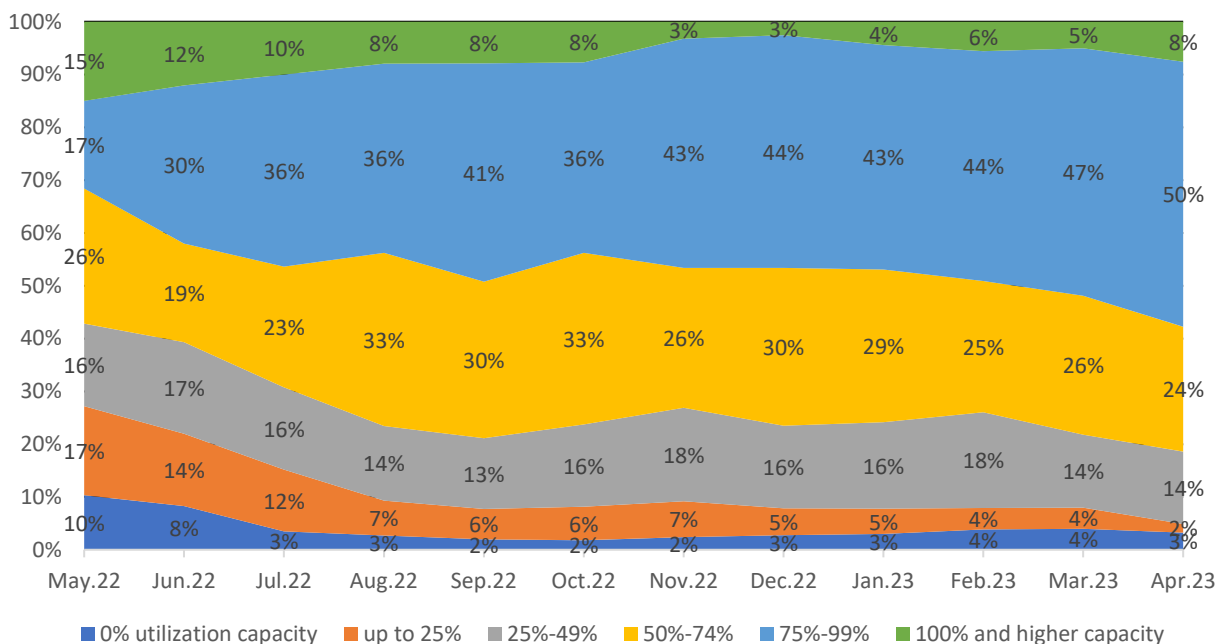
In April 2023, enterprises accelerated the production recovery. The highest level of capacity utilization was recorded during the entire survey period. In April, 8% of businesses reported they operated at full capacity (100% or more), which is slightly more than in the previous month (5%). At the same time, the share of enterprises operating at almost full capacity (75% - 99%) increased to a record 50% over the past year (it was 44% in February and 47% in March). As a result, the **total share of enterprises operating at near full and full capacity reached 58%. It is the highest figure for all waves of the survey.** For comparison, the corresponding indicator was 47% in January, 49% in February, and 52% in March, which indicates a significant acceleration of the production recovery. However, the situation remains less optimistic for some industries and micro-businesses.

In April, 3% of surveyed enterprises reported they stopped their activities during the war. This indicator remains low from July 2022, in the range of 2% - 4%. Also, the share of enterprises operating at less than 25% of pre-war capacity remains low - only 2% in April (4% in March). In addition, 14% of enterprises operate at 25% - 49% of pre-war production capacity.

Results for businesses by size. Medium-sized businesses continue to show the best production recovery rate. Compared to the pre-war period, 68% of medium-sized enterprises worked at almost full and full capacity in April (61% in March and 58% in February). It is the highest figure since the survey began. Also, the corresponding indicator is high for large businesses - 60% (55% in March). Thus, large companies showed the highest level of recovery since the start of the survey. In April, the highest results for the time of the survey were also shown by small businesses: 54% of enterprises were working almost at full and full capacity (48% in March). However, the indicator remains low for micro-businesses: only 29% in April (27% in March). Thus, the corresponding indicator for micro-enterprises remains below the recovery peak in autumn 2022.

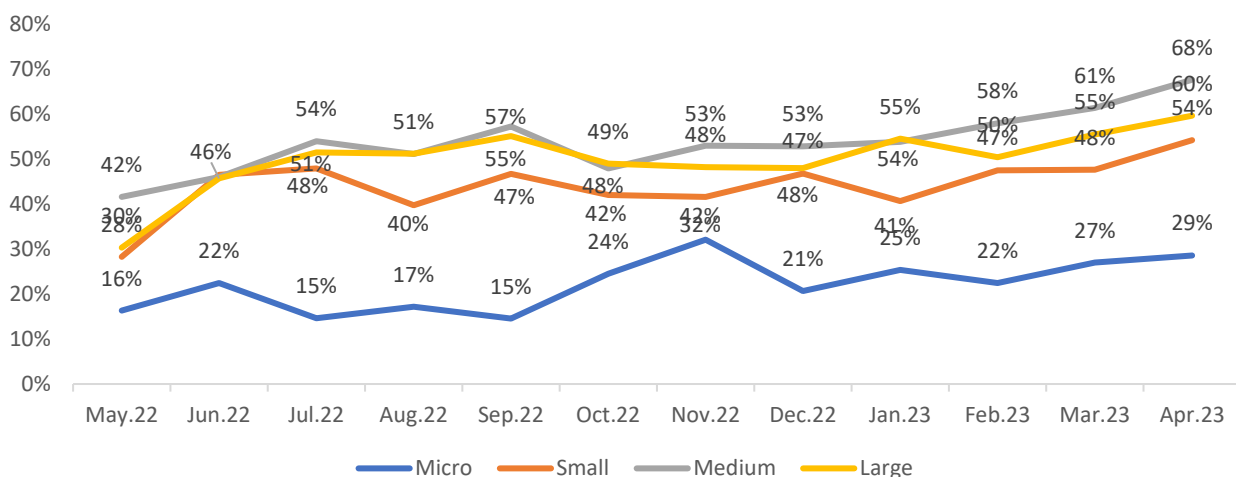
⁵ Regions in which no enterprises were surveyed are not included in the comparison. For more details, see the "Sample" section.

Fig.25. The impact of the war on the work of enterprises (% of respondents)



As of April, 20% of micro business representatives were not working (11% in March, 19% in February, 12% in January, and 16% in December). Micro-enterprises are more sensitive to changes in the business environment, which results in worse scores for most indicators. For comparison, large businesses have almost fully resumed work (1% of respondents were out of work in April versus 1% in March). Less than 1% of enterprises did not resume work among medium-sized businesses, and neither did 3% among small enterprises. Thus, **micro-business remains more sensitive to the challenges of wartime.**

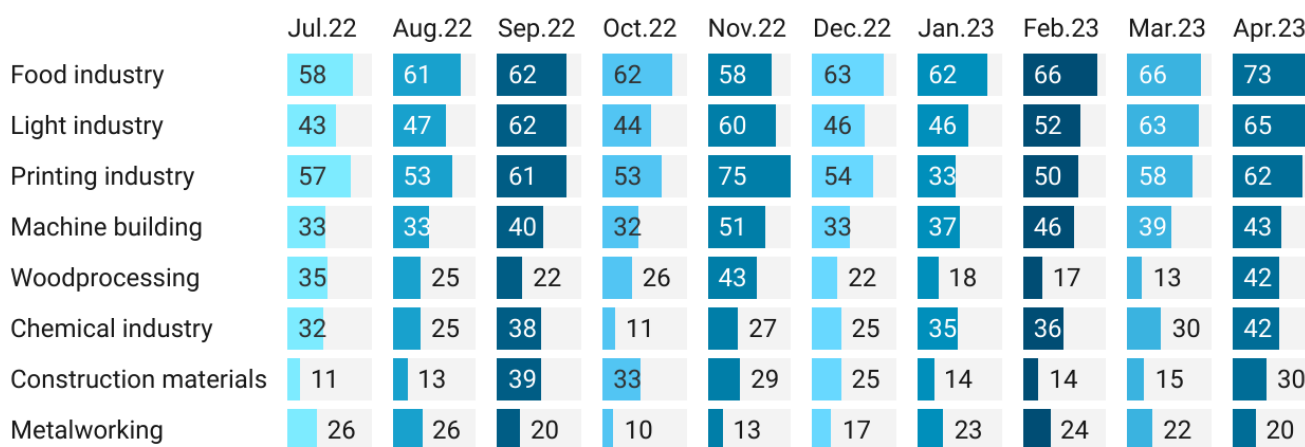
Fig.26. The share of enterprises operating almost at full and full capacity (75 - 99%, 100%, and more) compared to the pre-war period (by enterprise size, %)



Results for businesses by sector. The food industry remains the leader in the recovery of the processing industry. In April, 73% of food businesses were operating at near full or full capacity, the highest figure for the industry over the observation period (compared to 66% in March, February, and 62% in January). The second step is light industry, in which the level of capacity utilization continued to grow - from 52% in February to 63% in March and 65% in April. It is also the highest result for the industry across all survey waves. The recovery of the printing industry also continued from 33% in January, 50% in February to 58% in March and 62% in April. In other industries, the level of capacity utilization also increased. The situation remains difficult only in metallurgy and

metalworking, where only 20% of enterprises worked at almost full and full capacity (22% in March and 24% in February).

Fig.27. The share of industrial enterprises operating almost at full and full capacity (75 - 99%, 100% and more) compared to the prewar period, % of respondents by sector

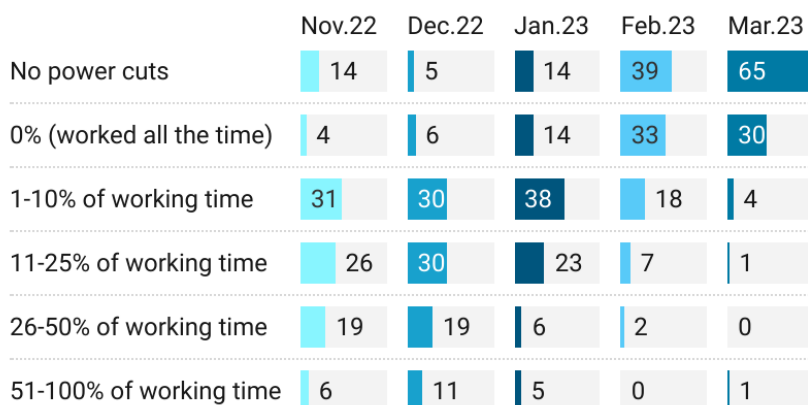


Results by region. As during the previous waves of the survey, 100% of enterprises in the Ivano-Frankivsk, Lviv, Odesa, Ternopil, and Poltava regions continue to work almost at full capacity in March. The indicator is also high in Vinnytsya (92%) and Rivne (87%) regions. At the same time, the situation remains difficult in the front-line Zaporizhzhya and Kharkiv regions, where only 10% of enterprises worked at a high level of capacity utilization. The enterprises of Kyiv city (24%), Sumy (32%), Cherkasy (33%), and Kirovohrad (33%) regions also operate at low capacity. Thus, recovery challenges depend not only on a business's geographic location and proximity to the front lines but also on logistical, energy, and other challenges that vary somewhat by region.

IMPACT OF POWER CUTS

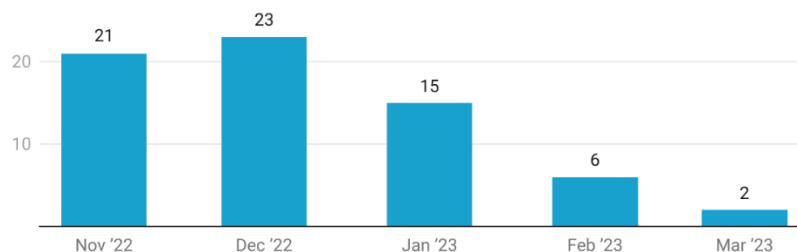
During the twelfth wave of the survey, industrial enterprises were asked for a fifth time to assess the impact of power supply problems on their operations. The obtained results confirm that **in March 2023, power outages ceased to be a problem for almost all enterprises. Only about 5% of enterprises temporarily suspended work due to power outages in March (82% in November, 89% in December 2022, 73% in January, and 28% in February 2023). At the same time, 65% of enterprises had no power cuts (14% in January and 39% in February).** In addition, 30% of businesses worked all the time, even when there were power cuts (14% in January and 39% in February). There are also **almost no enterprises with the most critical losses (more than half of the working time)**, although in January 2023, there were 5% of such enterprises, in December 11%, and in November 6%.

Fig.28. The impact of power cuts on the enterprises' work, % of respondents



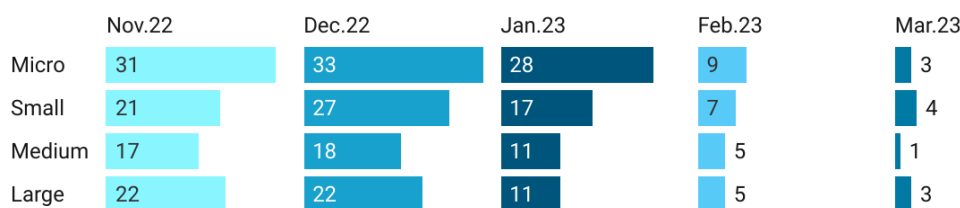
As a result, on average, businesses lost only 2% of total working time due to power cuts in March, which is the best figure compared to previous months (6% in February, 15% in January, 23% in December, and 21% in November). Such results illustrate an improvement in the situation at the beginning of spring 2023. However, the situation varies somewhat depending on business size, industry, and region.

Fig.29. Average % of time losses due to power outages, by month



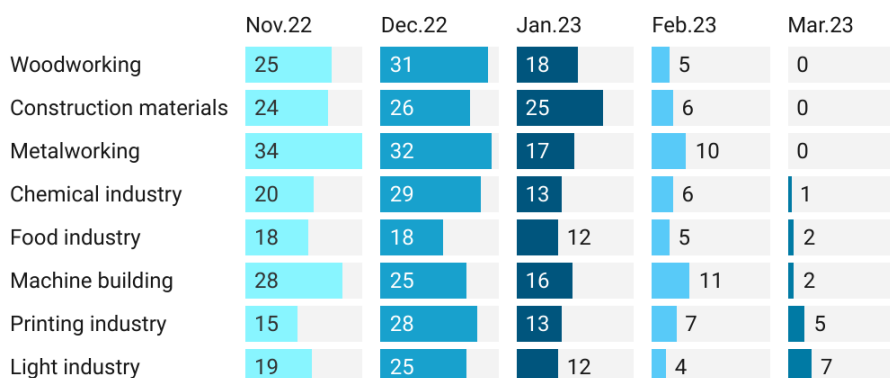
Results for businesses by size. The situation has almost leveled off for enterprises of different sizes. For example, there were no cuts for 57% of micro, 67% of small, 70% of medium, and 57% of large enterprises. At the same time, 28% of micro, 27% of small, 28% of medium, and 39% of large enterprises continued to work even during power outages. As a result, average losses were almost equal for businesses of all sizes. In March, **micro-enterprises lost, on average, 3% of working time**, and small enterprises - 4%. At the same time, this indicator is 1% for medium-sized enterprises and 3% for large ones. So, there is almost no difference between enterprises of different sizes compared to previous months.

Fig.30. Average % of enterprises' time losses (by size), % of respondents



Results for businesses by sector. The situation has also stabilized in most industries. In the woodworking industry and construction material production, all enterprises worked without power cuts. Also, there were no interruptions in the work of 97% of food industry enterprises and 92% of metallurgical enterprises (enterprises either had no outages or worked even during outages). In mechanical engineering and light industry, the majority of enterprises also worked without interruption, but the corresponding indicator is somewhat lower - 89% and 88%, respectively. As a result, the lowest average losses of working time due to power outages were recorded in woodworking (0%), construction materials production (0%), and metallurgy (almost 0%). The biggest time losses were in the light (7%) and printing (5%) industries.

Fig.31. Average % of enterprises' time losses (by sector), % of respondents



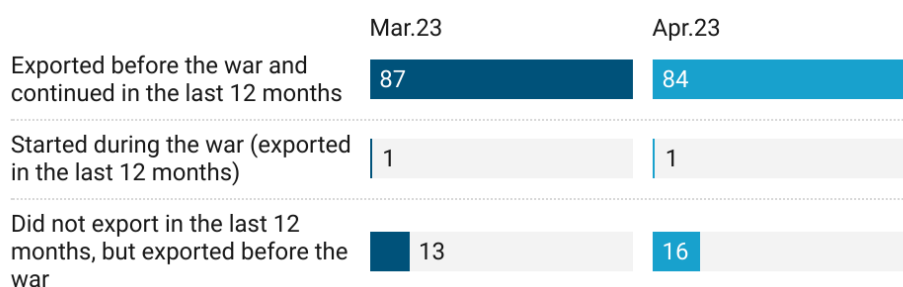
Results for businesses by region. The survey results once again confirm a certain regional specificity of the negative impact of power supply cuts. For example, 100% of enterprises in half of the regions (Volyn, Dnipropetrovsk, Zhytomyr, Zakarpattya, Zaporizhzhya, Ivano-Frankivsk, Kirovohrad, Lviv, Odesa, Poltava, Ternopil, Khmelnytsky, Cherkasy and Chernihiv regions) had no temporary losses due to power outages (there were none of them, or the enterprise worked even during the power cuts). The situation is also optimistic in most other regions: Vinnytsya (96%), Rivne (97%), Kyiv (90%), Chernivtsi (90%) regions, and Kyiv city (84%). In the Sumy and Kharkiv regions, where only 65% and 33% of enterprises, respectively, had no time losses, the situation remained difficult. **As a result, the highest average time losses were recorded in the Kharkiv region - 9% of working time. Kyiv city (7%), Rivne (6%), Vinnytsya (6%), Sumy (5%), and Kyiv (4%) regions are also among the leaders in terms of losses. Thus, in most regions, time losses are negligible or absent.**

THE WAR IMPACT ON THE ENTERPRISES' EXPORT ACTIVITIES

Within the twelfth wave of the survey, **64% of respondents (among those who were able to answer)** were recorded as being or are exporters. At the same time, 34% of enterprises have never had exports and do not plan to have them, and another 2% could not answer the question.

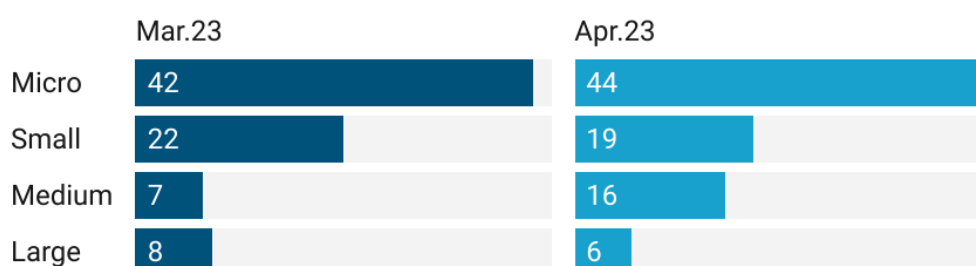
As of April 2023, among exporters, **84% of respondents indicated they exported before the war and also continued to export during the last 12 months.** Another 1% of enterprises started exporting for the first time during the war (during the last 12 months). At the same time, 16% of enterprises exported before the war began but could not resume exports during the last 12 months. Thus, the trend of recent months continues: part of the business (about 10% - 15%) cannot overcome new challenges for export activity and resume exports.

Fig.32. The impact of the war on export activity as of April 2023 (% of the exporters surveyed)



Results for businesses by size. According to the results of April, a regularity was again recorded regarding export activity dependence on the enterprise size. Among micro-businesses, 44% of enterprises exported before the war but had no export activity during the last 12 months. There is also a high share of enterprises that cannot resume exports among small businesses - 19%. The situation among average exporters is better - 16% of respondents did not export in the last 12 months. The best situation was among large businesses, where the corresponding indicator was 6%. Thus, large and medium-sized companies remain leaders in the export activity recovery.

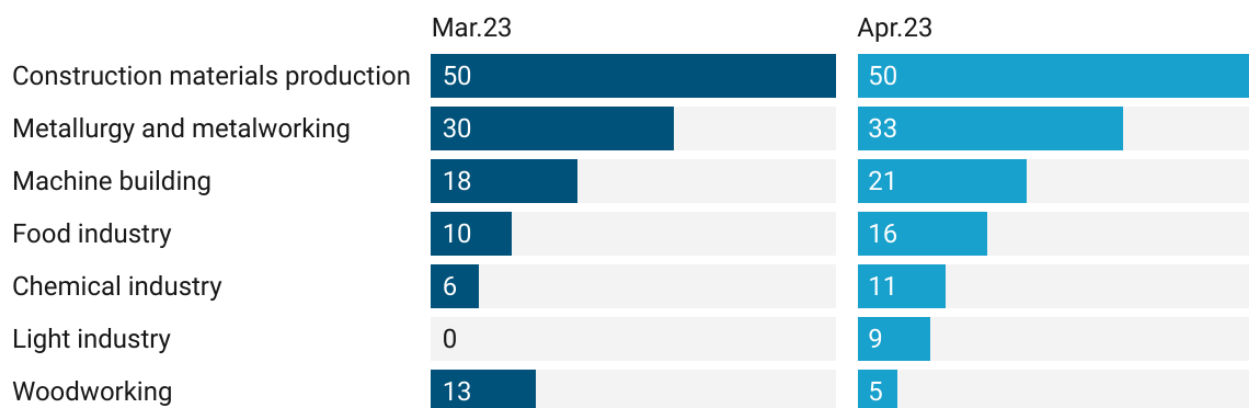
Fig.33. Share of exporters who did not export for the last 12 months by enterprise size (% of exporters surveyed)⁶



⁶ Дані за травень недоступні для мікропідприємств через недостатню наповнюваність підвибірки.

Results for businesses by sector. The obtained data indicate that the most difficult situation with the recovery of exports remains in construction materials production. For example, 50% of the industry's enterprises exported before the war but had no exports during the last 12 months. The situation is also difficult in metallurgy and mechanical engineering, where the corresponding figure is 33% and 21%. In contrast, the best situation is in the woodworking industry, where 5% of respondents had no exports in the last 12 months. In light industry, only 9% of enterprises exported before the war but had no exports during the last 12 months.

Fig.34. Share of exporters who did not export for the last 12 months, by industry (% of exporters surveyed)



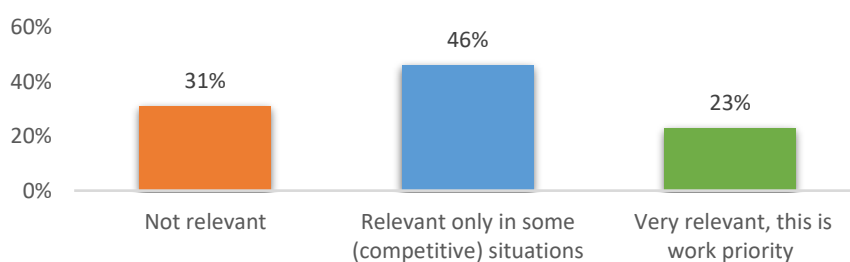
Results by region. Throughout all waves of the monthly survey, the available data do not allow us to draw conclusions about clear regional patterns due to insufficient subsamples in certain regions. However, in some areas, all enterprises (among those who were able to respond) resumed exports, in particular in the Vinnytsya, Zaporizhzhya, Ivano-Frankivsk, Kyiv, Odesa, Poltava, Rivne, and Ternopil regions. The most difficult situation is in the Dnipropetrovsk and Zhytomyr regions, where 71% and 73% of enterprises, respectively, had exports before the war but had them during the last 12 months. The corresponding indicator in the Kharkiv region is also high – 27%.

IMPACT OF THE WAR ON THE INNOVATIVE ACTIVITIES OF ENTERPRISES⁷

The state of innovative activity in wartime

During the twelfth wave of the survey, businesses were asked for the first time to assess the relevance of wartime innovation. The obtained results indicate that for most enterprises, the introduction of innovations is relevant in various ways. **For example, 23% of enterprises indicate that the introduction of innovations is very important, and it is their priority in work.** At the same time, for 46% of enterprises, innovations are relevant in the case of individual (competitive) situations. **However, for almost a third (31%) of respondents, innovations are not relevant.** We should note that there is a moderate level of uncertainty regarding this question: only 16% of respondents cannot give an answer to this question.

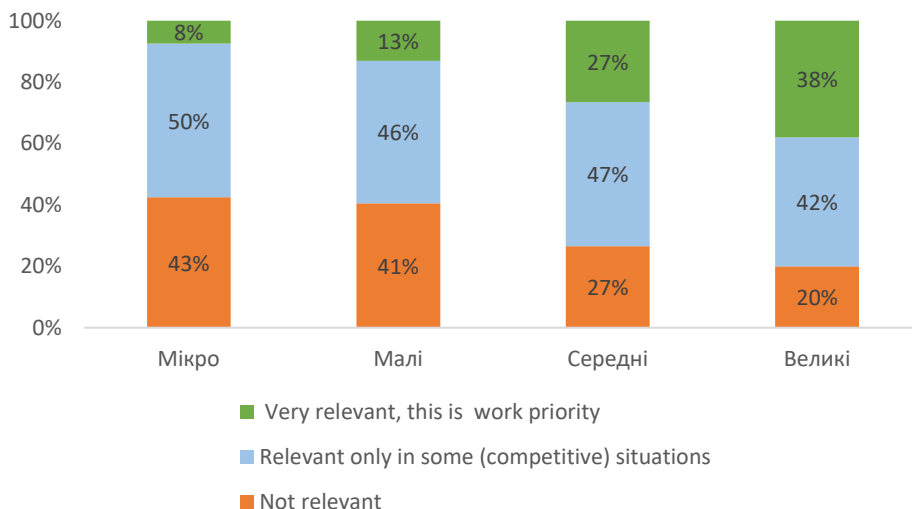
Fig.35. Is the introduction of innovations currently relevant for the enterprise?



⁷ The study defines the innovative activity of enterprises as the introduction of technologically new and/or technologically improved products and production processes.

Results for businesses by size. The relevance of innovative activity differs depending on the size of the enterprises. With an increase in the size of the enterprise, the probability that the introduction of innovations is either a priority in work or relevant in certain (competitive) situations increases. If among micro and small enterprises, 43% and 41% of respondents, respectively, do not consider innovations to be relevant, then among medium-sized enterprises, they are 27% and only 20% among the large ones. At the same time, innovation is a priority for 38% of large enterprises but only 8% of micro and 13% of small ones.

Fig.36. Relevance of innovations by enterprise size, % of respondents



Results for businesses by sector. The relevance of innovations during the war is different for enterprises of different industrial sectors. Innovations are the least relevant for the printing industry; 64% of respondents indicated this. Also, innovative activity is irrelevant today for 50% of construction materials producers. At the same time, innovations are the most relevant for machine-building enterprises.

Only 22% of industry representatives indicated that innovation is not relevant. At the same time, for 28% of enterprises in the industry, innovation is a priority at work; it is the highest indicator among all industrial sectors in the survey.

Fig.37. Relevance of innovations by industry, % of respondents

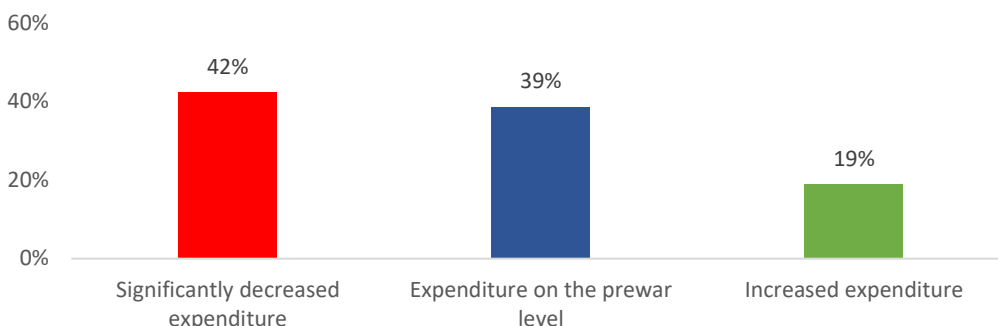


Expenses on innovative activity

Within the survey, enterprises were also offered to estimate the expenses for innovation activities for the first time. **The full-scale war forced many enterprises to reduce expenses for innovative activities (introduction of technologically new and/or technologically improved products, production processes).** In particular, 42% of

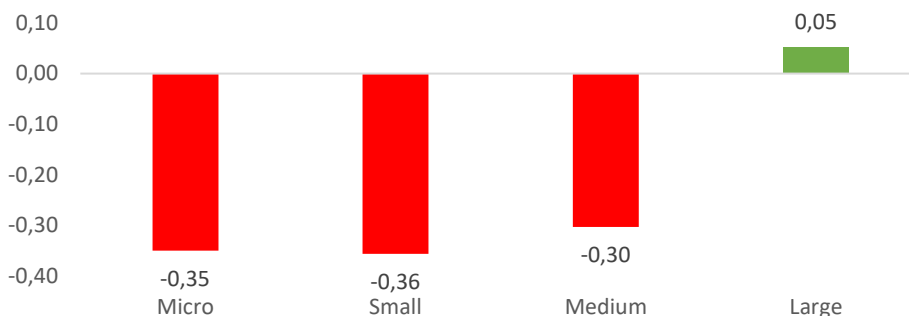
enterprises reported that they had reduced expenses. 39% of enterprises left the expenses on innovative activities at the pre-war level. However, 19% of enterprises increased expenses on innovative activities.

Fig.38. How expenses on innovative activity changed during a full-scale war



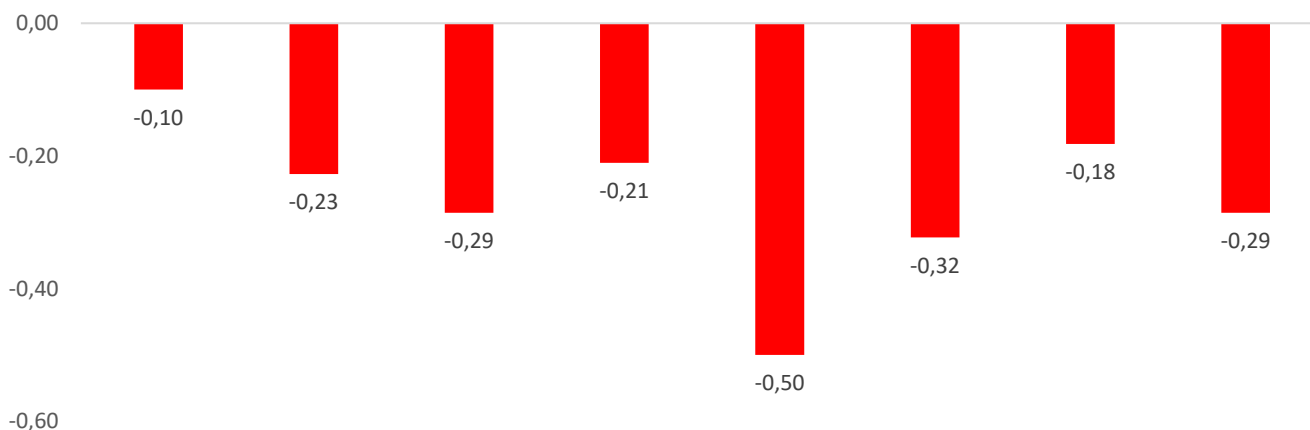
Results for businesses by size. The war had different effects on the innovation expenses of enterprises of different sizes. Only large businesses slightly more often increased expenses on innovative activities than reduced them (35% versus 29%), but 36% of large enterprises kept expenses at the pre-war level. As a result, the index of expenses on innovation is +0.05. At the same time, for enterprises of other sizes, the reduction of innovation expenses prevails. The corresponding index is -0.35 for micro, -0.36 for small, and -0.30 for medium enterprises.

Fig. 39. Index of expenses on innovation by enterprise size



Results for businesses by sector. In all industries, enterprises cut expenses for innovation more often than increased them. It is illustrated by the negative values of the index of expenses for innovative activities. However, the situation is most difficult for construction materials production, where the index is -0.50. At the same time, the situation is the best in metallurgy and metal processing, where the value of the index is -0.10.

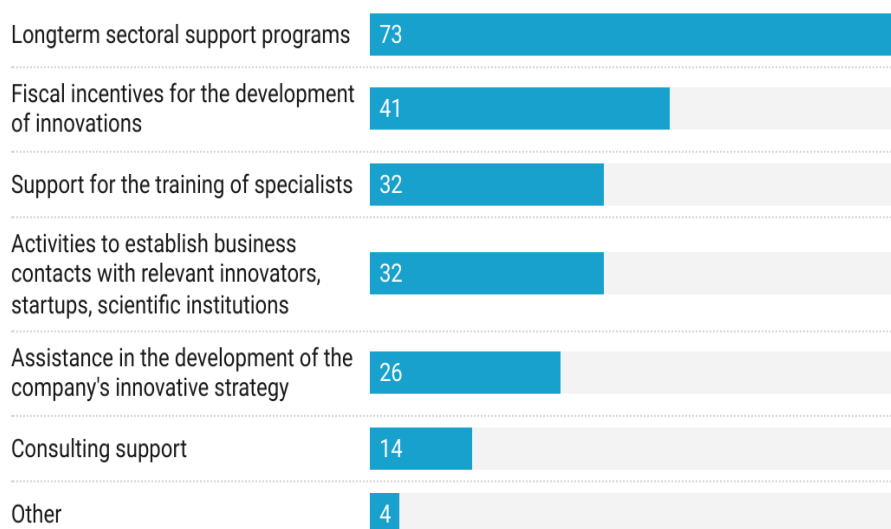
Fig.40. Index of innovation expenses by industry



Measures to support innovative activities

Within the survey, enterprises were asked to assess which measures can most stimulate the innovative activity of enterprises in the current conditions of war. As a result, almost three-quarters (73%) of enterprises indicate that special long-term support programs at the industry level are needed. Many businesses need fiscal incentives (41%) and measures to help connect businesses with relevant innovators (32%). Also, 32% of enterprises need support with the training of relevant specialists. At the same time, a high level of uncertainty was recorded: 31% of enterprises cannot indicate what can stimulate their innovative activity in the current conditions.

Fig.41 .What can most stimulate the innovative activity of your company in the current conditions? (% of respondents)



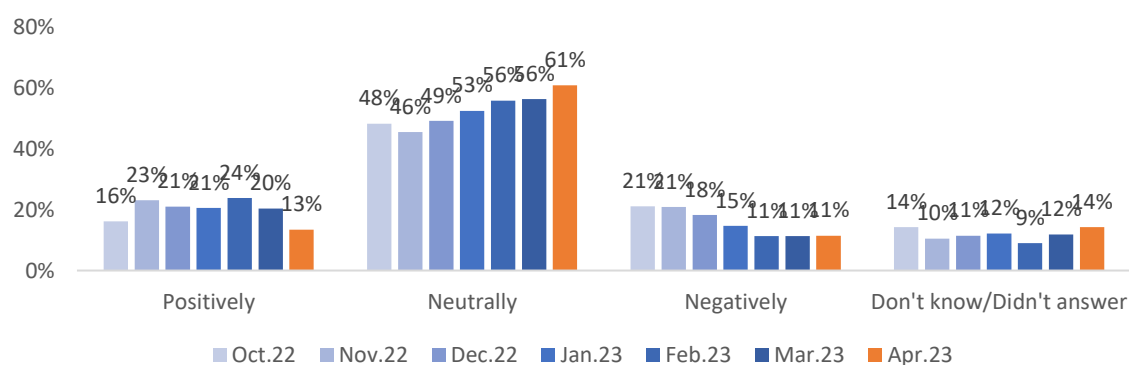
We should note that the needs differ for enterprises of different industries and sizes only to a small extent. Industry support programs are most relevant for enterprises of all sizes. However, for example, micro-business often needs fiscal incentives. Large and medium-sized businesses need establishing contacts with innovators and training specialists. In terms of industries, sectoral programs are most relevant for construction materials production, which is currently suffering the most from the war. At the same time, fiscal incentives are most relevant for metallurgy.

GOVERNMENT POLICY

Assessment of government policy to support business

In April 2023, the share of positive assessments of state policy regarding business support decreased for the second month in a row. In the two previous months - February and March 2023 - the share of enterprises that assessed such a policy positively was 24% and 20%, respectively, and in April, it decreased to 13%.

Fig. 42. Assessment of government policy to support business



At the same time, the majority of enterprises, as before, assess state support for business neutrally: 61% of respondents made such assessments. The percentage of negative evaluations did not change in April: 11%. Additionally, 14% of respondents could not rate the state policy on business support.

Assessment of government policy to support business by business size. Among the representatives of micro-enterprises, the lowest share of respondents gave a positive assessment of the state policy on business support (4%). For comparison, among larger business groups, the respective shares range from 11% to 21%. Also, among micro-enterprises, the largest share of respondents with negative assessments of this policy (25%) and the largest share of those who could not assess it (32%) was recorded.

Assessment of government policy to support business by sector. Most often, the representatives of the printing industry (31% of respondents) give positive assessments of the state business support policy⁸. At the same time, respondents from the woodworking industry (32%), construction materials production (30%), and mechanical engineering (26%) have the largest share of negative evaluations.

Assessment of government policy to support business by region. The highest level of positive assessments of state business support policy in April 2023 was recorded in Lviv, Ternopil, and Odesa regions (more than 30%)⁹. At the same time, the largest shares of negative assessments are among businesses in Sumy (47%) and Vinnytsya (42%) regions.

⁸ This analysis does not consider enterprises in agriculture, construction, trade, and services sectors and enterprises included in the "Other production" category.

⁹ Regions in which no enterprises were surveyed are not included in the comparison. For more details, see the "Sample" section.

SURVEY METHODOLOGY

This report presents the results of the twelfth New Monthly Survey “Ukrainian Business in the Wartime”. The data was collected using a combination of several methods of data collection: a telephone interview of business representatives filling their responses into the online checklist by the interviewers, and in a small number of cases, self-completion of the checklist by representatives of enterprises who, during the previous telephone contact, expressed a desire to independently enter data in the online checklist. All responses (filled by the respondents themselves and provided to the interviewers) were collected in one database. After the survey, IER experts monitored and cleaned up the data and analyzed the responses.

In this survey, we continue examining the indicators of the business climate and conditions studied by the IER in the quarterly surveys of industrial enterprises within the project “Business Survey”. It includes indices that in numerical terms show monthly changes in such important business indicators as production and sales, exports, raw materials and supplies stocks, the new orders number, etc., and business expectations for their changes for the next three- and six-month periods.

These indices are calculated according to a single methodology. We count responses as +1 when the company responds that the rate has increased, 0 if it has not changed, and -1 if it has decreased. For example, if out of 100 respondents, 20 indicated an increase in production, 50 respondents its reduction, and 30 said that everything remained unchanged, the corresponding value of the index will be -0.30. A positive (negative) index value means that the share of enterprises where production has increased is larger (smaller) than the number of those where production has decreased. For a more accurate measurement at the micro-data level, each answer is weighted, taking into account the enterprise size by the number of workers.

Such indices help control the dynamics of changes in these indicators, compare them over time and quickly assess the general direction of changes in business conditions and the situation at the enterprises.

The field phase of the survey lasted from April 17 to 30, 2023.

SAMPLE

A total of 560 enterprises were surveyed in the twelfth wave. The companies are located in Vinnytsya, Volyn, Dnipropetrovsk, Zakarpattia, Zaporizhzhya, Zhytomyr, Ivano-Frankivsk, Kyiv, Kirovohrad, Lviv, Odesa, Poltava, Rivne, Sumy, Ternopil, Kharkiv, Khmelnytsky, Cherkasy, Chernivtsi and Chernihiv regions and in Kyiv city. In each of these regions, from 16 to 45 enterprises were surveyed¹⁰.

The majority of the sample consisted of industrial enterprises - 521 enterprises or 93% of the sample. Among them, the food industry, textile, clothing, footwear industries, and mechanical engineering prevail. Nine enterprises belong to agriculture (1.6% of the sample), 15 to trade (2.7% of the sample), 11 enterprises or 2% of the sample work in the service sector, and four enterprises (0.7%) belong to the construction sector.

These are companies of various sizes, determined by the number of workers among the enterprises surveyed. Among them: micro-enterprises (up to 10 workers) – 57 or 10% of the sample, small (from 11 to 50 workers) – 180 or 32% of the sample, medium-sized (from 51 to 250 workers) – 214 or 38% of the sample, and large (more than 250 workers) - 109 or 19% of the sample.

¹⁰ The survey indicated the region in which the enterprise was located at the time of the survey.

APPENDIX 1. Survey results in figures

Sample

Enterprises' size

	Number	Share of sample
Micro-	57	10%
Small	180	32%
Middle	214	38%
Large	109	19%
TOTAL	560	100%

Sector/ industry

	Number	Share of sample
Agriculture	9	1,6%
Metal production and metalworking	25	4%
Chemical industry	24	4%
Mechanical engineering	35	6%
Woodworking industry	31	6%
Construction materials production	27	5%
Food industry	186	33%
Textile, clothes, and footwear production	49	9%
Printing industry	13	2%
Other industries	131	23%
Construction	4	0,7%
Trade	15	2,7%
Services	11	2%
TOTAL	560	100%

Performance indicators of enterprises and business environment by size, indices of change (April 2023)

	Total	Micro	Small	Middle	Large
Production	0,24	-0,12	0,16	0,24	0,33
Expected changes in production	0,45	0,21	0,52	0,47	0,35
Sales	0,23	-0,11	0,15	0,25	0,30
Expected sales changes	0,46	0,15	0,52	0,50	0,35
Export	0,11	-0,53	-0,09	0,15	0,17
Expected changes in exports	0,37	0,04	0,27	0,42	0,34
Account receivables	-0,20	-0,20	-0,23	-0,26	-0,09
Expected changes in account receivables	-0,32	-0,20	-0,40	-0,39	-0,17
Account payables	-0,24	-0,18	-0,28	-0,31	-0,12
Expected changes in accounts payable	-0,33	-0,23	-0,39	-0,41	-0,19
Tax arrears	-0,26	-0,21	-0,35	-0,30	-0,15
Expected changes in tax arrears	-0,30	-0,21	-0,37	-0,39	-0,13
Stocks of raw materials	0,02	-0,23	0,03	0,07	-0,04
Expected changes in stocks of raw material	0,30	-0,10	0,29	0,34	0,28
Stocks of finished goods	-0,35	-0,39	-0,35	-0,38	-0,30
Expected changes in stocks of finished goods	-0,31	-0,26	-0,40	-0,35	-0,20
New orders	0,23	-0,11	0,18	0,22	0,32
Expected changes in new orders	0,45	0,12	0,52	0,47	0,36

Number of workers	-0,07	-0,26	-0,10	-0,06	-0,05
Expected changes in the number of workers	0,04	-0,08	0,01	0,03	0,07
Number of workers on forced leave	-0,23	0,03	-0,31	-0,25	-0,14
Expected changes in the number of workers on forced leave	-0,26	-0,10	-0,36	-0,28	-0,15
Skilled workers	0,25	0,06	0,22	0,20	0,35
Unskilled workers	0,11	-0,15	0,05	0,12	0,14
Business activity assessment	-0,02	-0,36	-0,07	-0,02	0,07
Expected changes in business activity	0,46	0,39	0,61	0,40	0,42
Assessment of the business environment	-0,07	-0,42	-0,14	-0,06	0,00
Expected changes in the business environment	0,43	0,28	0,52	0,38	0,43
Do you plan to expand your company's activities in the next two years	0,23	0,32	0,25	0,07	0,49
How do you assess your company's business activity in the current month, compared to the same period last year in 2022?	0,23	0,20	0,04	0,19	0,44

Performance indicators of enterprises and business environment by sector, indices of change (April 2023)

	Total	Metal production and metalworking	Chemical Industry	Engineering	Woodworking industry
Production	0,24	0,00	0,25	0,17	-0,06
Expected changes in production	0,45	0,40	0,37	0,59	0,29
Sales	0,23	0,00	0,29	0,14	-0,03
Expected sales changes	0,46	0,45	0,37	0,61	0,36
Export	0,11	0,31	0,22	-0,13	-0,11
Expected changes in exports	0,37	0,42	0,45	0,26	0,32
Account receivables	-0,20	-0,26	0,00	0,09	-0,04
Expected changes in account receivables	-0,32	-0,40	-0,36	0,04	-0,16
Account payables	-0,24	-0,26	-0,20	0,13	-0,08
Expected changes in accounts payable	-0,33	-0,29	-0,30	-0,07	-0,12
Tax arrears	-0,26	-0,20	-0,13	0,00	-0,13
Expected changes in tax arrears	-0,30	-0,15	-0,13	0,10	-0,14
Stocks of raw materials	0,02	-0,20	-0,21	0,03	-0,13
Expected changes in stocks of raw material	0,30	0,20	0,21	0,11	0,00
Stocks of finished goods	-0,35	-0,33	-0,26	0,13	-0,39
Expected changes in stocks of finished goods	-0,31	-0,17	-0,30	0,04	-0,25
New orders	0,23	0,08	0,13	0,20	-0,10
Expected changes in new orders	0,45	0,30	0,32	0,54	0,32
Number of workers	-0,07	-0,24	-0,04	-0,03	-0,14
Expected changes in the number of workers	0,04	0,00	0,00	0,00	0,04
Number of workers on forced leave	-0,23	-0,05	-0,17	0,00	-0,08
Expected changes in the number of workers on forced leave	-0,26	-0,13	-0,12	-0,17	-0,17
Skilled workers	0,25	0,65	0,12	0,22	0,16
Unskilled workers	0,11	0,22	0,00	0,07	0,00
Business activity assessment	-0,02	-0,36	-0,04	-0,29	-0,10

Expected changes in business activity	0,46	0,28	0,43	0,44	0,21
Assessment of the business environment	-0,07	-0,32	-0,13	-0,20	-0,24
Expected changes in the business environment	0,43	0,16	0,45	0,25	0,25
Do you plan to expand your company's activities in the next two years	0,23	0,36	0,25	0,11	0,29
How do you assess your company's business activity in the current month, compared to the same period last year in 2022?	0,23	0,24	0,57	0,03	0,10

	Total	Constructio n materials productions	Food Industry	Light industry	Printing industry
Production	0,24	0,30	0,35	0,18	0,31
Expected changes in production	0,45	0,24	0,53	0,48	0,25
Sales	0,23	0,26	0,35	0,20	0,15
Expected sales changes	0,46	0,24	0,53	0,48	0,33
Export	0,11	0,10	0,24	0,17	-0,17
Expected changes in exports	0,37	0,00	0,45	0,31	0,00
Account receivables	-0,20	0,09	-0,29	-0,29	-0,25
Expected changes in account receivables	-0,32	-0,29	-0,40	-0,32	-0,27
Account payables	-0,24	-0,22	-0,34	-0,31	-0,33
Expected changes in accounts payable	-0,33	-0,32	-0,43	-0,33	-0,27
Tax arrears	-0,26	-0,23	-0,32	-0,34	-0,44
Expected changes in tax arrears	-0,30	-0,29	-0,39	-0,35	-0,37
Stocks of raw materials	0,02	-0,11	0,08	0,02	-0,23
Expected changes in stocks of raw material	0,30	0,16	0,42	0,17	0,08
Stocks of finished goods	-0,35	-0,25	-0,51	-0,37	-0,56
Expected changes in stocks of finished goods	-0,31	-0,33	-0,49	-0,36	-0,36
New orders	0,23	0,30	0,37	0,20	0,23
Expected changes in new orders	0,45	0,24	0,54	0,43	0,33
Number of workers	-0,07	-0,19	-0,04	-0,14	0,00
Expected changes in the number of workers	0,04	-0,08	0,03	0,05	0,08
Number of workers on forced leave	-0,23	-0,09	-0,33	-0,25	-0,36
Expected changes in the number of workers on forced leave	-0,26	-0,15	-0,37	-0,26	-0,36
Skilled workers	0,25	0,29	0,26	0,41	0,18
Unskilled workers	0,11	0,13	0,13	0,23	0,00
Business activity assessment	-0,02	-0,19	0,09	-0,06	0,00
Expected changes in business activity	0,46	0,50	0,53	0,49	0,45
Assessment of the business environment	-0,07	-0,30	0,03	-0,16	-0,17
Expected changes in the business environment	0,43	0,43	0,51	0,46	0,36
Do you plan to expand your company's activities in the next two years	0,23	-0,13	0,16	0,06	0,00
How do you assess your company's business activity in the current month, compared to the same period last year in 2022?	0,23	0,38	0,07	0,33	0,15

The impact of war**Challenges faced by business in wartime**

Challenges faced by the business during wartime, by business size (April 2023), % of respondents by group

	Total	Micro	Small	Middle	Large
Rising prices for raw materials/supplies/goods	68%	60%	61%	71%	79%
Difficulties transporting raw materials or finished goods throughout Ukraine	43%	40%	42%	41%	49%
Decrease in demand for products/services	37%	56%	43%	30%	32%
Disruption of supply chains	33%	28%	34%	30%	40%
Labor shortage due to conscription and/or migration	31%	11%	26%	35%	41%
Electricity, water or heat supply outages	29%	60%	31%	20%	29%
Unsafe to work	25%	33%	21%	28%	24%
Lack of working capital	23%	33%	23%	18%	28%
Lack of fuel	10%	25%	10%	6%	8%
State regulation of the exchange rate	10%	11%	11%	10%	6%
Damage to property/goods due to hostilities	7%	14%	7%	6%	6%
Blocking of tax invoices	4%	9%	4%	3%	4%
Corruption	4%	2%	1%	5%	6%
Did not face problems	6%	0%	7%	8%	5%

Challenges facing business in wartime, by sector (April 2023), % of respondents by group

	Metal production and metalworking	Chemical Industry	Engineering	Woodworking industry
Rising prices for raw materials/supplies/goods	56%	83%	60%	58%
Difficulties transporting raw materials or finished goods throughout Ukraine	56%	46%	49%	32%
Decrease in demand for products/services	32%	42%	49%	39%
Disruption of supply chains	40%	71%	37%	19%
Labor shortage due to conscription and/or migration	52%	25%	51%	26%
Electricity, water or heat supply outages	48%	29%	43%	23%
Unsafe to work	32%	21%	43%	19%
Lack of working capital	16%	21%	23%	26%
Lack of fuel	8%	8%	17%	10%
State regulation of the exchange rate	0%	4%	17%	19%

	Metal production and metalworking	Chemical Industry	Engineering	Woodworking industry
rate				
Damage to property/goods due to hostilities	24%	13%	23%	3%
Blocking of tax invoices	0%	4%	3%	6%
Corruption	0%	8%	9%	6%
Did not face problems	4%	0%	3%	10%

Challenges facing business in wartime, by sector (April 2023), (continued) % of respondents by group

	Construction materials production	Food industry	Light industry	Printing industry
Rising prices for raw materials/supplies/goods	78%	77%	71%	85%
Difficulties transporting raw materials or finished goods throughout Ukraine	41%	48%	43%	46%
Decrease in demand for products/services	63%	32%	29%	54%
Disruption of supply chains	37%	31%	31%	38%
Labor shortage due to conscription and/or migration	26%	30%	35%	15%
Electricity, water or heat supply outages	30%	27%	33%	15%
Unsafe to work	22%	25%	27%	8%
Lack of working capital	41%	21%	27%	31%
Lack of fuel	11%	9%	10%	8%
State regulation of the exchange rate	15%	8%	10%	8%
Damage to property/goods due to hostilities	4%	4%	6%	8%
Blocking of tax invoices	4%	2%	6%	0%
Corruption	0%	5%	4%	8%
Did not face problems	0%	6%	4%	0%

Assessment of the government policy on business support

Assessment of the government policy on business support by business size (April 2023), % of respondents

	Total	Micro	Small	Middle	Large
Positive	13%	4%	21%	11%	11%
Neutral	61%	40%	53%	67%	72%
Negative	11%	25%	12%	9%	8%
Don't know / Didn't answer	14%	32%	14%	13%	8%

Assessment of the government policy on business support by sector (April 2023), % of respondents by group

	Metal production and metalworking	Chemical Industry	Engineering	Woodworking industry
Positive	8%	0%	11%	3%
Neutral	56%	88%	49%	48%
Negative	20%	8%	26%	32%
Don't know / Didn't answer	16%	4%	14%	16%

Assessment of the government policy on business support by sector (April 2023), (continued) % of respondents by group

	Construction materials production	Food industry	Light industry	Printing industry
Positive	15%	16%	14%	31%
Neutral	48%	64%	53%	54%
Negative	30%	6%	18%	8%
Don't know / Didn't answer	7%	14%	14%	8%

Availability of orders

Availability of orders, by size (April 2023), % of respondents by group

	Total	Micro	Small	Middle	Large
Less than 1 month	8%	24%	11%	5%	3%
1-2 months	36%	49%	42%	36%	23%
3-5 months	30%	15%	30%	28%	39%
6-11 months	16%	7%	13%	16%	24%
12 months or more	10%	5%	4%	16%	11%

Availability of orders, by sector (April 2023), % of respondents by group

	Metal production and metalworking	Chemical Industry	Engineering	Woodworking industry
Less than 1 month	14%	0%	3%	4%
1-2 months	29%	13%	31%	56%
3-5 months	29%	65%	28%	15%
6-11 months	24%	22%	25%	11%
12 months or more	5%	0%	13%	15%

Availability of orders, by sector (April 2023) (continued), % of respondents by group

	Construction materials production	Food industry	Light industry	Printing industry
Less than 1 month	10%	8%	13%	0%
1-2 months	48%	41%	38%	46%
3-5 months	43%	34%	23%	38%
6-11 months	0%	10%	27%	15%
12 months or more	0%	7%	0%	0%