

ENGINEERING BUSINESS SENTIMENT

2023 Q4

OCTOBER 2023

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EXECUTIVE SUMMARY

Current Business Conditions

- Current sentiment remains positive. The Net Rating for the industry (+82) and for firms (+81) remains extremely high. The Net Rating for the U.S. economy is +28.
- Sentiment for the industry and firms' finances declined slightly (two points each). Small firms are driving this decline. Optimism about the U.S. economy decreased four points but is still well off its low of -15 seen in Q3 2022.
- Current sentiment remains very optimistic within most market sectors, however two-thirds saw declines this quarter.
- Median backlog for projects remains steady at 11 months.

Future Business Conditions

- Future sentiment remains solid for firms' overall finances (+40), while future sentiment for the industry is only slightly positive (+16). Future sentiment for the U.S. economy remains weak at -16.
- Future sentiment for the industry dropped nine points and declined by three points for firms' finances. Future sentiment for the U.S. economy declined by 14 points compared to last quarter. Declines on all measures were evident across almost all firm sizes.
- Rising concerns over inflation (84%), political environment/uncertainty (77%) and increasing interest rates (72%) are fueling negative future sentiment.
- While most market sectors still have a positive Net Rating, all but one (Data Centers) have seen decreases from last quarter.
- More than half (52%) believe their firms will see a higher backlog of projects 12 months from now.
- Seventy-two percent predict there will be an increase in hiring over the next 12 months at their firms, with a Net Rating of +68 (an increase of two points from last quarter).
- Eighty-seven percent currently indicate their firm has at least one opening, the same as last quarter. The median number of open positions also remained steady at four.
- Executives are more anxious about the impact of inflation on their firms, once again returning to levels seen in the first two quarters of 2023.
- The average likelihood of recession in the next six months is 49% (median: 50%), an increase of three points from last quarter.

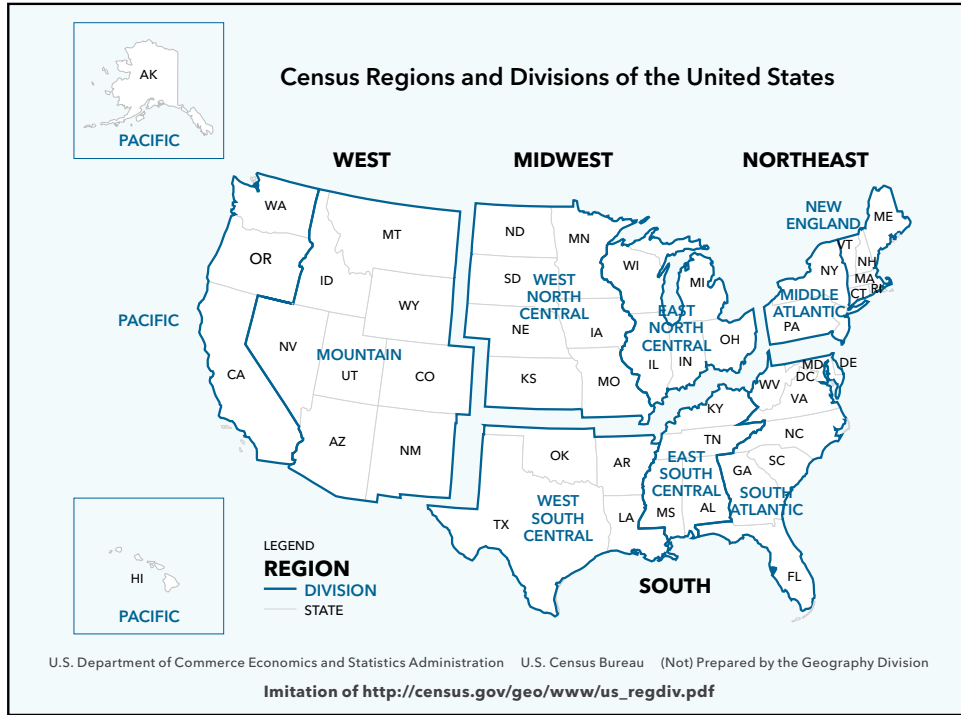
Hot Topics

- Fifty-eight percent of firms conducted research and development in 2023.
- Among those conducting R&D, 45% spent at least \$1 million.
- Eighty-seven percent of firms conducting R&D indicate that the change in R&D tax amortization requirements will affect their firms negatively.
- Among firms affected, 29% say they will delay/put a hold on growth plans and another 29% indicate they will invest less in additional R&D.

DEMOGRAPHICS

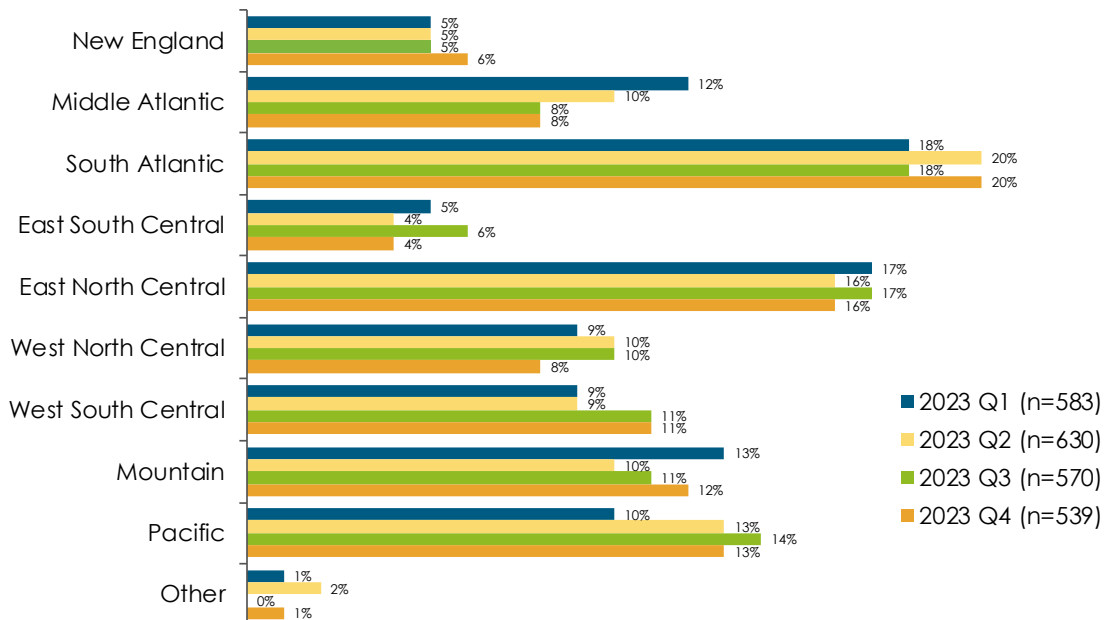
- For reference, the ACEC Research Institute uses the U.S. Census Bureau definition of geographic regions seen in Figure 1 below.

Figure 1: U.S. Census Regions of the United States



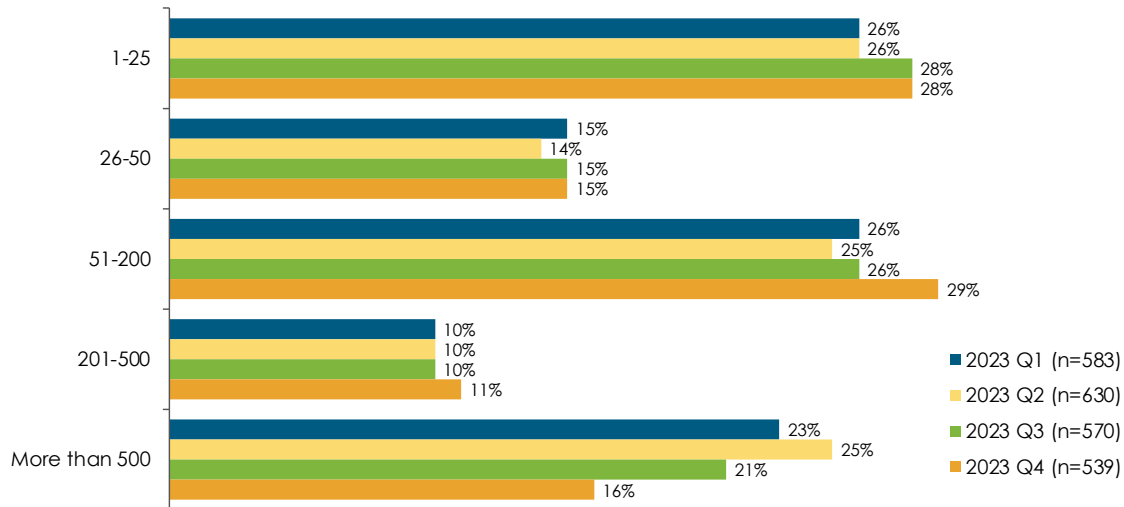
- Respondents' firms are widely dispersed around the United States. A few respondents (Other) indicate their firm is headquartered outside the U.S. These results are statistically similar to previous quarters.

Figure 2: Location of Organization Headquarters



- The median number of full-time employees at respondents' firms is 70 versus 73 last quarter. While there was a decline in the percentage of firms with more than 500 FTE participating in the survey, this did not affect aggregate results.

Figure 3: Number of Full-Time Equivalents at Firm



CURRENT BUSINESS CONDITIONS

Current U.S. Economy, Industry and Firm Sentiment

- Current sentiment remains positive. The Net Rating for the industry (+82) and for firms (+81) remains extremely high. The Net Rating for the U.S. economy is +28.
- Sentiment for the industry and firms' finances declined slightly (two points each). Small firms are driving this decline. Optimism about the U.S. economy decreased four points but is still well off its low of -15 seen in Q3 2022.
- Firms with more than 500 FTEs are the most positive about their firm's finances (+100) and the industry (+95).
- Sentiment for the U.S. economy is strongest in the Northeast (+35), but weakest among small firms (1-25 FTEs).

Figure 4: Current Economic Sentiment

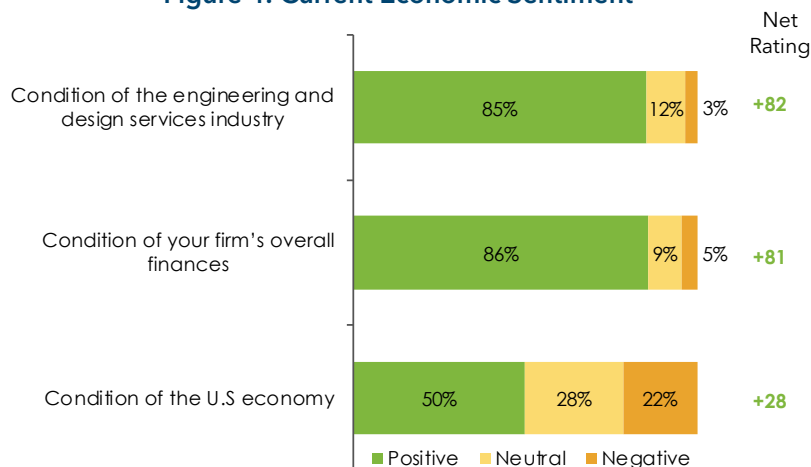
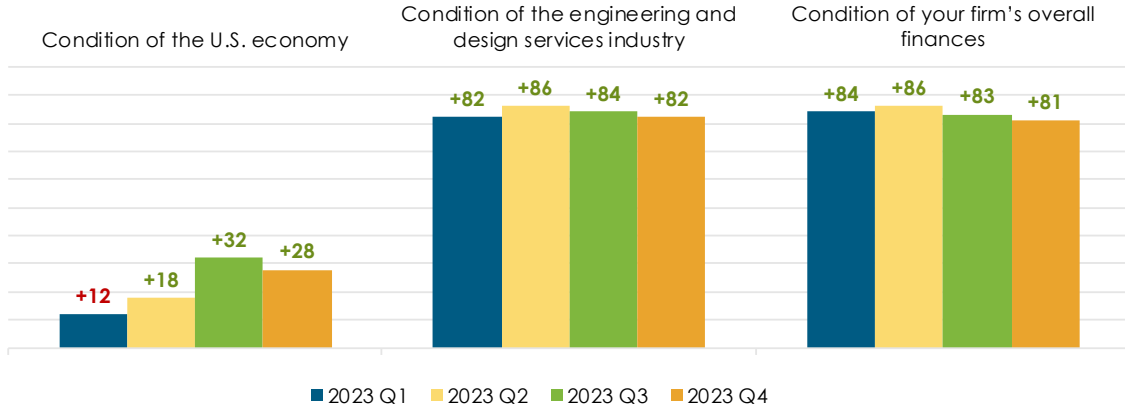


Figure 5: Current Economic Sentiment vs. Previous Quarters



- Many segments are feeling less optimistic about the state of the U.S. economy than last quarter.

Figure 6: Current Condition of U.S. Economy vs. Previous Quarters - By Region and Firm Size

Condition of the U.S. economy	2023 Q1 (n=583)	2023 Q2 (n=624)	2023 Q3 (n=565)	2023 Q4 (n=524)	Change vs. Previous Quarter
TOTAL	+12	+18	+32	+28	-4
REGION					
Northeast	+28	+23	+36	+35	-1
South	+10	+19	+25	+23	-2
Midwest	+11	+14	+46	+32	-14
West	+5	+17	+21	+28	+7
FIRM SIZE					
1-25	+16	+18	+20	+14	-6
26-50	-6	+15	+32	+31	-1
51-200	+15	+8	+25	+28	+3
201-500	+13	+7	+40	+30	-10
More than 500	+18	+33	+50	+50	0

Current Industry Sector Sentiment

- Current sentiment remains very optimistic within most market sectors.
- However, two-thirds of the sectors have decreased relative to last quarter.
- Sentiment is strongest in Roads and Bridges (Net Rating +80) and Airports (+80).

Figure 7: Current Industry Sentiment by Sector vs. Previous Quarters

Current Industry Sector Sentiment	2023 Q1 (n = 185-423)	2023 Q2 (n=202-483)	2023 Q3 (n = 192-438)	2023 Q4 (n = 174-387)	Change vs. Prev. Qtr.
Education	+57	+56	+55	+58	+3
Science and Technology	+64	+70	+71	+74	+3
Transportation – Airports	+77	+77	+78	+80	+2
Healthcare Facilities	+75	+68	+68	+70	+2
Convention Centers, Sports Facilities and Cultural Facilities	+39	+39	+43	+45	+2
Industrial and Manufacturing Facilities	+62	+67	+65	+65	0
Justice	+35	+38	+39	+38	-1
Energy and Utilities	+78	+74	+79	+78	-1
Data Centers	+69	+63	+71	+70	-1
Transportation – Transit	+69	+68	+72	+70	-2
Commercial Real Estate	+36	+26	+23	+20	-3
Transportation – Roads and Bridges	+79	+80	+84	+80	-4
Water/Wastewater	+74	+81	+83	+79	-4
Residential – Land Development	+30	+32	+37	+32	-5
Federal/Military, State and Local Government Buildings	+67	+68	+72	+65	-7
Telecommunications	+66	+55	+65	+56	-9

Current Backlog

- Median backlog for projects remains steady at 11 months.
- Nearly half (47%) of firms have one year or more of backlog.

Figure 8: Current Backlog

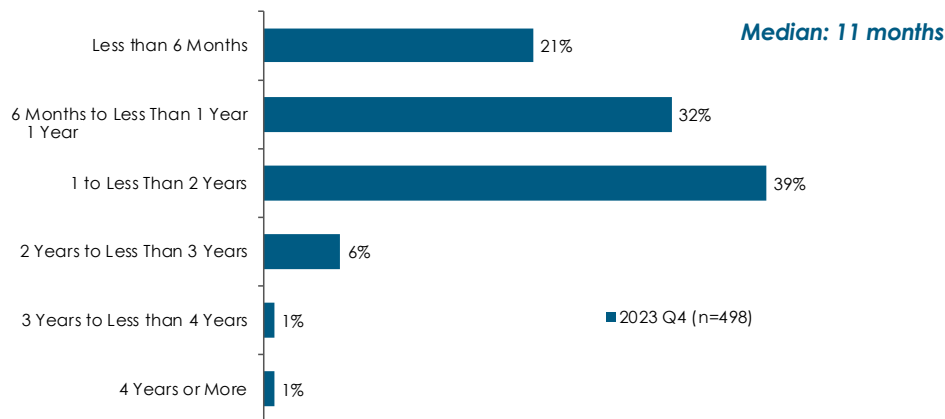


Figure 9: Current Backlog vs. Previous Quarters - By Region and Firm Size

Current Backlog	2023 Q1 (n=529)	2023 Q2 (n=585)	2023 Q3 (n=526)	2023 Q4 (n=498)	Change vs. Previous Quarter
TOTAL	10	12	11	11	0
REGION					
Northeast	12	12	12	12	0
South	9	10	12	10	-2
Midwest	11	12	11	11	0
West	8	10	10	10	0
FIRM SIZE					
1-25	6	6	6	6	0
26-50	9	10	10	8	-2
51-200	10	12	10	12	+2
201-500	12	12	12	12	0
More than 500	13	14	14	13	-1

Current Open Positions

- Eighty-seven percent currently indicate their firm has at least one opening, the same as last quarter. The median number of open positions also remained at four.
- On average, 9% of positions remain unfilled.
- Firms with 25 or fewer FTE have a much higher percentage of openings (15%).

Figure 10: Current Open Positions vs. Previous Quarters

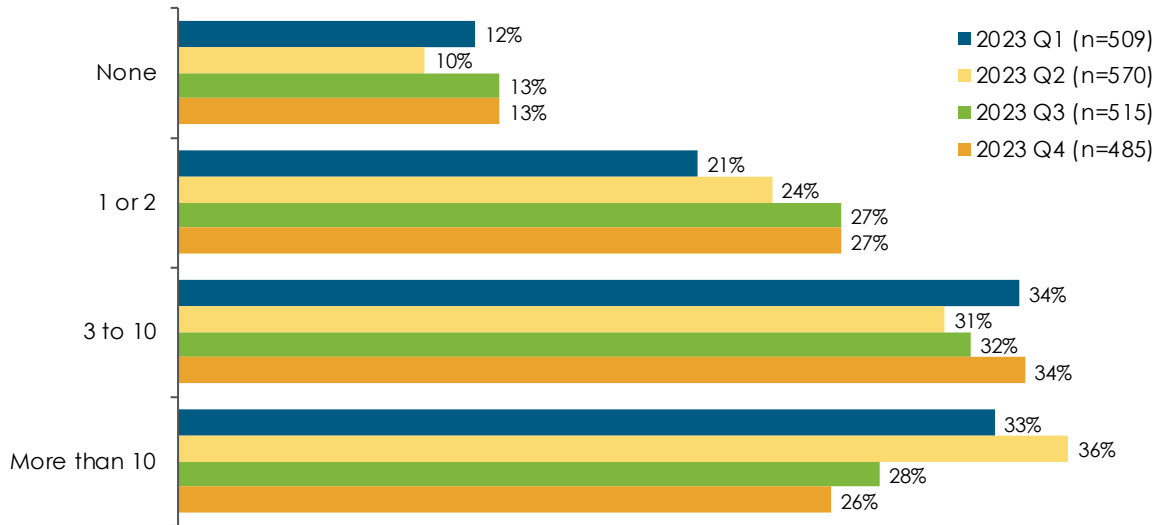


Figure 11: Open Positions as Percentage of Overall FTEs vs. Previous Quarters

	2023 Q2 (n=570)	2023 Q3 (n=515)	2023 Q4 (n=485)	Change vs. Previous Wave
TOTAL	10%	9%	9%	0
REGION				
Northeast	8%	7%	10%	+3
South	10%	9%	9%	0
Midwest	10%	9%	10%	+1
West	10%	10%	9%	-1
FIRM SIZE				
1-25	16%	15%	15%	0
26-50	8%	6%	8%	+2
51-200	7%	6%	6%	0
201-500	8%	7%	7%	0
More than 500	7%	6%	7%	+1

FUTURE BUSINESS CONDITIONS

Future U.S. Economy, Industry and Firm Sentiment

- Future sentiment remains solid for firms’ overall finances (+40), while future sentiment for the industry is only slightly positive (+16). Future sentiment for the U.S. economy remains weak at -16.
- Future sentiment for the industry dropped nine points and declined by three points for firms’ finances. Future sentiment for the U.S. economy declined by 14 points compared to last quarter.
- Declines on all measures were evident across almost all firm sizes.

Figure 12: Economic Sentiment 12 Months from Now

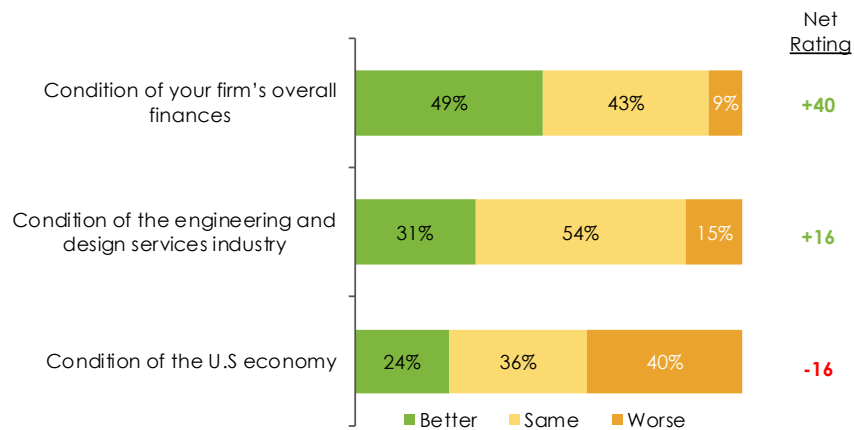
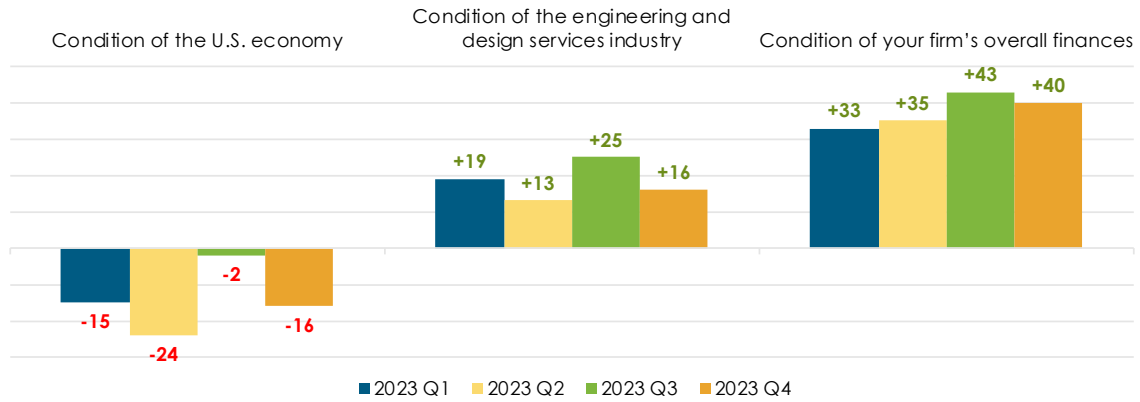


Figure 13: Economic Sentiment 12 Months from Now vs. Previous Quarters



- All segments saw a decline over last quarter when asked about the future of the U.S. economy.

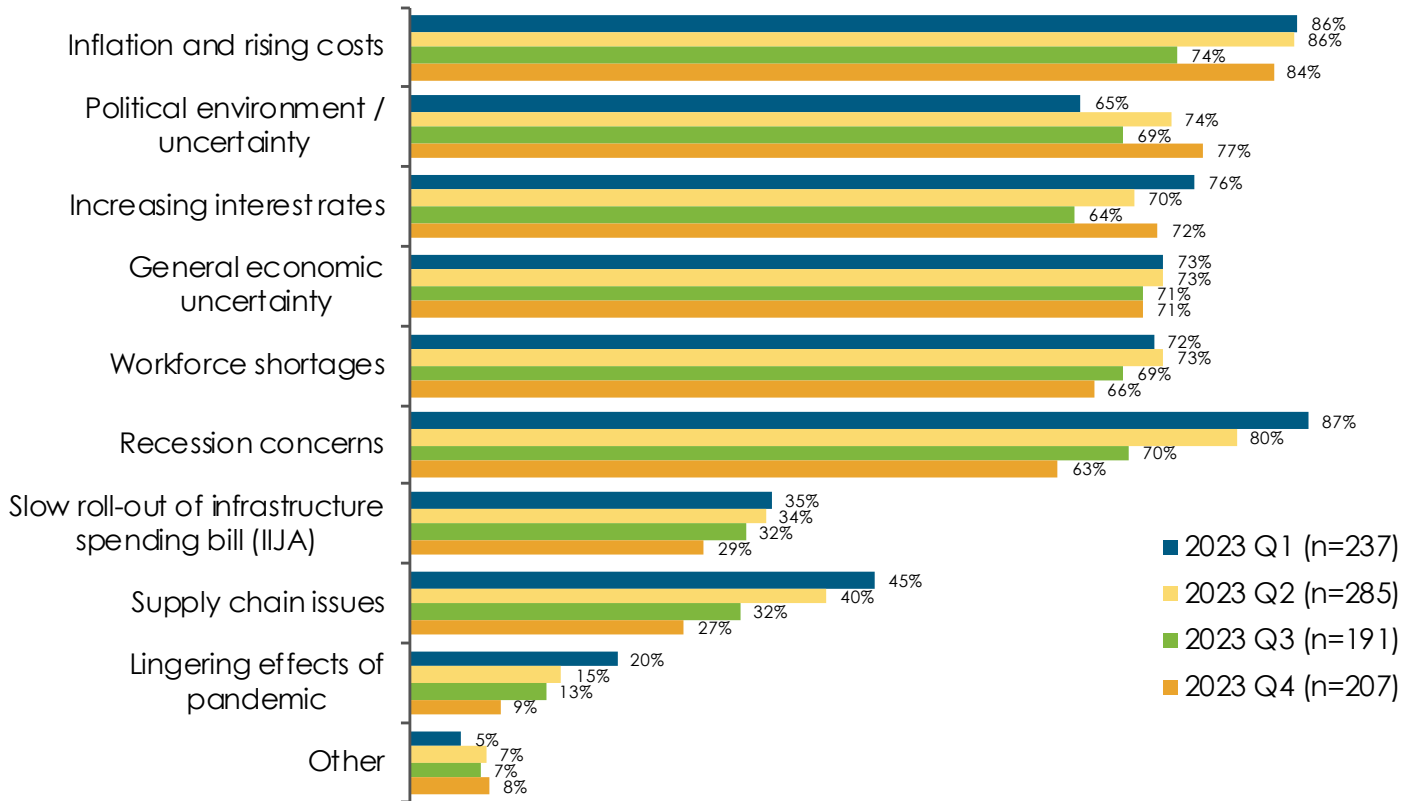
Figure 14: Condition of U.S. Economy 12 Months from Now vs. Previous Quarters - By Region and Firm Size

Condition of the U.S. economy	2023 Q1 (n=524)	2023 Q2 (n=571)	2023 Q3 (n=507)	2023 Q4 (n=481)	Change vs. Previous Quarter
TOTAL	-15	-24	-2	-16	-14
REGION					
Northeast	+7	-13	+13	-6	-19
South	-20	-27	-11	-13	-2
Midwest	-11	-22	+12	-26	-38
West	-33	-29	-13	-19	-6
FIRM SIZE					
1-25	-22	-44	-15	-21	-6
26-50	-22	-19	+2	-30	-32
51-200	-9	-18	-3	-13	-10
201-500	-21	-18	+20	-8	-28
More than 500	-8	-15	+3	-4	-7

Reasons for Future Economic Sentiment 12 Months from Now

- Rising concerns over inflation (84%), political environment/uncertainty (77%) and increasing interest rates (72%) are fueling negative future sentiment.
- Recession concerns continue to fall, down seven points to 63%.
- Supply chain issues also continue to fall from 32% to 27%.

Figure 15: Reasons for Economic Sentiment 12 Months from Now



Future Industry Sector Sentiment

- Future sentiment is positive in most sectors including transportation (Roads/Bridges/Transit/Airports), Energy and Utilities, and Water/Wastewater.
- While most sectors have a positive Net Rating, all but one (Data Centers) have seen a decrease from last quarter.

Figure 16: Industry Sentiment by Sector 12 Months from Now vs. Previous Quarters

Future Industry Sector Sentiment	2023 Q1 (n = 196-402)	2023 Q2 (n = 225-467)	2023 Q3 (n = 203-402)	2023 Q4 (n = 177-362)	Change vs. Previous Quarter
Data Centers	+9	+20	+23	+25	+2
Healthcare Facilities	+30	+23	+25	+24	-1
Federal/Military, State and Local Government Buildings	+28	+32	+28	+26	-2
Education	+9	+11	+14	+11	-3
Convention Centers, Sports Facilities and Cultural Facilities	-13	-10	-6	-10	-4
Residential – Land Development	-25	-19	-10	-15	-5
Justice	-1	+4	+4	-1	-5
Transportation – Transit	+48	+49	+41	+35	-6
Transportation – Airports	+46	+42	+43	+36	-7
Commercial Real Estate	-23	-24	-14	-21	-7
Transportation – Roads and Bridges	+58	+53	+54	+46	-8
Industrial and Manufacturing Facilities	+10	+17	+20	+12	-8
Energy and Utilities	+46	+51	+47	+38	-9
Water/Wastewater	+46	+45	+49	+37	-12
Science and Technology	+25	+25	+35	+21	-14
Telecommunications	+33	+26	+38	+22	-16

Future Backlog

- More than half (52%) believe their firms will see a higher backlog of projects 12 months from now.
- Firms in the West have the lowest future backlog Net Rating (+32) compared to other regions, though this was an increase over last quarter (up four points),
- Firms with 26-50 FTEs have the lowest future backlog Net Rating (+17) compared to other firm sizes.

Figure 17: Backlog 12 Months from Now

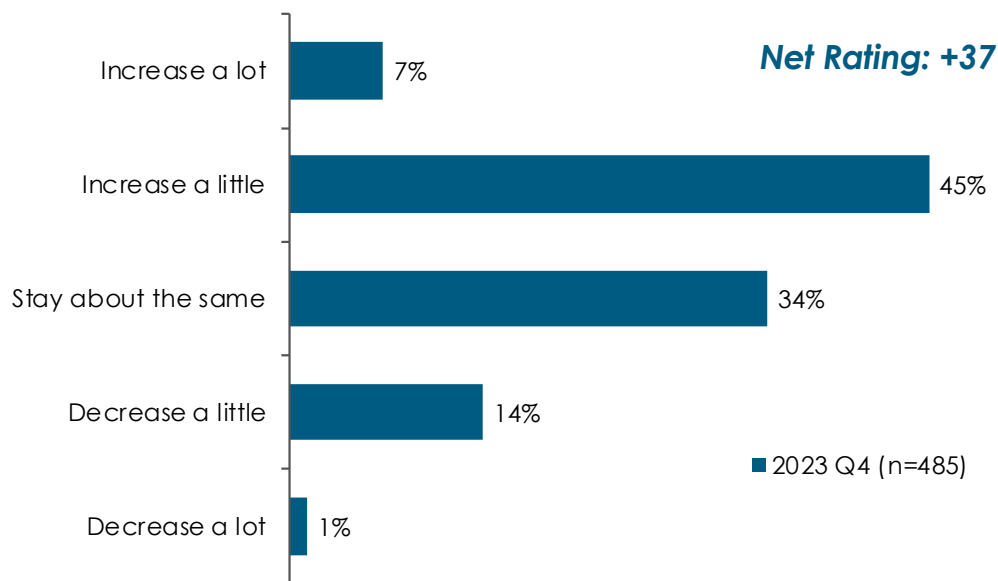
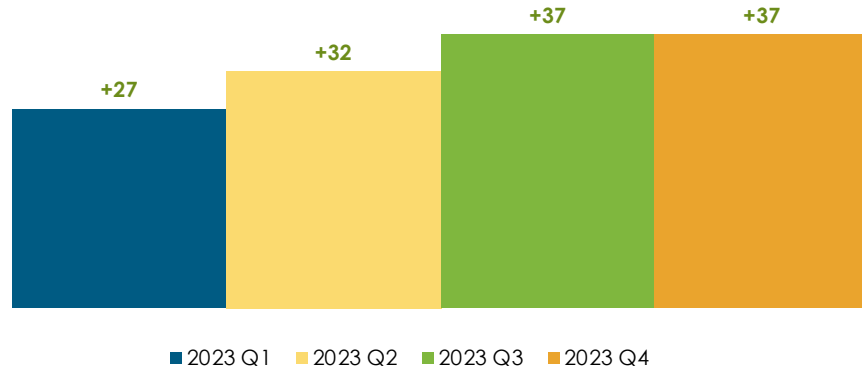


Figure 18: Backlog 12 Months from Now - Net Rating Trend



- About half of the segments expect to see an increase in future backlog, while the other half expect to see a decrease.

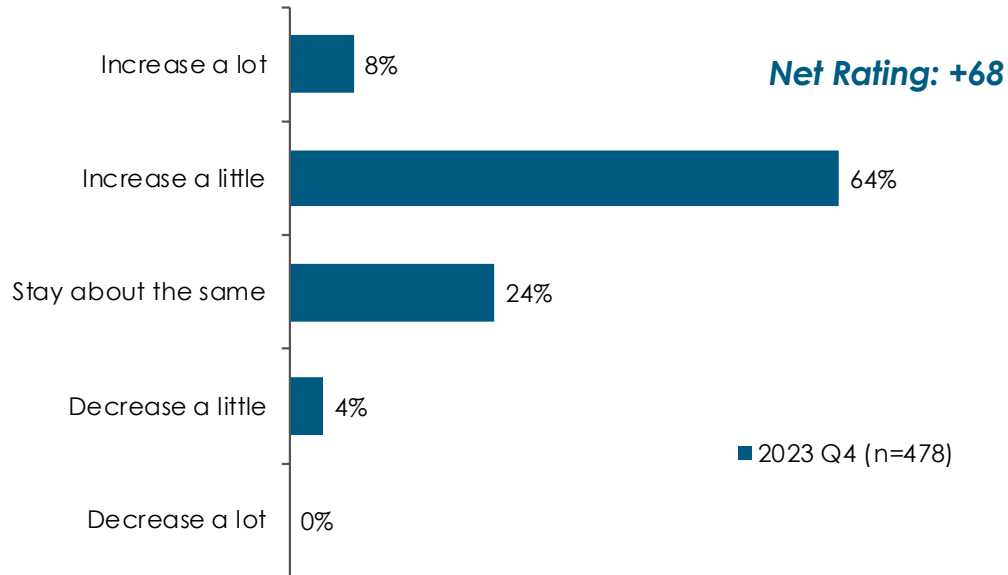
Figure 19: Backlog 12 Months from Now vs. Previous Quarters - By Region and Firm Size

	2023 Q1 (n=522)	2023 Q2 (n=578)	2023 Q3 (n=519)	2023 Q4 (n=485)	Change vs. Previous Quarter
TOTAL	+27	+32	+36	+37	+1
REGION					
Northeast	+61	+39	+48	+45	-3
South	+21	+32	+32	+36	+4
Midwest	+39	+33	+42	+37	-5
West	+2	+26	+28	+32	+4
FIRM SIZE					
1-25	+7	+11	+27	+29	+2
26-50	+13	+21	+20	+17	-3
51-200	+32	+40	+34	+40	+6
201-500	+33	+51	+50	+49	-1
More than 500	+56	+45	+58	+57	-1

Future Hiring Projections

- Seventy-two percent predict there will be an increase in hiring over the next 12 months at their firms, a Net Rating of +68.

Figure 20: Hiring Over the Next 12 Months



- Future hiring sentiment increased two points overall, though a few segments saw decreases.
- The South and the West continue to see growing optimism.
- Firms with 500+ FTEs (+92, up four points) are the most optimistic about future hiring.

Figure 21: Expectations for Hiring Increases Over the Next 12 Months vs Previous Quarters - By Region and Firm Size

	2023 Q1 (n=514)	2023 Q2 (n=569)	2023 Q3 (n=508)	2023 Q4 (n=478)	Change vs. Previous Quarter
TOTAL	+65	+67	+66	+68	+2
REGION					
Northeast	+83	+73	+77	+72	-5
South	+54	+60	+60	+67	+7
Midwest	+77	+73	+74	+68	-6
West	+50	+63	+60	+68	+8
FIRM SIZE					
1-25	+37	+42	+51	+57	+6
26-50	+62	+65	+66	+57	-9
51-200	+77	+73	+63	+68	+5
201-500	+70	+83	+81	+76	-5
More than 500	+81	+81	+88	+92	+4

Inflation

- Concern over the impact of inflation remains high.
- Executives are more anxious about the impact of inflation on their firms, returning to levels seen in the first two quarters of 2023.

Figure 22: Inflation Concerns

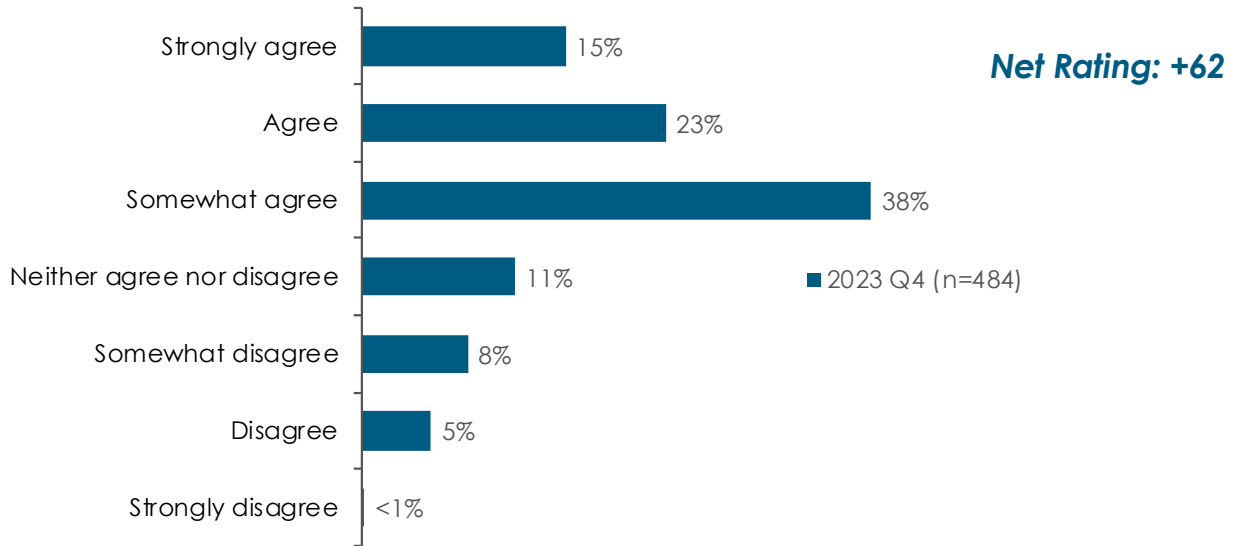
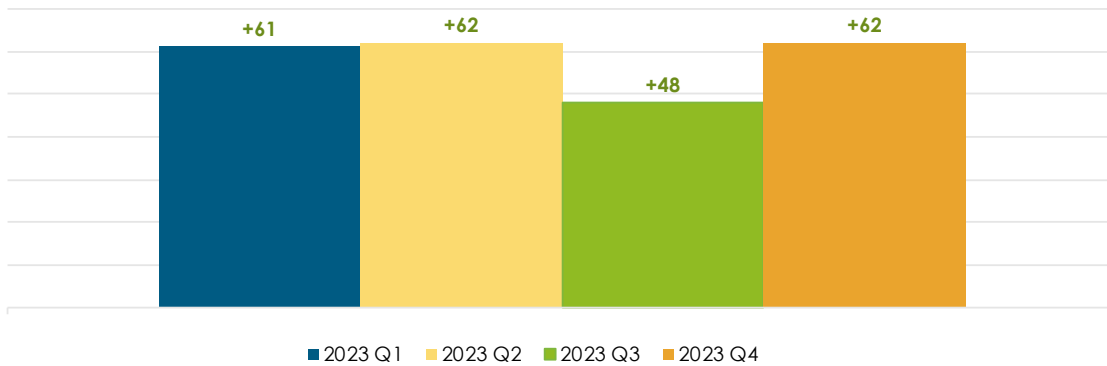


Figure 23: Inflation Concerns vs. Previous Quarters

I am extremely concerned about the impact inflation will have on my firm in the coming year.



Likelihood of Recession in Next 6 Months

- The average likelihood of a recession in the next six months is 49% (median: 50%). This is an increase of three points compared to last quarter.

Figure 24: Likelihood of Recession in Next 6 Months vs. Previous Quarter

	2023 Q3 Average (n=518)	2023 Q4 Average (n=473)	Change vs. Previous Wave
TOTAL	46%	49%	+3
REGION			
Northeast	43%	46%	+3
South	48%	51%	+3
Midwest	44%	49%	+5
West	48%	48%	0
FIRM SIZE			
1-25	50%	53%	+3
26-50	48%	51%	+3
51-200	46%	47%	+1
201-500	42%	47%	+5
More than 500	42%	45%	+3

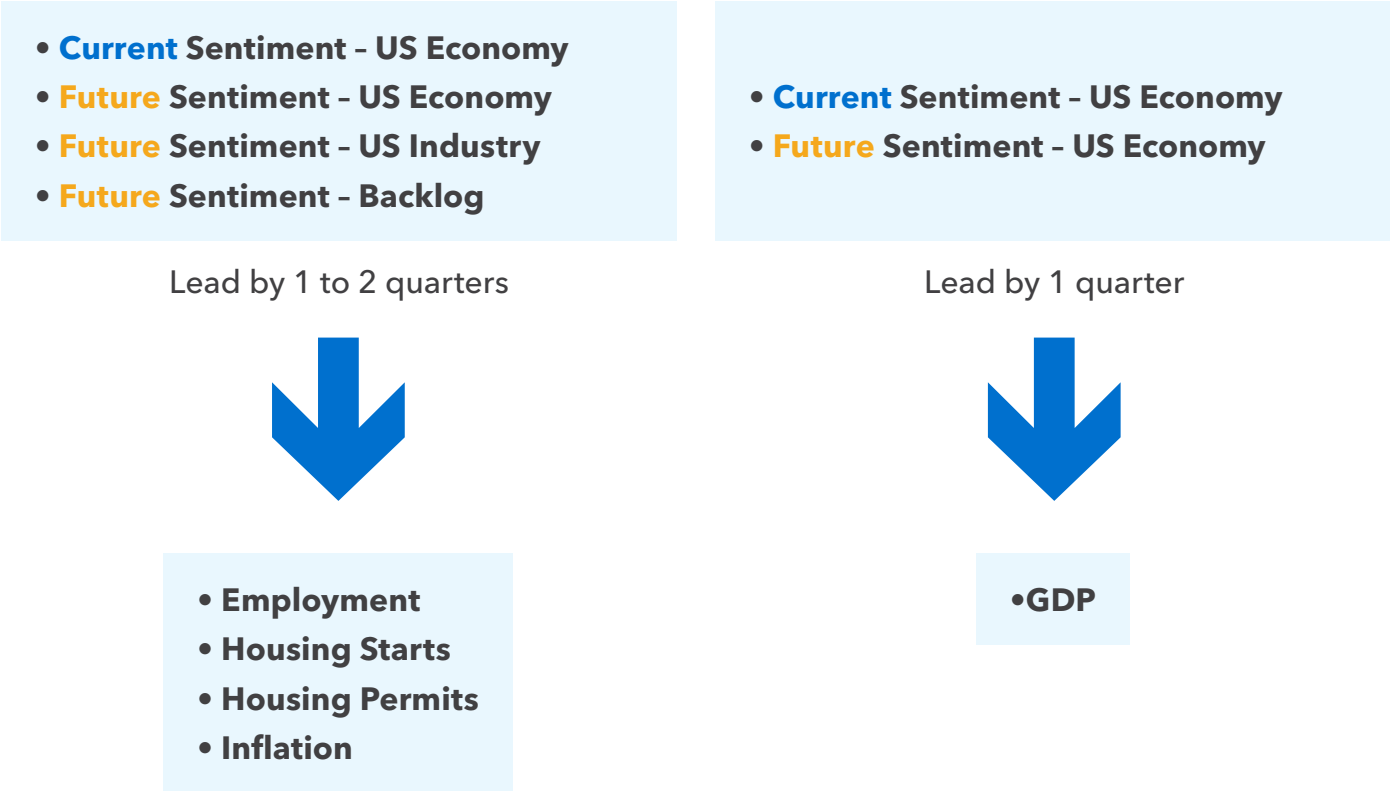
BUSINESS SENTIMENT STUDY AND ECONOMIC INDICATORS

After conducting the ACEC Business Sentiment Survey for eight quarters, the ACEC Research Institute performed a correlation analysis of various metrics within the survey and various macro-economic indicators.

The initial correlation analysis found many of the study metrics are coincidental indicators with various macro-economic indicators.

Further, by offsetting the study metrics with the macro-economic indicators by one quarter and then by two quarters even stronger correlations with the macro-economic indicators were revealed, signifying various study metrics are leading indicators for the macro-economic data.

- Various sentiment study metrics are leading indicators of macro-economic indicators by 1 to 2 quarters. Due to declines on these metrics seen in Q4 2023, we can expect to see weakening macro-economic indicators in Q1 and Q2 of 2024.

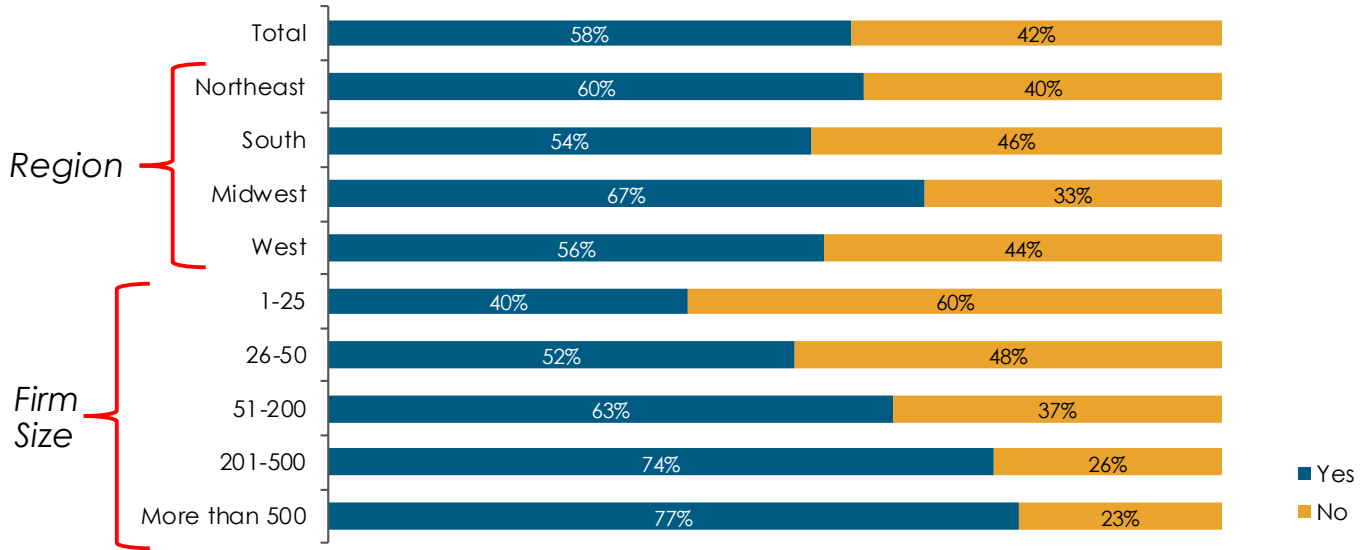


HOT TOPICS

Research and Development

- Fifty-eight percent of firms conducted research and development in 2023.
- While there is no discernable pattern across regions, it is clear that the larger one's firm, the more likely one's firm is to have conducted research in 2023.

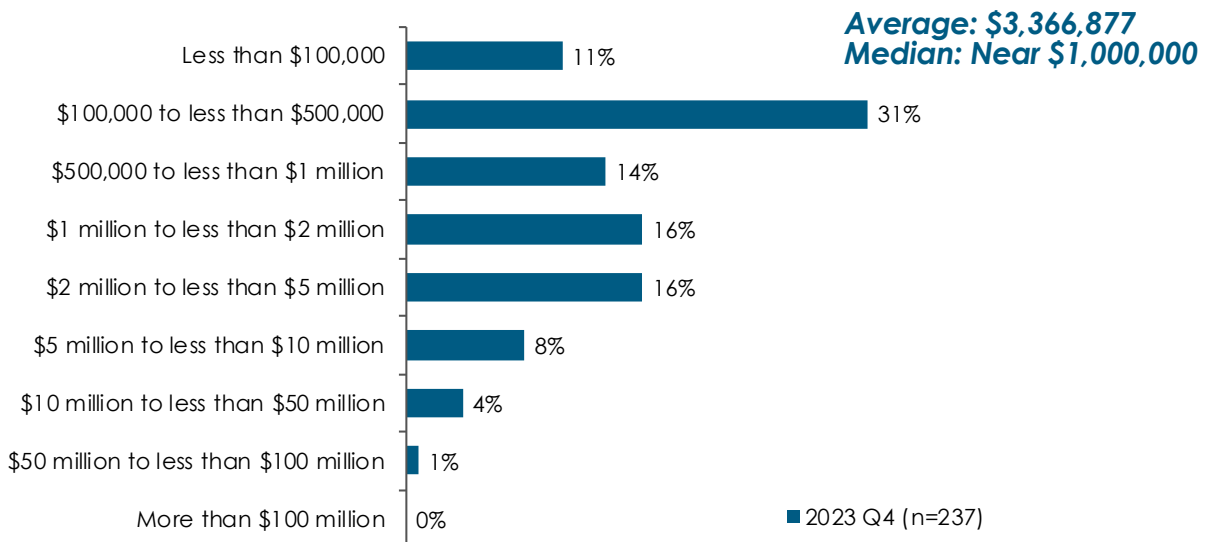
Figure 25: Conducted Research and Development in 2023



Investment in Research and Development

- Forty-five percent of firms conducting research spent at least \$1 million.

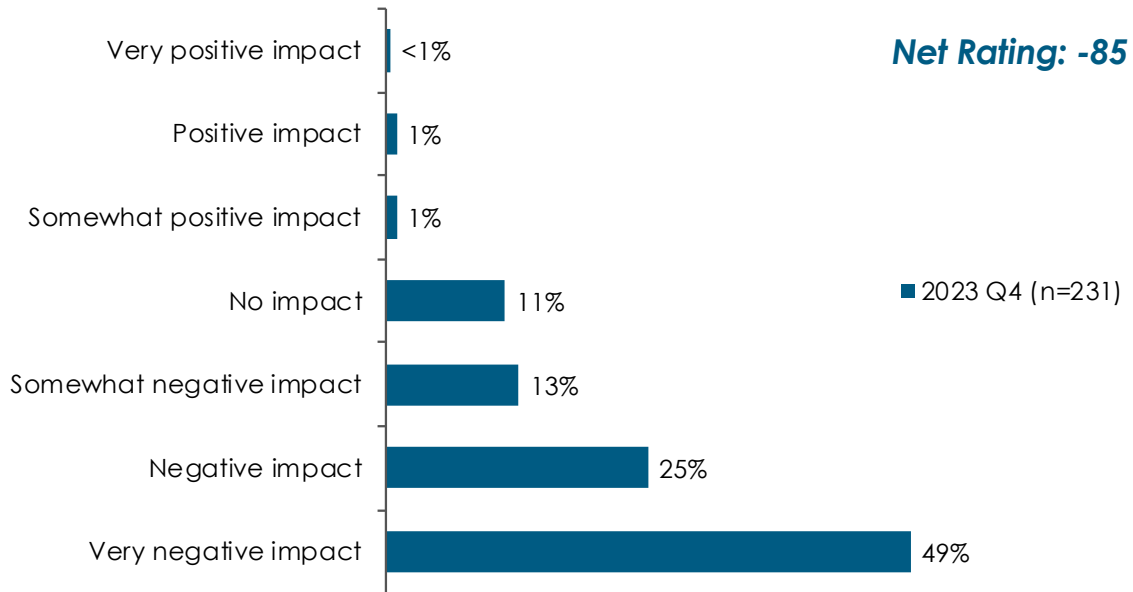
Figure 26: Investment in R&D in 2023 (\$)



Impact of the Change In R&D Tax Amortization Requirements

- Eighty-seven percent of firms conducting R&D indicate that the change in R&D tax amortization requirements will affect their firms negatively.

Figure 27: Impact of the Change In R&D Tax Amortization Requirements



- Among those impacted, the average will be a loss of nearly \$1.5 million (median loss of \$400,000).
- As would be expected, the smallest firms will lose the least and the largest will suffer the greatest losses.

Figure 28: Impact of New R&D Tax Amortization Requirements (\$)

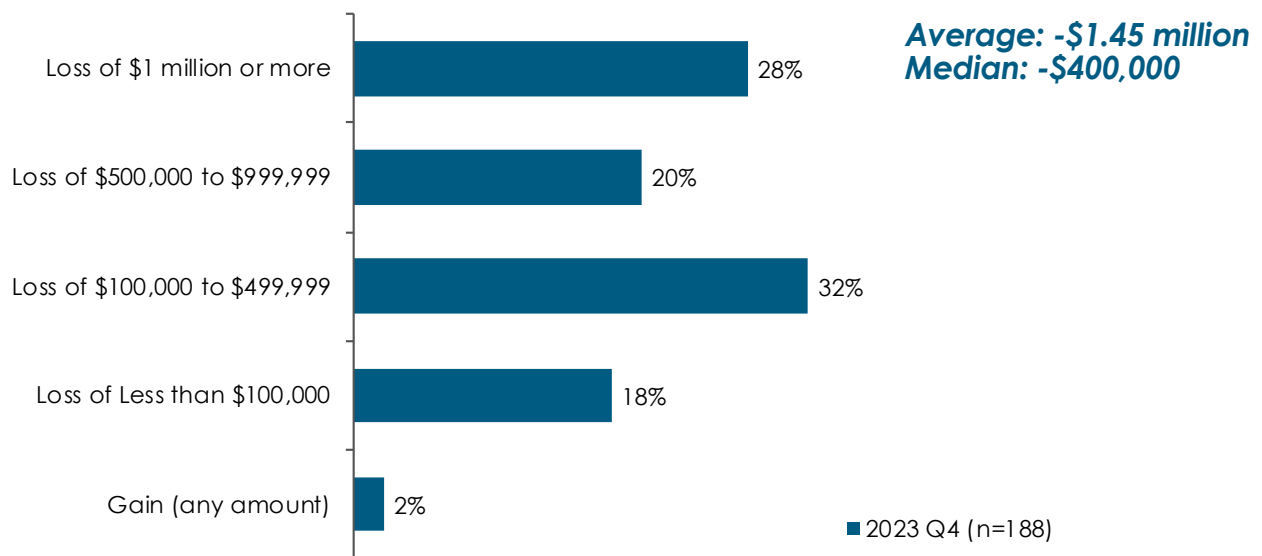


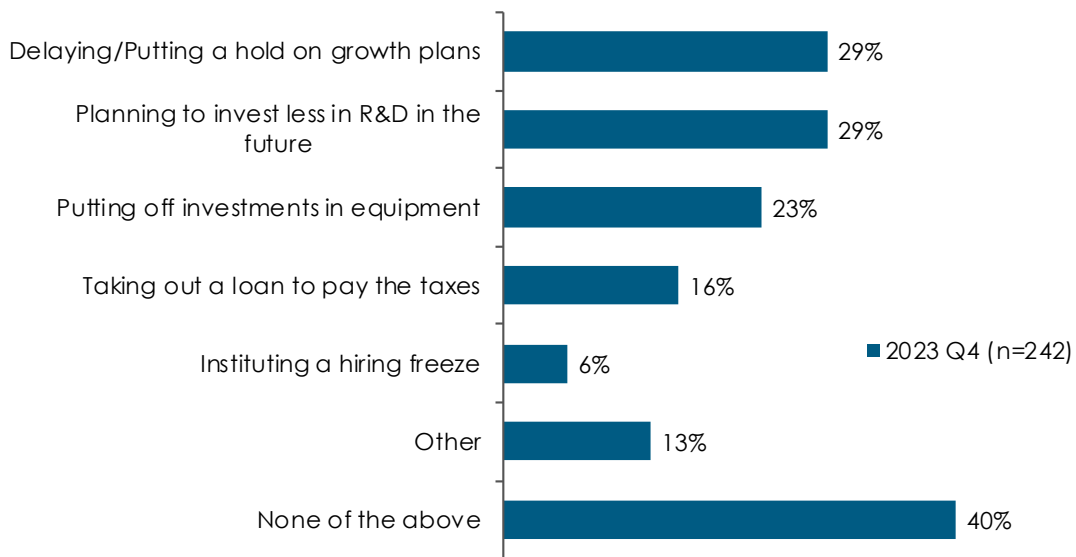
Figure 29: Impact of New R&D Tax Amortization Requirements (\$) by Firm Size

By Firm Size	Total	1-25	26-50	51-200	201-500	More than 500
Loss of \$1 million or more	28%	3%	6%	23%	60%	61%
Loss of \$500,000 to \$999,999	20%	8%	16%	30%	24%	16%
Loss of \$100,000 to \$499,999	32%	38%	52%	33%	12%	19%
Loss of Less than \$100,000	18%	46%	23%	13%	4%	3%
Gain (any amount)	2%	5%	3%	2%	0%	0%
Mean	-\$1,451,776	-\$171,946	-\$364,419	-\$846,094	-\$2,258,000	-\$4,666,935
Median	-\$400,000	-\$92,000	-\$160,000	-\$500,000	-\$1,200,000	-\$1,000,000

Actions Taken as a Result of New R&D Tax Amortization Requirements

- Twenty-nine percent of firms say they will delay/put a hold on growth plans, and likewise 29% indicate they will invest less in additional R&D.

Figure 30: Actions Taken as a Result of New R&D Tax Amortization Requirements



METHODOLOGY

The Institute for Association and Nonprofit Research (IFANR) recruited individuals from among the database list of members provided by the ACEC Research Institute. Data collection occurred between September 14 and September 27, 2023.

A total of 9,013 invitations were emailed, although 1,846 bounced and 54 opted-out, resulting in a total of 7,167 potential respondents. Individuals who did not respond to the first email were sent three follow-up reminders.

In all, 539 individuals completed the survey for an overall response rate of 8%.

Throughout this report meaningful, statistically significant differences are noted for various subgroups, including geographic region and firm size.

NOTE: Throughout this report, “Net Ratings” are shown on many graphs to quantify the sentiment of respondents. The Net Rating is calculated by subtracting the negative ratings from the positive ratings. Therefore, a positive Net Rating indicates overall sentiment is optimistic while a negative Net Rating indicates an overall pessimistic sentiment. The higher the numeric value the stronger the sentiment (either optimistic or pessimistic).

STATISTICAL NOTES

Due to rounding, not all graphs total 100%.

Statistically significant differences are evaluated at a 95% confidence interval.

There is no margin of sampling error as this was a census of all executive-level individuals at member firms in the ACEC database.

Although every effort was taken to minimize survey bias, there is no way to eliminate all sources of potential bias. Sources of potential bias include, but are not limited to, the following:

- Non-response bias
- Confounding bias
- Question wording bias
- Question order bias
- Habituation
- Sponsor bias
- Confirmation bias

The ACEC Research Institute provides the engineering industry with cutting edge research, trend data, and economic analysis to help firm owners make decisions and delivers thought leadership that advances engineering's essential value to society.

The ACEC Research Institute wishes to extend its sincere appreciation to its generous contributors.

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