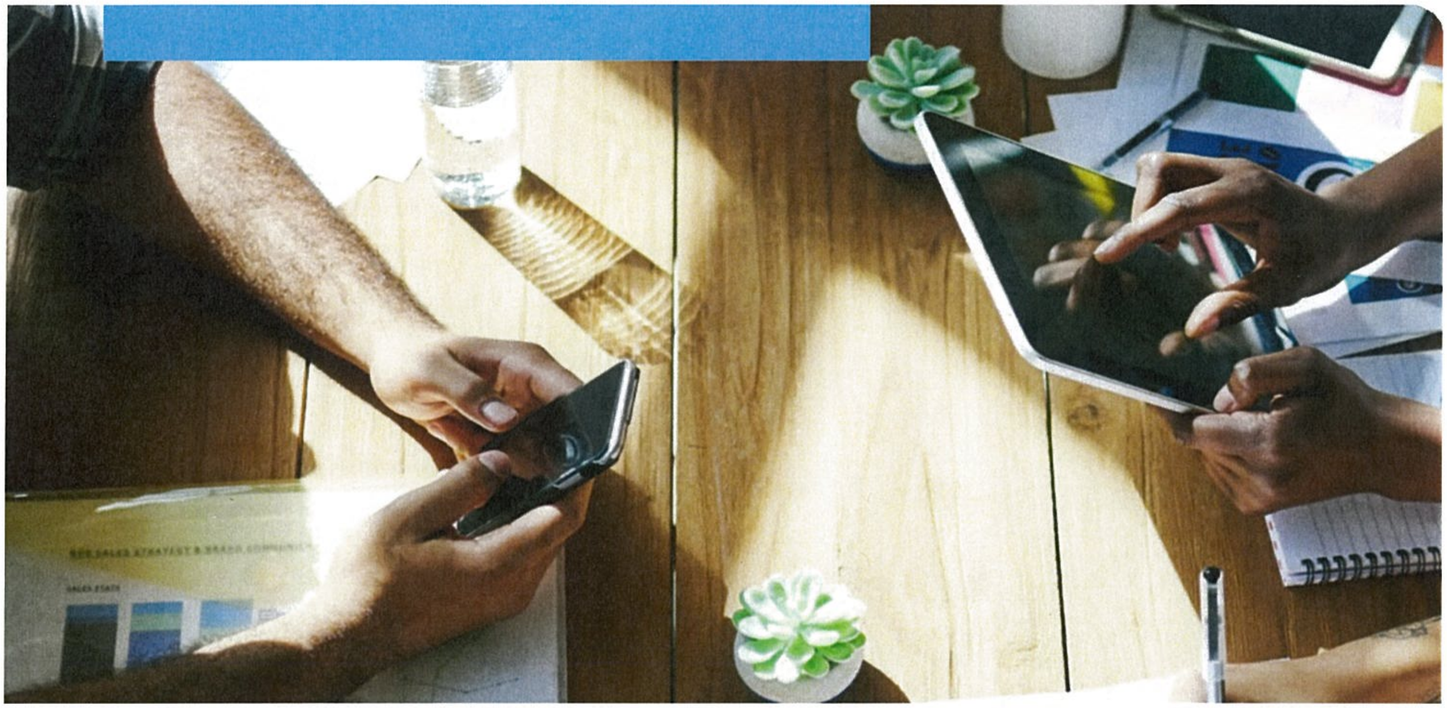
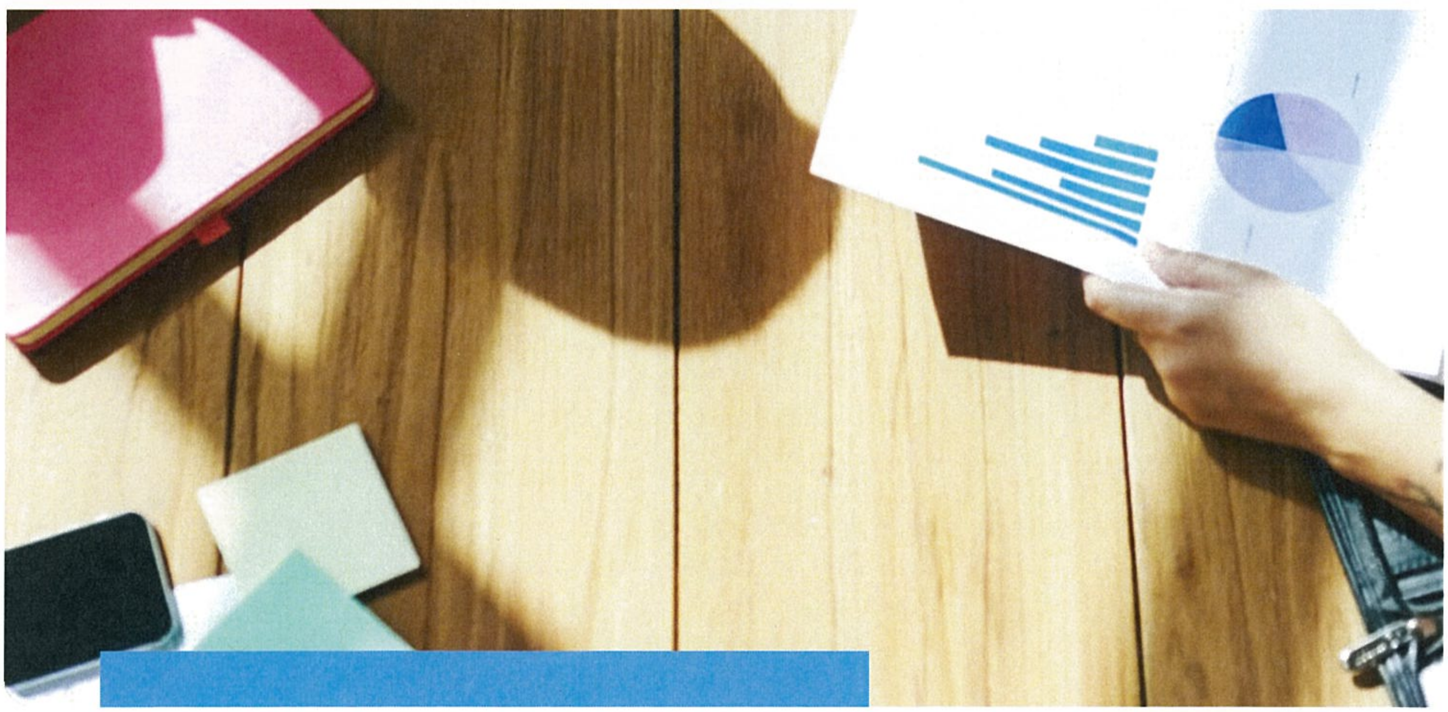


State of the Industry Update
First Quarter 2022



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Produced by the PRINTING United Alliance and NAPCO Research for its members.

March 2022

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THE STATE OF THE INDUSTRY SERIES

The PRINTING United Alliance/NAPCO Research State of the Industry Series provides timely, accurate analysis of the printing industry's performance and prospects. The series includes a *State of the Industry Report*, published in November, and periodic *State of the Industry Updates*. All reports in the series are generously sponsored by Konica Minolta.

An industry-wide survey is an important part of our research. Participants include commercial printers, graphic and sign producers, apparel decorators, functional printers, and package printers/converters. (A profile of participants in the survey supporting this report is on page 6.)

Indicators tracked include sales, employment, prices, quote activity, work on hand, and confidence. Each survey also investigates critical issues such as what concerns printers most and how they are addressing those concerns, their capital investment plans and objectives, and the markets they believe have the most growth potential.

We also maintain a set of business indicators ranging from measures of general economic activity, such as GDP, to industry-specific measures, such as hours worked by printing industry production personnel. These indicators provide an independent check on the results of our surveys.

"Must-dos" show how to make what's happening and what's ahead an opportunity rather than a threat. The result is research PRINTING United Alliance members can count on and act on.

For information about the State of the Industry Series, please contact Andy Paparozzi, chief economist, PRINTING United Alliance, apaparozzi@printing.org.

KONICA MINOLTA

Konica Minolta Business Solutions U.S.A., Inc., is committed to the success of its customers, the industry, and the associations that support it. It is our honor to support PRINTING United Alliance's industry-leading economic reports. By providing invaluable insights for industry leaders regarding critical economic conditions, Konica Minolta is proud to continue to be a trusted advisor and an indispensable partner to help businesses prosper.

Konica Minolta Business Solutions U.S.A., Inc., a leader in industrial and commercial printing and packaging solutions, ignites print possibilities. It delivers the latest innovations in printing, applications, and expertise through its comprehensive portfolio of production print offerings that provide businesses more creative avenues, agility, and versatility to confidently capitalize on market opportunities. Together, the future of the print world can be transformed for the better.

THE STATE OF THE INDUSTRY PANEL

The State of the Industry Panel consists of more than 300 companies from across the printing industry that regularly participate in our surveys. A large pool of consistent participants allows us to provide more accurate and reliable analysis by increasing the comparability of the data from survey to survey and reducing the nonresponse bias that is often a major source of error in survey research.

We build relationships with panel members that support frank discussion of critical business issues, strategies, and tactics. We learn what the numbers really mean, what printing companies are trying, what's working, what isn't working, and why. That helps us create more insightful reports and develop future surveys.

In addition to all reports in the State of the Industry Series, panel members receive proprietary reports on critical printing industry issues and trends and how to prepare for sustained success in an industry where the gamut of opportunity is expanding but the margin for error is shrinking. Our most recent panel report included:

- **Digitizing your supply chain**
- **Calculating earned growth**
- **Smart diversification: Deciding what is and isn't an opportunity for your company**

To join the State of the Industry Panel, please click here.

For a sample copy of a panel report or for more information about the panel, please contact Andy Paparozzi, chief economist, PRINTING United Alliance, apaparozzi@printing.org.

EXECUTIVE SUMMARY

More than 250 printing companies from across the United States and Canada participated in the first-quarter 2022 State of the Industry Survey. Topics included expectations for first-half 2022 sales, operating cost inflation, and pre-tax profitability, what printing companies plan to do better this year than they did last year, and how they are protecting themselves from the supply chain crisis.

Key Findings

- While 64.3% of companies surveyed expect to increase sales during the first half of 2022, just 37.5% expect to increase pre-tax profitability as operating costs continue to rise and resistance to price increases stiffens. Nearly 48.0% expect cost inflation to increase faster than sales through midyear.
- Material shortages and labor shortages are expected to be major problems for all of 2022. So are rising substrates, labor, transportation, ink/toner, and energy costs.
- Nearly two-fifths of all companies surveyed and nearly half of the commercial printers are very concerned about losing print to electronic alternatives as material shortages delay production and force print prices higher.
- The outlook for the printing industry is obstructed by factors such as how quickly supply chains will heal and whether the Fed can cool inflation without significantly slowing the economy. Currently, we expect total printing industry sales (all sources) to grow 3.9%–4.5% this year, down from 7.2% last year, with growth slowing from 5.0%–5.5% to 2.0%–2.5% by year-end. Our forecast is more likely to be revised down than up as 2022 progresses.
- Being vigilant and aggressive will be essential in 2022. Printing companies must monitor their most reliable leading business indicators even more closely than usual. They must also answer and act on their answer to this question: What will we do better this year than we did last year?
- Actions to protect against the supply chain crisis include building inventory, working closely with clients to anticipate printing needs and explore substrate alternatives, capitalizing on strong supplier relationships, forecasting future material requirements based on rigorous statistical analysis of past requirements, and elevating inventory management to mission-critical status.
- State of the Industry participants emphasize that actions taken have lessened the effects of the crisis but not eliminated them. Balancing inventory accumulation with cash flow is particularly challenging.

PARTICIPANT PROFILE

Number Surveyed: 264

Company Size: 2021 Sales (all sources)

2021 Sales	Percent
$500,000 or less	7.6%
$500,000 to $1,000,000	8.4%
$1 million+ to $3 million	17.9%
$3 million+ to $5 million	10.7%
$5 million+ to $10 million	19.1%
$10 million+ to $20 million	16.8%
$20 million+ to $40 million	10.3%
$40 million+ to $60 million	4.6%
$60 million+ to $100 million	2.3%
$100 million+	2.3%

Primary Printing Segment

Segment	Percent
Commercial printing	59.8%
Graphic and sign production	19.7%
Package printing/converting	8.7%
Apparel decoration	5.7%
Functional printing	4.5%

Location

Location*	Percent
United States	**91.0%**
West	**17.1%**
Pacific	9.1%
Mountain	8.0%
Midwest	**34.1%**
Plains	12.5%
North Central	21.6%
South	**23.5%**
South Central	4.9%
Southeastern	18.6%
East	**16.3%**
South Mid-Atlantic	2.7%
North Mid-Atlantic	10.2%
New England	3.4%
Canada	**9.0%**

* **Pacific:** Alaska, California, Hawaii, Oregon, Washington. **Mountain**: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming. **Plains:** Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota. **North Central**: Illinois, Indiana, Michigan, Ohio, Wisconsin. **South Central:** Arkansas, Louisiana, Oklahoma, Texas. **Southeast**: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee. **South Mid-Atlantic**: Delaware, District of Columbia, Maryland, Virginia, West Virginia. **North Mid-Atlantic:** New Jersey, New York, Pennsylvania. **New England:** Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont.

THE STATE OF THE INDUSTRY

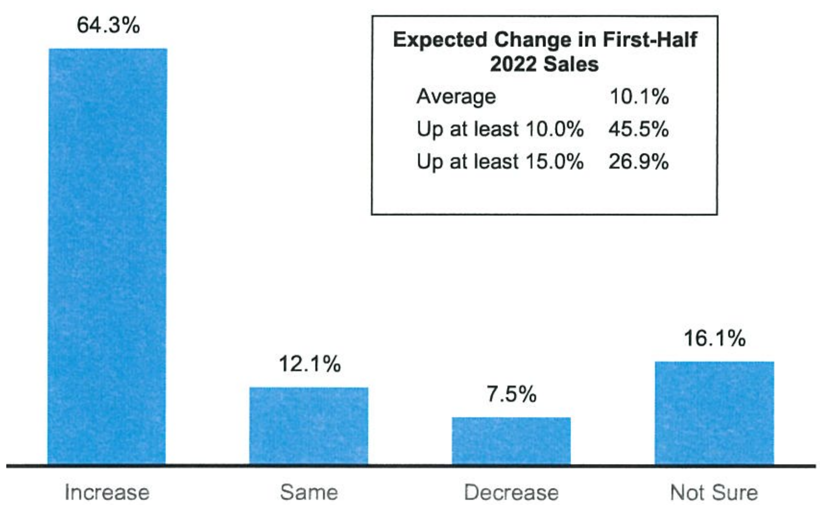
“I’ve been doing this for nearly 40 years, and business conditions are as difficult as I can remember. It’s just ugly.” That comment from a State of the Industry (SOI) participant captures the realities of broken supply chains and severe labor shortages and the cost inflation, production disruptions, and pressure on margins they create.

Steps taken to protect margins include capital investment, automation, cross-training, and elevating inventory management to mission-critical status. A question every printing company should ask is “What will we do better this year than last year?”

Not as Good as They Look

On the surface the numbers are encouraging: 64.3% of SOI participants expect their sales to grow during the first half of 2022, three times the 19.6% who expect sales to remain at year-earlier levels or to decline. (The remaining 16.1% say business is so uncertain they don’t know what to expect.) Nearly half are projecting growth of at least 10.0%, and more than one-quarter are projecting growth of at least 15.0%. On average, sales are expected to increase 10.1% through midyear. (See Figure 1.)

Figure 1: How First-Half 2022 Sales Are Expected to Compare With Year-Earlier Totals



Q. How do you expect your sales (all sources) for the first half of 2022 to compare with year-earlier levels?
n=255

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increasing for 50.8% and decreasing for just 9.1%, while work on hand is increasing for 52.5% and decreasing for just 13.2%. More than 90.0% are raising prices. (See Figure 2.)

Figure 2: Key Indicators

Indicator	Increasing	Not Changing	Decreasing
Quote Activity	50.8%	40.1%	9.1%
Work on Hand	52.5%	34.3%	13.2%
Prices	91.3%	8.7%	0.0%

Q. Compared to what's normal for this time of the year, how is business trending? Please indicate whether each of the above is increasing, not changing, or decreasing.
n=242

But dig deeper and a different picture emerges:

- **Cost inflation is rampant.** More than 88.0% of our survey panel expect their operating costs to increase during the first half of 2022 because of inflation (not because of changes in the level or composition of production). Particularly concerning, 47.6% expect operating cost inflation to rise faster than sales.
- **Margins are under pressure.** While nearly two-thirds expect to increase sales through midyear, just 37.5% expect to increase pre-tax profitability, as cost inflation and greater resistance to price increases make it difficult to get growth to the bottom line.
- **No relief is expected.** Material shortages, cited by 92.3%, and rising substrate costs, cited by 85.8%, are expected to be major problems throughout 2022. So are rising costs of labor (71.4%), transportation (70.3%), ink/toner (59.9%), and energy (50.2%). Nearly 69.0% expect labor shortages to continue. Nearly 55.0% are very concerned about maintaining profitability, and almost as many are very concerned about increasing sales. Losing clients to print alternatives is a major concern for 39.1%, maintaining productivity for 39.3%, and maintaining working capital for 34.3%. Expect all three percentages to increase as shortages and cost inflation persist. (See Figure 3.)

Figure 3: What Concerns SOI Participants Most About 2022

Concern	Significant	Moderate	Minor/None
Material shortages/inability to acquire materials needed	92.3%	5.6%	2.0%
Rising substrate costs	85.8%	9.7%	4.5%
Rising labor costs	71.4%	20.8%	7.8%
Rising transportation costs	70.3%	18.7%	11.0%
Labor shortages	68.6%	12.7%	18.8%
Rising ink/toner costs	59.9%	21.5%	18.6%
Maintaining profitability	54.8%	29.8%	15.3%
Increasing sales	51.4%	30.5%	18.1%
Rising energy costs	50.2%	32.0%	17.8%
Maintaining productivity	39.3%	27.9%	32.8%
Losing clients to print alternatives	39.1%	23.8%	37.1%
Maintaining healthy cash/working capital balances	34.3%	31.5%	34.3%

Q. How much of a concern do you expect the factors above to be for your company this year?
n=248

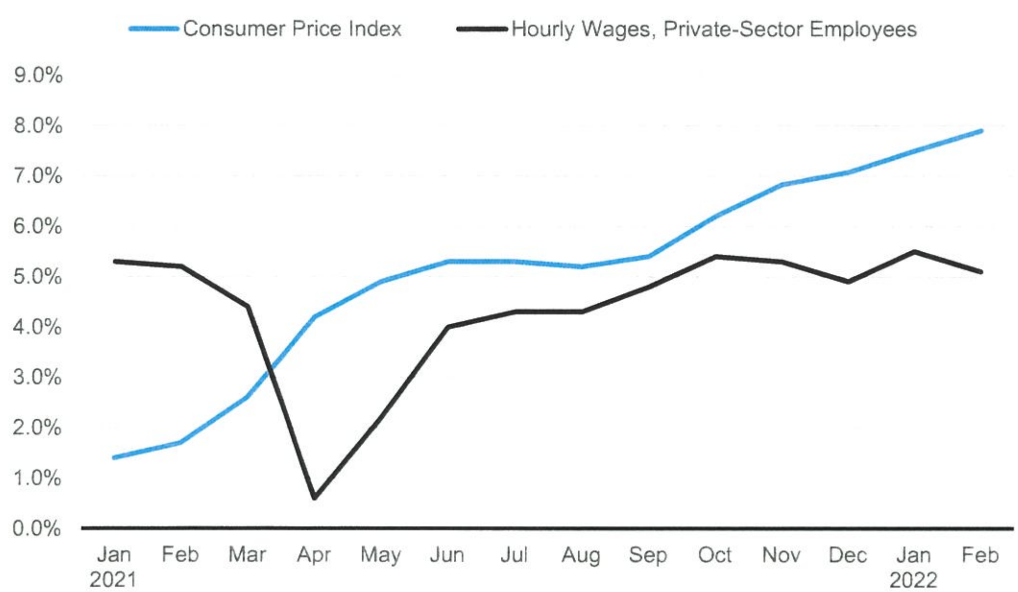
It Was Supposed to Be Transitory

None of this is surprising. COVID-19 has caused unprecedented damage to global supply chains and labor markets. If supply had quickly caught up with demand, inflation would have been transitory. But it didn't, allowing inflation to embed itself in the economy by raising "sticky" prices, such as rents and wages. And, of course, the run-up in energy prices affects every business and household.

Embedded inflation can slow the economy by eroding real purchasing power, consumer confidence, and consumer spending, putting the Fed in the difficult position of having to raise interest rates even as the economy is slowing. Equally concerning, the Fed has fallen behind inflation and is now playing catch-up, increasing the risk of a policy error.

It looks like the trouble has already started. As Figure 4 shows, the consumer price index (blue line) has been rising faster than the wages of private-sector employees (black line) for nearly a year. During the three months ending in February 2022, the most recent data available, wages were up 5.2% but consumer prices were up 7.2%. The longer inflation runs ahead of wage growth, the less promising the economy's prospects.

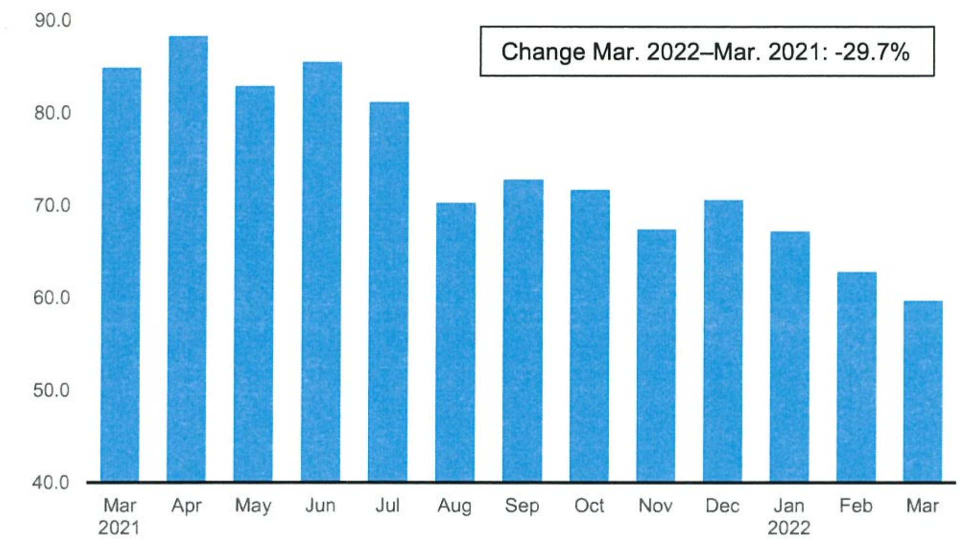
Figure 4: Inflation vs. Wages



Source: U.S. Bureau of Labor Statistics, bls.gov

As Figure 5 shows, the University of Michigan Consumer Sentiment Index has fallen 29.7% from a year ago to the lowest level since March 2010. Dr. Richard Curtin, who directs the sentiment research program, explains why: "The recent declines have been driven by weakening personal financial prospects, largely due to rising inflation, less confidence in the government's economic policies, and the least favorable long-term economic outlook in a decade."

Figure 5: University of Michigan Consumer Sentiment Index



Source: TRADING ECONOMICS, tradingeconomics.com.

No Recession but a Meaningful Slowdown

Where is the economy headed? Growth will slow to 3.3% in 2022 from 5.7% in 2021, according to the consensus of economists surveyed by *The Wall Street Journal*. That's not a recession, but it is a meaningful slowdown. As evidence, consider that GDP growing 3.3% this year would create nearly $470 billion less of final goods and services than if growth had continued at last year's 5.7% pace. That's more than double the total annual shipments of the paper and paper products industry ($206.8 billion) and 25.0% greater than the total annual shipments of the computer and electronics industry ($346.9 billion).

As the economy slows, so will our industry. Currently, we expect total sales (all sources, not just printing) to grow 3.9%–4.5% this year, down from 7.2% last year. We also expect growth to slow from a 5.0%–5.5% rate to a 2.0%–2.5% rate by year-end. (See Figure 6 on page 11.)

Extraordinary Uncertainty

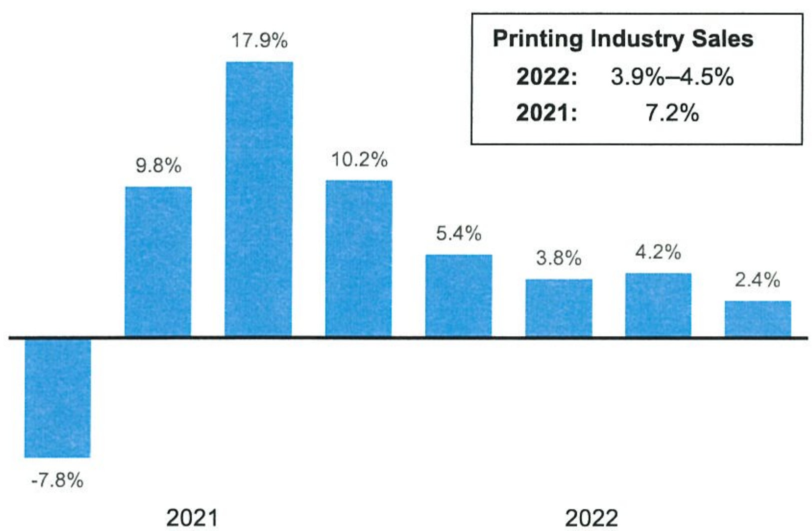
The outlook for the economy and our industry is even more uncertain than usual. How things play out will depend on the answers to questions such as:

- Can the Fed cool inflation without sharply slowing growth? How far will it go to loosen inflation's grip on the economy? Will it back off if equity markets decline sharply and risk falling even further behind inflation?

- How much will factors ranging from the truck driver shortage to the recent COVID outbreak in China delay the mending of global supply chains?
- What will the consequences of Putin's invasion of Ukraine be? How will they affect China's designs on Taiwan?
- How severe will the next COVID-19 variant be? (See "Stealth Omicron BA.2 Variant Could Be More Dangerous, Immune-Resistant Than BA.1 – Study," *Newsweek*, 2/17/22, newsweek.com.)

Everything could work out, but that's a long shot. Consequently, the outlook for the economy and our industry is more likely to be revised down than up as 2022 progresses.

Figure 6: Preliminary Outlook – Printing Industry Sales



Source: PRINTING United Alliance estimates and forecasts. Change is over previous year in sales from all sources.

Be Vigilant and Aggressive

We protect ourselves by being vigilant and aggressive. Every company in our industry should:

- Monitor its most reliable, sensitive leading business indicators even more closely than normal. Any company that doesn't know what they are should identify them ASAP. After all, forewarned is forearmed.
- Ask what it will do better this year than last year and get to work on the answer. In our increasingly competitive, complex industry, we are either getting better or falling behind. There is no third option.

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Improvement Plans

We asked State of the Industry participants what they plan to do better in 2022. A number are not sure or haven't thought about it. Others are planning these improvements:

- **Increase productivity.** Capital investment in both new equipment/software and upgrades is a big part of the plan. So is automation, better use of MIS to streamline workflow and squeeze steps and touches out of processes, and programs such as continuous improvement and lean manufacturing. The plan is to improve productivity company-wide, not just in production.
- **Manage more effectively.** The message here is it's on us. Manage key processes from estimation to collections more effectively. Manage costs and allocate labor hours more effectively. Communicate more effectively with staff.
- **Increase labor productivity.** Beyond automation, build workforce skills and flexibility by training, cross-training, and employee development.
- **Stay ahead of supply chain disruptions.** Strengthen inventory management and purchasing.
- **Focus on the most profitable clients.** Reallocate resources from less profitable to the most profitable clients.
- **Market more effectively.** Target our most profitable clients and markets more accurately.
- **Improve pricing practices**. Better prepare clients for price increases.
- **Sell more effectively.** Provide better customer follow-up. Improve e-commerce and remote selling capabilities.
- **Diversify revenue base.** Add products and services. Enter new markets.

One member of our research panel summarized his 2022 improvement plan this way: "We will get back to running the business for sustained growth, investment, staff development, and long-term success. We have spent the last two years managing day-by-day crises and are now accepting that is just part of the landscape. Somehow, we have to look beyond the immediate challenges and get back to longer-term success." That's a goal every company in our industry should embrace.

An Existential Threat

Of course, no challenge is greater than the fracturing of supply chains. Shortages extend far beyond paper to "components, materials, equipment, and almost everything." Consequences include a cash squeeze, lost jobs --"No envelopes, no mailings!" – clients moving from print to electronic alternatives, and reliance on untested materials: "We do a lot of banners and need grommets. The manufacturer can't get brass. We're going to try to substitute aluminum, but that's sketchy at best."

We asked SOI participants how they are protecting their companies from the disruptions. A summary of their actions follows. There was broad agreement on two points: First, the actions have lessened the effects of the crisis but not eliminated them, i.e., there are no silver bullets. Second, companies lacking healthy working capital and strong relationships with suppliers are not likely to make it.

Building inventory. "We are buying anything and everything we can – it's that simple," is how one member of our research group puts it. Purchases are made early ("We have had to buy paper at the client's interest stage and not wait until the last details are set") and made in bulk ("We are buying two times what we need twice as often").

Storage solutions include sharing warehouse space with local printers (see networking, below), renting additional space, contracting with a logistics company, and in a few cases, using space provided by the company's primary paper distributor.

Keeping clients informed. Presenting the facts, encouraging clients to plan jobs far in advance, and exploring substrate and production alternatives. Representative comments:

- "Our sales team continually preaches prudence and long-range planning. Our marketing outreach is from a position of market leadership, telling the unvarnished facts before others, advising advance planning, providing realistic options, and communicating often."
- "Training our customers and explaining the market conditions have been huge. Also, being totally honest and transparent if we cannot get the paper, which has happened several times. Customers respect that and have come back to us every time."
- "We tell our customers it is no longer a buyers' market and it isn't a sellers' market. It is a 'supply chain' market, and we all have to live with that fact."

Capitalizing on strong supplier relationships. Meeting regularly with key suppliers to discuss future material requirements and alternatives, expected price increases, allocation formulas, and everything else about current and expected supply chain conditions, etc. "We spend five to 10 hours on the phone with vendors each week to ensure we have all the information to make decisions on which items are in short supply, which items are not available and when they might be available, and what are appropriate substitutes," is a typical comment.

Supplier diversification. Simply put, procuring whatever you can from whomever you can. "More than anything we are glad we kept multiple suppliers – we are using all of them to get what we need," said one SOI participant.

Adjusting prices frequently. Increasing markups on specialty stocks and materials, maintaining price flexibility ("We now only have our print estimates going out to our customers valid for 10 days"), and raising prices to compensate for the substantial increase in time devoted to procurement. Representative of the last point: "This new supply chain issue occupies much more of our time than I can measure. To quote our purchasing agent, 'This used to be such a great job. I cut a PO and paper showed up at our door on time. Now I spend half my day running down my POs, trying to locate trucks and deliveries, dealing with constant price increases, and not having in many cases anyone to talk to, to help resolve our issues.'"

Networking. Members of printing industry associations, peer groups, and even competitors are exchanging materials and supplies, sharing storage space, and sharing intelligence about current and expected supply chain conditions.

Internal communication. Meeting weekly with purchasing, estimating, scheduling, production, sales, and customer service to discuss material availability and prices, substitution options, and all the ways the supply chain crisis is affecting customers. One company president is also "educating my staff that this is a brave new world, and the inclination to think the problems at hand are static and temporary is a mistake."

Time-series analysis and forecasting. More than working with clients to project their substrate/material requirements, this is the rigorous statistical analysis of past requirements, adjusted for seasonal variation and change in client composition, to forecast future requirements.

Building the purchasing/inventory-management team. Developing the team's skills and adding talent to bolster inventory analysis, planning, and forecasting capabilities. Elevating purchasing and inventory management to the same mission-critical status as sales, operations, and finance. Recognizing the competitive advantage in robust inventory management, particularly since the crisis has exposed the limitation of "just in time."

Supply Chain Realities

Of course, every action above carries costs, tradeoffs, and limitations, such as balancing inventory accumulation and cash flow. One SOI participant speaks for many when he comments, "We are walking that fine line between accumulating resources needed for current/future projects and hoarding! All of this is at the expense of cash flow – raw material inventories are up 45% year over year – but also knowing that not having materials to take care of our customers would really impact cash flow." Another emphasizes the risks of building inventory during periods of great uncertainty: "We are stockpiling paper, having increased overall inventory levels by 300%. That is a significant gamble, as we are trying to guess a very unpredictable future and it is putting a significant squeeze on our cash flow."

With resistance to price increases building, we are hearing more comments such as "The price increases we have managed to pass along are now being questioned by our customers, and they are going to be asking for new competitive price checking. They have seen enough!" Last year, when inflation was supposed to be transitory, clients generally accepted price increases. Now that inflation is embedded, count more on consistent and company-wide productivity gains than on cost pass-through to protecting margins. (See the *2021-22 State of the Industry Report*, www.printing.org.)

Supplier diversification was effective early in the crisis, but options are now limited because many suppliers are not accepting new customers.

And companies benefiting from strong supplier relationships emphasize that these relationships were established long before the supply chain crisis. They have been "great payers" and have exceptionally high credit ratings with their suppliers. Representative comments:

- "We are taking advantage of a longstanding relationship with our vendors, and they have been there for us. I have always said that you need as solid a relationship with your vendors as you have with your clients. I have been criticized for this over the years, and it is paying off now."
- "How we are protecting ourselves from the supply chain crisis is not so much about what we are doing, but how we managed our company in the past years. Because we focused so much on financial stability by reducing or eliminating debt and building supplier relationships, we positioned ourselves to weather these types of scenarios. Although the supply chain difficulties are unprecedented, we feel confident this company can endure. The bottom line is staying close to our suppliers and constantly communicating with them in this first-come, first-served world. "

No one knows where all this is headed. Forecasting the course of the supply chain crisis is extremely difficult because there is no precedent and because the complexities of global supply chains mean changes in one area can trigger significant, unexpected changes in many others. The most effective defense is to monitor developments closely and embrace what is working. Future reports in the State of the Industry Series will keep you abreast of both.

DATA SUMMARY: COMMERCIAL PRINTERS

Number: 159

2021 Averages **Sales (all sources):** $15,588,725 **Employees:** 65

How do you expect your first-half 2022 sales (all sources) to compare with year-earlier levels?

Higher: 71.2% Same: 9.0% Lower: 7.7% Not sure/business too uncertain to tell: 7.7%

Average change expected: 10.5%

How do you expect your first-half 2022 pre-tax profitability to compare with year-earlier levels?

Higher: 41.3% Same: 32.0% Lower: 16.7% Not sure/business too uncertain to tell: 10.0%

How do you expect your operating costs to change during the first half of 2022 because of cost inflation (not because of changes in the level or composition of production)?

Increase: 71.2% No change: 9.0% Decrease: 7.7%

Average change expected: 8.2%

Expect sales to increase faster than operating cost inflation 54.6%

Expect operating cost inflation to increase at least as fast as sales 45.4%

How much of a concern do you expect the factors below to be for your company this year?

Factor	Significant	Moderate	Minor/ None
Material shortages/inability to acquire materials needed	94.7%	4.7%	0.7%
Rising substrate costs	87.9%	7.4%	4.7%
Rising labor costs	68.9%	22.3%	8.8%
Rising transportation costs	68.5%	19.5%	12.1%
Labor shortages	66.9%	15.5%	17.6%
Rising ink/toner costs	61.1%	19.5%	19.5%
Maintaining profitability	53.3%	31.3%	15.3%
Increasing sales	51.4%	31.1%	17.6%
Rising energy costs	50.3%	28.9%	20.8%
Losing clients to print alternatives	46.7%	20.7%	32.7%
Maintaining productivity	37.6%	29.5%	32.9%
Maintaining healthy cash/working capital balances	32.7%	32.0%	35.3%

What were your sales per employee in 2021? Include all sales and part-time employees as full-time equivalents.

Average: $168,711 Highest 25%: $200,000 Lowest 25%: $131,903

DATA SUMMARY: GRAPHIC AND SIGN PRODUCERS

Number: 52

2021 Averages **Sales (all sources):** $10,302,197 **Employees:** 54

How do you expect your first-half 2022 sales (all sources) to compare with year-earlier levels?

Higher: 49.0% Same: 21.6% Lower: 3.9% Not sure/business too uncertain to tell: 25.5%

Average change expected: 10.4%

How do you expect your first-half 2022 pre-tax profitability to compare with year-earlier levels?

Higher: 29.4% Same: 45.1% Lower: 13.7% Not sure/business too uncertain to tell: 11.8%

How do you expect your operating costs to change during the first half of 2022 because of cost inflation (not because of changes in the level or composition of production)?

Increase: 88.0% No change: 10.0% Decrease: 2.0%

Average change expected: 8.1%

Expect sales to increase faster than operating cost inflation 51.4%

Expect operating cost inflation to increase at least as fast as sales 48.6%

How much of a concern do you expect the factors below to be for your company this year?

Factor	Significant	Moderate	Minor/ None
Material shortages/inability to acquire materials needed	88.2%	5.9%	5.9%
Rising substrate costs	86.3%	7.8%	5.9%
Rising labor costs	72.0%	22.0%	6.0%
Rising transportation costs	68.0%	22.0%	10.0%
Labor shortages	66.0%	10.0%	24.0%
Rising ink/toner costs	58.8%	19.6%	21.6%
Increasing sales	58.0%	24.0%	18.0%
Maintaining profitability	52.9%	29.4%	17.6%
Rising energy costs	51.0%	33.3%	15.7%
Maintaining healthy cash/working capital balances	39.2%	27.5%	33.3%
Maintaining productivity	35.3%	29.4%	35.3%
Losing clients to print alternatives	31.4%	27.5%	41.2%

What were your sales per employee in 2021? Include all sales and part-time employees as full-time equivalents.

Average: $180,094 Highest 25%: $223,499 Lowest 25%: $137,289

Printing Industries Alliance

DATA SUMMARY: APPAREL DECORATORS

Number: 15

2021 Averages **Sales (all sources):** $3,069,355 **Employees:** 18

How do you expect your first-half 2022 sales (all sources) to compare with year-earlier levels?

Higher: 64.3% Same: 7.1% Lower: 14.3% Not sure/business too uncertain to tell: 14.3%

Average change expected: 9.3%

How do you expect your first-half 2022 pre-tax profitability to compare with year-earlier levels?

Higher: 38.5% Same: 23.1% Lower: 15.4% Not sure/business too uncertain to tell: 23.1%

How do you expect your operating costs to change during the first half of 2022 because of cost inflation (not because of changes in the level or composition of production)?

Increase: 91.7% No change: 8.3% Decrease: 0.0%

Average change expected: 10.7%

Expect sales to increase faster than operating cost inflation 50.0%

Expect operating cost inflation to increase at least as fast as sales 50.0%

How much of a concern do you expect the factors below to be for your company this year?

Factor	Significant	Moderate	Minor/ None
Rising labor costs	92.3%	0.0%	7.7%
Material shortages/inability to acquire materials needed	84.6%	7.7%	7.7%
Rising transportation costs	76.9%	15.4%	7.7%
Labor shortages	69.2%	7.7%	23.1%
Rising substrate costs	69.2%	30.8%	0.0%
Rising ink/toner costs	69.2%	23.1%	7.7%
Maintaining profitability	69.2%	23.1%	7.7%
Rising energy costs	61.5%	38.5%	0.0%
Maintaining productivity	53.8%	23.1%	23.1%
Maintaining healthy cash/working capital balances	38.5%	38.5%	23.1%
Increasing sales	36.4%	36.4%	27.3%
Losing clients to print alternatives	23.1%	23.1%	53.8%

What were your sales per employee in 2021? Include all sales and part-time employees as full-time equivalents.

Average: $164,806 Highest 25%: $217,647 Lowest 25%: $90,000

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WHAT CAN PRINTING UNITED ALLIANCE RESEARCH DO FOR YOU?

PRINTING United Alliance research provides first-hand accounts, analysis, and ongoing monitoring of critical industry trends influencing the printing industry, future trends, and the underlying factors influencing change. PRINTING United Alliance Research is now part of an expanded research team that includes NAPCO Research experts, survey and analysis capabilities, and additional audience reach.

- **PRINTING United Alliance Research LEVERAGES** its extensive member community and staff of industry economic, legislative, marketing, and technical experts to support customers in identifying market opportunities and improving business profitability and operations.
- We partner with our clients to **IDENTIFY** their unique business challenges and create solutions that **ENABLE** deeply informed decision-making and **DELIVER** results.
- Gain access to PRINTING United Alliance's & NAPCO Media's engaged audiences of industry executives across key industries.

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- Competitive Assessment
- Analyst Presentations at Events

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- White Papers & Thought Leadership
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- Staff Training
- Research-Based Webinars
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- Printer Growth Strategies & Capital Investment Research

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- Surveys, focus groups
- Distribution of thought leadership for lead-generation

THE PRINTING UNITED ALLIANCE RESEARCH DIFFERENCE

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PRINTING UNITED ALLIANCE

WHO WE ARE

PRINTING United Alliance is the most comprehensive member-based printing and graphic arts association in the United States, comprised of the vast communities which it represents. The Alliance serves industry professionals across market segments with preeminent education, training, workshops, events, research, government and legislative representation, safety, and environmental sustainability guidance, as well as resources from the leading media company in the industry – NAPCO Media. Now a division of PRINTING United Alliance, Idealliance is the global leader in standards training and certification for printing and graphic arts operations across the entire industry supply chain.

PRINTING United Alliance also produces the PRINTING United Expo (Oct.19-21, 2022, Las Vegas), the most influential days in printing. The expansive display of technology and supplies, education, programming, and services are showcased to the industry at large, and represents all market segments in one easily accessed place.

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NAPCO Research crafts custom data-centric solutions that leverage our highly engaged audiences across the markets in which we operate, our industry subject matter experts and in-house research expertise. We partner with our clients to identify their unique business problem and create solutions that enable deeply informed decision-making.

Contact research@napco.com to talk with our analysts to find out how we can help you with your research needs.

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