

**A Big Picture of the Printing Industry:
Revenue Trends, Inflation Effects, Business Outlook,
Other Knowledge and Actionable Thoughts**

PRINTING INDUSTRY
PERFORMANCE & INSIGHTS

Providing regional printing association members
a printing industry outlook view and actionable knowledge.

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**A Big Picture of The Printing Industry:
Revenue Trends, Inflation Effects, Business Outlook,
Other Knowledge and Actionable Thoughts**

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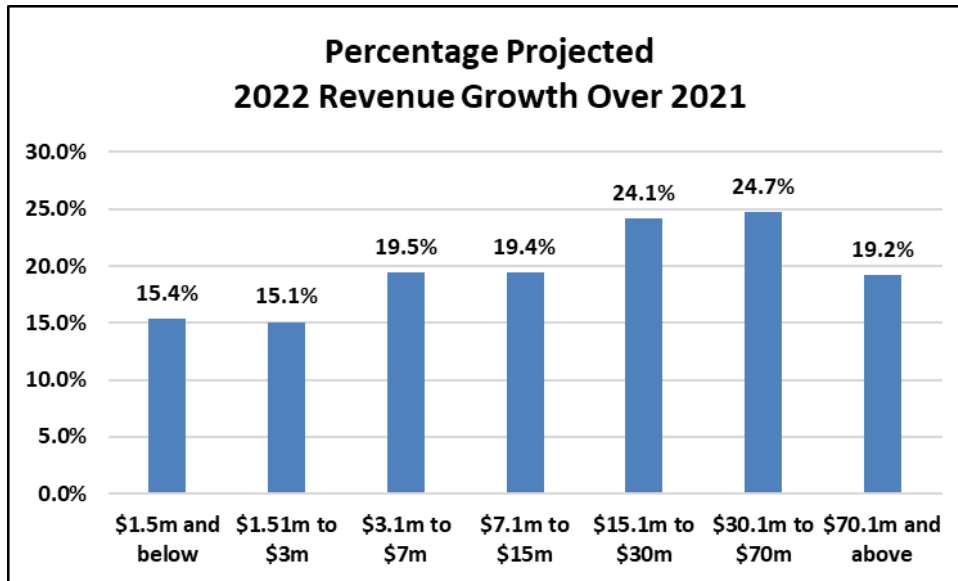
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Below we provide a big-picture view of the printing industry drawn from our October 2022 PIPI (*Printing Industry Performance and Insights*) survey. We offer actionable suggestions throughout the report. We appreciate the 15 regional printing associations that sponsor and support our research. We list those associations at the end of the report. Thank you to my economics professor colleague, listed above as a coauthor, who helped with this study and report.

Revenue trends

Our October 2022 PIPI survey results indicate that on average printing firms' saw an 11.72% increase in their 2021 revenue over their 2020 revenue. In addition, on average their projected 2022 revenue increased an impressive 19.48% over 2021. "That ain't bad!"

The projected 2022 percentage average revenue growth over 2021 for seven firm size categories is shown in the chart below. The chart *suggests* that in 2022 larger printing firms are growing a bit more than smaller firms. Larger firms' growth may stem from mergers and acquisitions. We also explored the same for 2021 over 2020, but no trends were apparent.

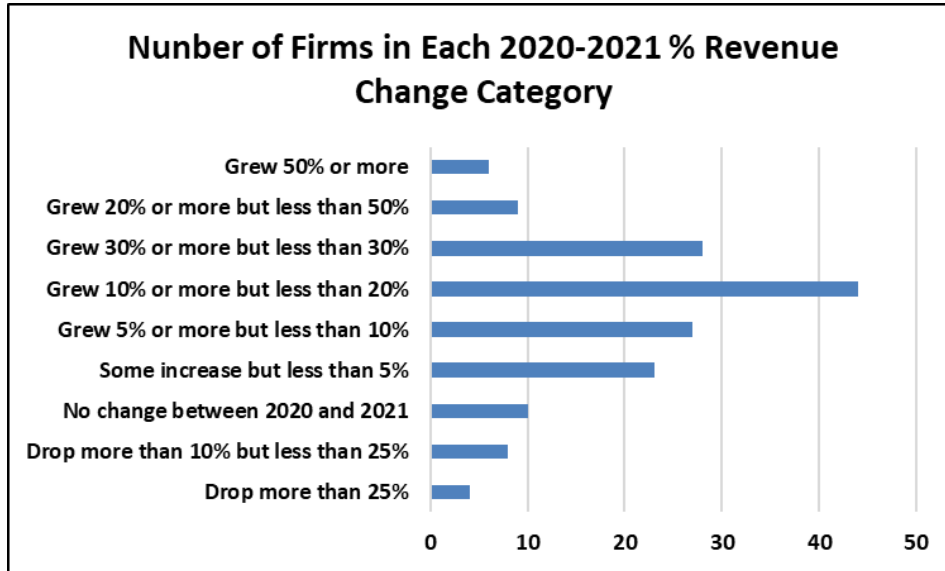


But are those numbers the product of more business, or are those numbers the result of inflation? The consumer price index (CPI) indicates that prices increased by 6.24% from October 2020 to October 2021 and 7.76% from October 2021 to October 2022. We adjusted the revenue numbers in our surveys for those CPI inflation statistics. Our findings suggest that when we hold inflation constant, on average association member printing firms' 2021 revenue increased by 4.79% compared to 2020, and they project a 10.16% increase in 2022 over 2021. From another view, when one looks at the producer price index (PPI) for the printing industry – which roughly measures input costs – the PPI survey indicates that revenue growth outstripped cost growth. PPI grew 6.06% from October 2020 to October 2021 and 19.41% from October 2021 to October 2022. Bottom line... even after adjusting for inflation, our numbers indicate solid average growth among association member printing firms.

Prompted by an association member's suggestion, we explored how printing firms have recovered from Covid. Our data indicate that printing firms averaged a 10.77% drop in 2020 revenue over 2019, and their 2021 revenue was 1.04% lower than their 2019 revenue. However, their projected 2022 revenue would surpass 2019 by 22.37%. It appears that our industry is bouncing back.

However, the variation in how printing firms are bouncing back from Covid is striking. The chart below shows the number of firms that fell into various

categories of percentage revenue change from 2020 to 2021.¹ Yes, from an extensive view, it appears the printing association member firms are recovering from Covid. But firms are all over the place in the extent they have recovered.



When I led printing companies over a decade ago, printing firms were more similar than they are today. For instance, most \$5 million firms applied similar processes to produce comparable product mixes. Now, printing firms are more diverse and continue to increase in variety. So, in our PIPI studies, we attempt to identify “strategic groups” – firms that are somewhat alike in production processes and product mixes. The strategic groups that surface from each study depend on the nature of the survey participating firms. Therefore, the strategic groups we discover in different studies vary slightly. However, we see some consistencies in the strategic groups we identify in different studies, and from an industry view, our strategic groups make sense.

We describe the six strategic groups that surfaced from our October 2022 PIPI study in the chart below. The chart shows the average percentage 2022 and 2021 revenue increases for of each strategic group. You might consider how your firm’s revenue relates to a comparable strategic group.

¹ We see the same variation in the percentage changes between 2021 revenue and 2022 projected revenue.

Strategic Group #	Strategic Group Description	2021 % revenue over 2020	2022 % revenue over 2021
1	Digital printing.		
	Sheetfed printing.	10.05%	20.04%
	General commercial printed products.		
2	Digital printing	11.59%	12.73%
	General commercial printed products.		
3	Digital printing.		
	General commercial printed products.	12.02%	24.53%
	Other products and services, such as fulfillment, promotional products, consulting, or marketing.		
4	Digital printing.		
	Flexography (flexo printing).	13.51%	13.17%
	Specialized packaging (adhesive labels, shrink labels, flexible packaging).		
5	Digital printing.		
	Sheetfed printing.		
	General commercial printed products.	16.06%	23.20%
6	Other products and services, such as fulfillment, promotional products, consulting, or marketing.		
	Web offset printing.	5.38%	26.91%
	General commercial printed products.		

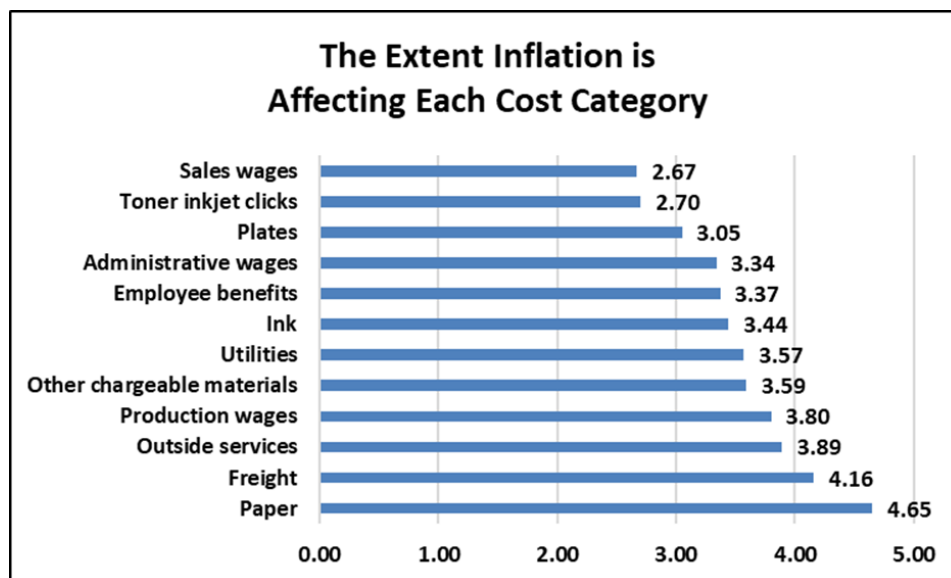
What can you do with all this revenue information? Consider the following:

- Share with your leadership team the material above and your firm’s related percentage revenue changes. If you are not doing as well as the averages shown above, seek to identify as many potential reasons as possible – fill the whiteboard. Then, identify the most relevant causes and explore possible ways to address those issues.
- As shown in the chart above, printing firms are all over the place in their recovery. If your firm’s drop related to Covid was more significant than others, or your firm has not recovered as well as numbers above indicate, you might consider, “why did Covid hit us harder than other printing firms?” or “what’s holding us back?” Covid is not the last challenging situation that we will endure. This thinking may help you prepare for other potential environmental challenges, such as the recession many folks think is coming soon.
- Let this data prompt you and your team to *think* and *act*.
- If your firm is doing better than the numbers above, step back and identify why and reinforce those strategies.

- Regardless of how you compare, you might share with your entire employee team what you see and what changes you plan to implement – get everyone on board.
- If particular team members or departments helped create good results compared to the averages, you might provide positive reinforcement.
- Of course, good results compared to the averages may allow you to tell your entire team, “Look at how WE are doing!”

Inflation

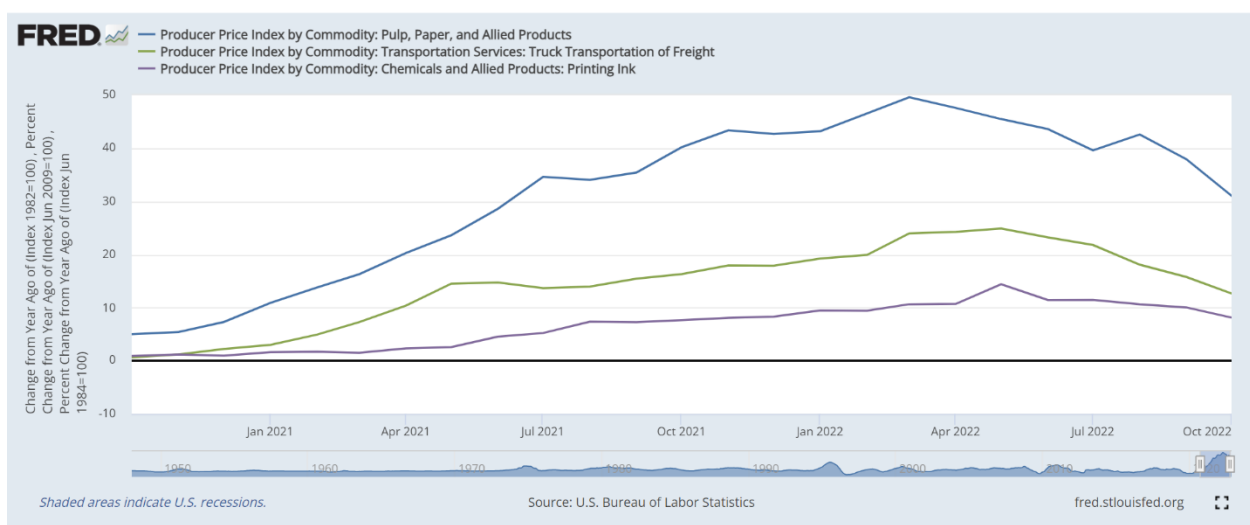
We asked survey respondents to indicate the extent inflation is affecting twelve cost categories on a one-to-five scale (1 - not at all, 3 - Some, but it's manageable, 5 - Inflation is affecting this cost category a lot!). The 12 cost categories and the average response for each are provided in the chart below. It shouldn't surprise anyone connected to our industry that paper surfaced at the top of the list. In another report from our October 2022 PIPI study, we will share knowledge gained about the effects of the paper supply chain and thoughts related to managing the paper supply chain issues. Also, working to provide a big-picture view of what's going on in the paper industry, I am working with supply-chain professors to interview folks from paper mills, merchants, and printing companies. Hopefully, we will soon share what we find.



Freight had the second-highest average rating for cost categories affected by inflation. One might connect increasing freight costs to the surging diesel prices,

which, from a simple look at the contemporary press, might continue into 2023. If freight is a significant cost element for your firm, consider stepping back and reviewing the process your team applies for selecting freight options – who makes those decisions, when are those decisions made, and what drives those decisions? Seek to build relationships with freight suppliers, more than merely transactional interactions. Other thoughts: ship more product, ship less often; ship at off-peak times, such as late in the day or early in the week; and explore load boards (also called freight boards or freight load boards), which are online marketplaces where truck owner-operators, shippers, and freight brokers find loads to keep freight moving.

From the graph below, our findings indicating paper and freight are key cost concerns for printing companies is consistent with reports from the Federal Reserve Bank of St. Louis.²



Outside services, production wages, other chargeable materials, and utilities fell in the next group of cost categories affected by inflation. Regarding external services and other chargeable materials, like what was said about freight above, you might explore the process applied in your firm for choosing outside services and materials. Consider building strategic relationships with outside service providers. In a printing company I led, we built a strategic relationship with a bindery company – we provided them work; they provided us work; we priced work to help them win, and they did the same for us.

² <https://fred.stlouisfed.org/categories/31>

Interestingly, the average responses for production wages' inflation effect were higher than those for administrative and sales wages. We applied a very systematic approach to managing production wages. Every December, as part of our annual budgeting, we used industry surveys to evaluate the salaries we paid for each production position, and we reviewed each production employee's wage. We then adjusted production employee wages accordingly. In December and July, we reviewed wages for production employees who were training for a position, adjusting their wages as they moved toward the full ability to perform in that position. This was much better than the "reactionary" we applied before developing a systematic approach.

To manage utility costs, there are apparent savings approaches: program thermostats, turn off lights when not in use, run fans, power down computers when not in use, and others. Consider seeking an energy audit from your local utility company, from which they might provide helpful suggestions. As one other thought, you might nurture in your company's values and culture the aim to reduce utility costs – seek ideas from all employees and share cost reductions achieved with your entire team.

Above, we discussed the top six cost categories printing firm leaders reported as most affected by inflation. We suggest you review the bottom six (ink, employee benefits, administrative wages, plates, toner inkjet clicks, and sales wages). If your firm is experiencing a dramatic inflationary push in one of those categories, you might look closely at what's going on there.

We asked, "Is raising prices to accommodate higher costs affecting demand for your products?" Survey participants had the following six response options:

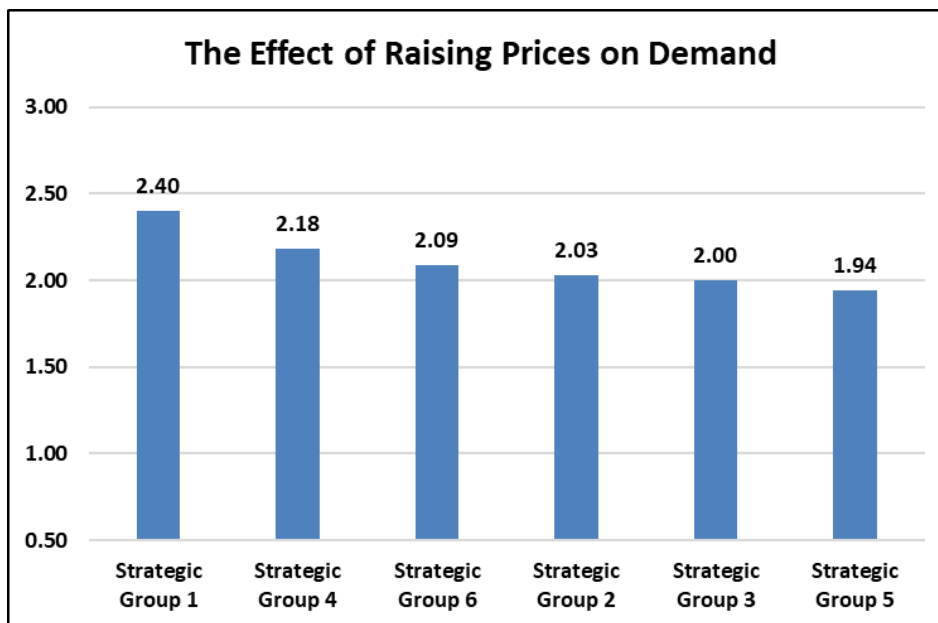
- We have not raised prices to accommodate higher costs (0)
- Raising prices has not affected demand for our products (1)
- Raising prices has affected demand for our products a little (2)
- Raising prices has affected demand for our products some (3)
- Raising prices has affected demand for our products very much (4)
- Raising prices has affected demand for our products tremendously (5)

Seven printing firm leaders, less than four percent of those who completed the survey, indicated they had not raised prices to accommodate higher costs. It sounds like most printing firms are increasing their prices.

We analyzed the perception of how raising prices has affected demand in the strategic groups that surfaced in the October 2022 PIPI survey. We provide the averages from the one-to-five scale for each of the six strategic groups in the chart below. A bar chart below also shows those numbers. Group one's (digital printing, sheetfed printing, general commercial printed products) highest average for this question *suggests* some benefit of including complementary services to your product mix. Our perception, from our ongoing PIPI studies, is that complementary products or services (such as promotional products, fulfillment, consulting, or marketing, to name a few possibilities) can help printing companies. You might consider talking with customers and ask questions like, "What other products or services can we provide you?" or "Or, what do you need?" Apply open-minded thinking in considering complementary products or service to provide. Explore multiple possibilities, and apply good thinking is deciding what to provide. The option that first surfaces is not always THE best option.

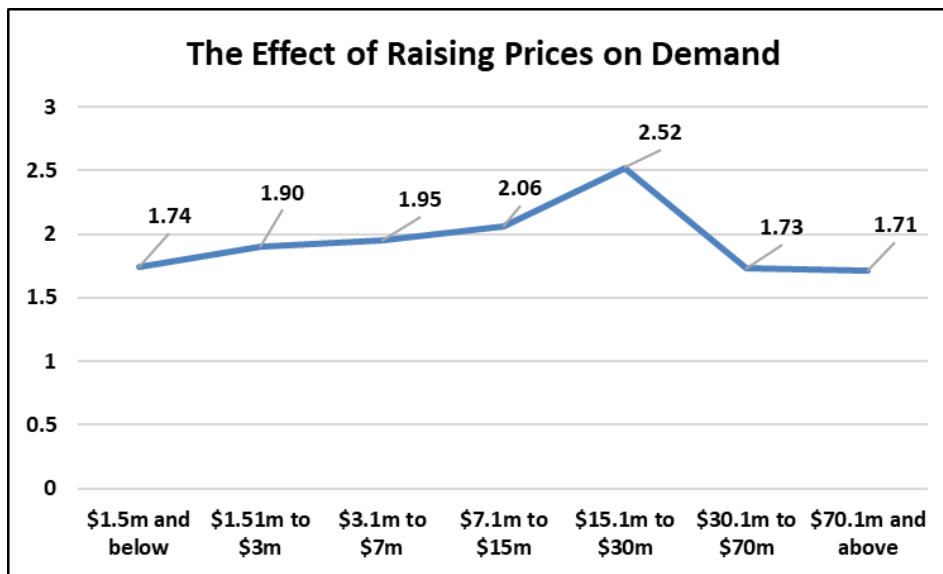
Group four, flexography and specialized packaging, had the second highest average for the "effect of raising prices on demand." This might reflect the manufacturers who may focus on product costs that group four serves.

Strategic Group #	Strategic Group Description	The effect of raising prices on demand
1	Digital printing. Sheetfed printing. General commercial printed products.	2.40
2	Digital printing General commercial printed products.	2.03
3	Digital printing. General commercial printed products. Other products and services, such as fulfillment, promotional products, consulting, or marketing.	2.00
4	Digital printing. Flexography (flexo printing). Specialized packaging (adhesive labels, shrink labels, flexible packaging).	2.18
5	Digital printing. Sheetfed printing. General commercial printed products. Other products and services, such as fulfillment, promotional products, consulting, or marketing.	1.94
6	Web offset printing. General commercial printed products.	2.09



The average response for the effect of raising prices on demand by firm size is shown in the chart below. Why did the “\$15.1m - \$30m” size category have the

highest average response? – we haven't a clue! We had 31 responses in this category size. So, we don't think this was a sampling issue, but that's a possibility.



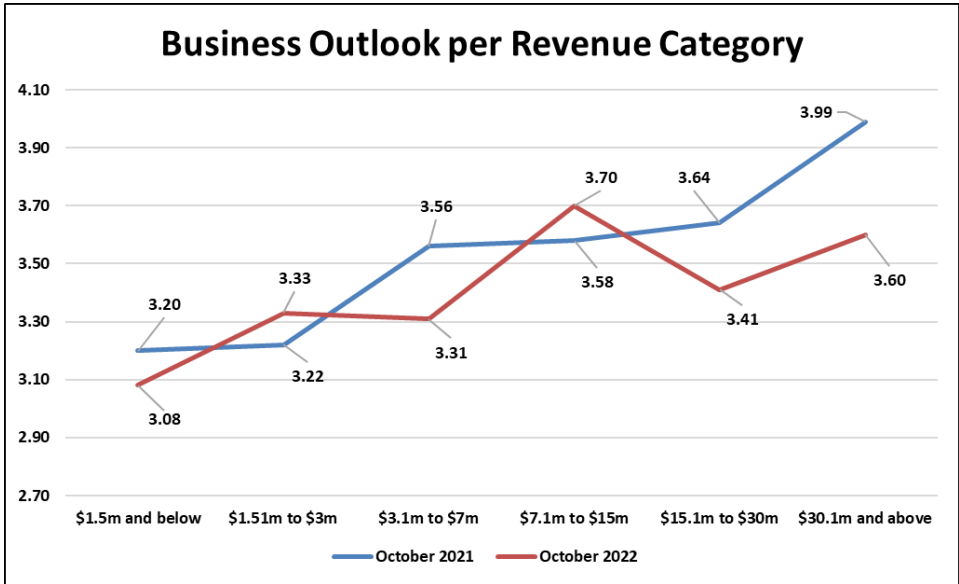
If you perceive that raising prices is affecting demand for your firm's products, your team might consider the following:

- Focus on building relationships with your customers, connections that are deeper than mere transactions.
- Related, consider what values and culture you might embed in your firm to deepen customer relationships.
- As mentioned above, ponder possible complimentary services or products your firm may add that would add value to what you bring customers.
- Market "the value" of what you provide in your products and services, both in communication tools such as websites, social media, printed brochures, or mailings and in one-on-one sales encounters.
- Aggressively look for ways to streamline production and reduce costs/prices.

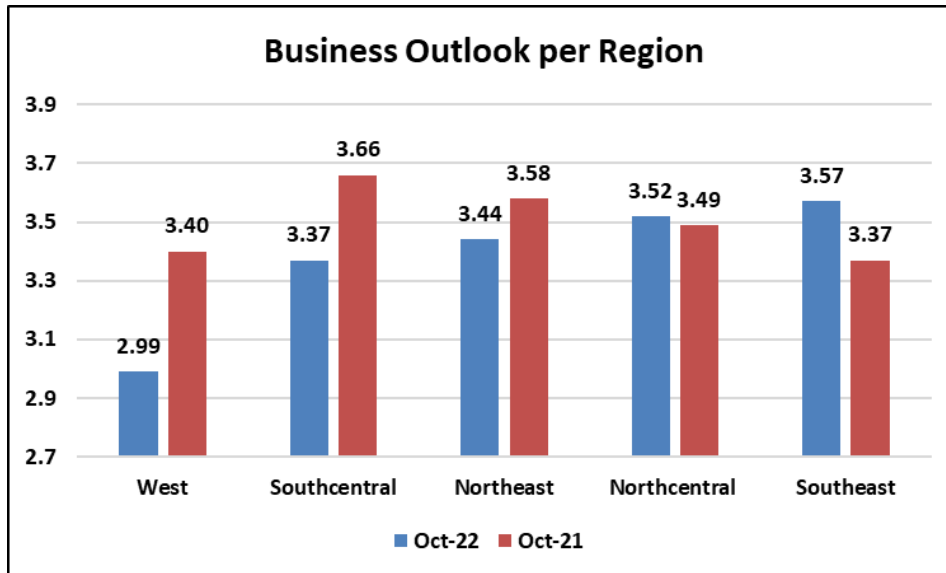
Business Outlook

We explore printing firm leaders' business outlook in each October PIPI study. We ask a series of questions that apply a one-to-five scale (1 = Very pessimistic; 3 = Neutral; 5 = Very optimistic). We provide industry outlook averages for revenue category sizes in the chart below. The blue line indicates October 2021 averages, and the red line indicates October 2022 averages. As in 2021, in 2022 we see a

slight increase in business outlook as firm revenue size increases. However, four of the six revenue categories indicate a decrease in business outlook, which suggests a slight business outlook decline among printing firm leaders. We analyzed business outlook among the six strategic groups that surfaced from our data, but there were no significant differences between the groups.



We provide the average response for business outlook per region in the chart below. The states included in each region are listed at the end of the report. The blue bars represent October 2022, and the red bars represent October 2021. The regions are placed from lowest to highest October 2022 response average. Average October 2022 business outlook responses for the Southeast and Northcentral regions grew relative to October 2021, with the Southeast growing most significantly. Three of the five region’s October 2022 averages dropped from their October 2021 average, the West and Southcentral most significantly.

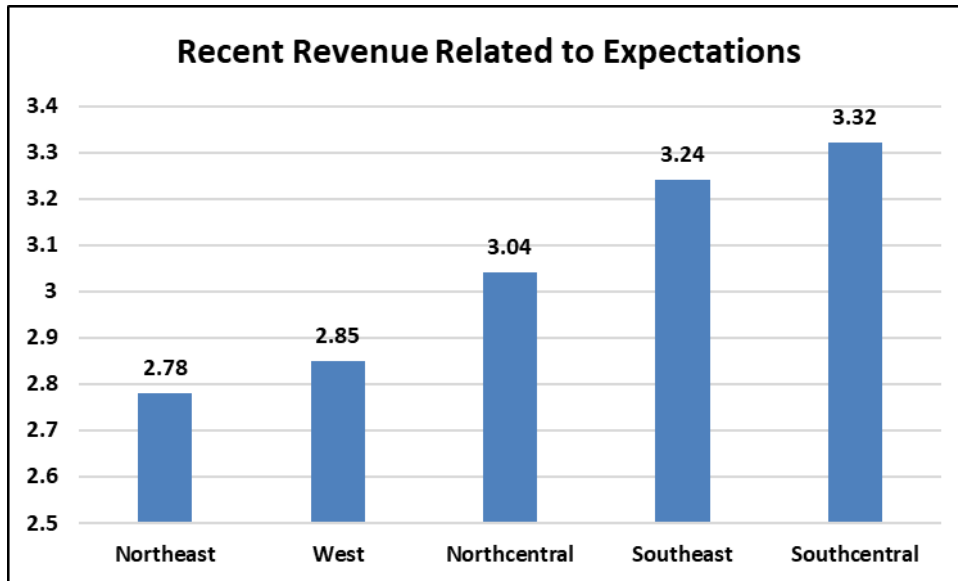


In the context of concerns over a looming recession, we asked, “Some economists say we are moving toward recession. Are you seeing a recent unexpected dip in revenue?” Respondents replied on a one-to-five scale with these options:

- Yes, recent revenue has declined substantially below expectations (1)
- Recent revenue is a bit below expectations (2)
- We are close to revenue expectations (3)
- Recent revenue is a bit above expectations (4)
- Recent revenue is significantly above expectations (5)

The average response was 3.05, which suggests that our industry, as a whole, is not yet seeing a recession.

We looked at recent revenue related to expectations per U.S. region. The average response per region is shown in the chart below. Although each of the average regional responses is around three (We are close to revenue expectations), the Southeast and Southcentral are the highest in revenue related to expectations, and the Northeast and West are the lowest. Interestingly, the West region is at the lower end of the recent revenue related to expectations graph, which parallels the regional outlook averages presented above. However, we see the Southcentral region at the highest end of the chart below and the lower area of the outlook graph. If you are considering expanding, merging, or acquiring in another region, you might consider these findings.



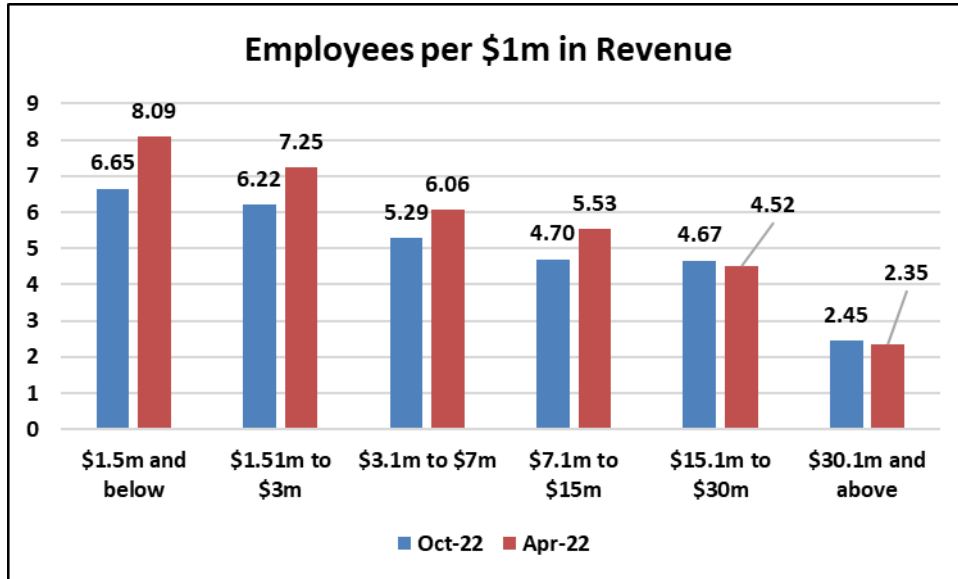
As we teach in strategic management courses, it is helpful to step back and view the external environment. And our industry is facing challenges: substitute products (digital media), supplier issues (paper), complementing industry (postal service) issues, and others. However, we still see evidence of solid performance among association member printing firms. I once heard in a sermon, “See the present rightly - but be not afraid.” Printing firm leaders, see the external environment, plan, form a direction, and act.

Employees per \$1m in Sales

Last, we explored the number of employees per million dollars in revenue in various firm size categories, which we include in the chart below. The employee numbers from our October 2022 survey are in blue, and the numbers from our April 2022 numbers are in red. Both surveys’ results indicate the number of employees per \$1 million in revenue decreases as the firm size grows. The very interesting point from the chart below is that the number of employees per \$1 million in revenue for the four smaller firm size categories shrank from April 2022 – only about six months ago! Is this the result of the labor shortage, enhanced efficiency, or both? Maybe. Here are two takeaways you might consider:

- If your company is growing, don’t assume your number of employees should grow at the same pace as your revenue.

- Most small to medium-sized printing companies are doing more with fewer employees, maybe not by choice, but that is a potential competitive advantage. Continue to push for efficiency.



We hope you find the knowledge provided above helpful. If you have any suggestions or questions related to this report or the PIPI studies, please email Ralph Williams at ralph.williams@mtsu.edu

Participating Regional Printing Associations

- FGA – Florida Graphic Alliance
- GAA – Graphic Arts Association
- GLGA – Great Lakes Graphics Association
- GMA – Graphic Media Alliance
- PGAMA – Printing and Graphics Association Mid-Atlantic
- PIA – Printing Industries Alliance
- PIAMA – Printing and Imaging Association MidAmerica
- PIAS – Printing Industry Association of the South
- PIASC – Printing Industry Association of Southern California
- PIASD – Printing Industry Association of San Diego
- PICA – Printing Industry of the Carolinas
- PIMW – Printing Industry MidWest
- PINE – Printing Industries of New England
- PMA – Print Media Assoc.
- VMA – Visual Media Alliance

States Included in Each Region

Northcentral

Illinois
Indiana
Kansas
Michigan
Minnesota
Missouri
Nebraska
Ohio
South Dakota
Wisconsin

Northeast

Connecticut
Maryland
Massachusetts
New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island

Southcentral

Arkansas
Kentucky
Louisiana
Oklahoma
Texas

Southeast

Alabama
Florida
Georgia
Kentucky
Mississippi
North Carolina
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Tennessee
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