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NAICS CODES: 3231

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Industry Overview

The US commercial printing industry includes about 35,000 companies with over \$100 billion annual revenue. Large companies include RR Donnelley and Canadian printer Quebecor World. The majority of commercial printers are small or midsized local businesses that operate one production plant, employ fewer than 20, and have annual revenue under \$5 million. Despite continuing consolidation, the industry is **highly fragmented**: the largest 50 companies account for about 30 percent of the market.

The commercial printing industry includes printing on apparel and textile products, paper, metal, glass, and plastics; it also includes typesetting, platemaking, and book binding. The industry doesn't include book or newspaper publishing.

COMPETITIVE LANDSCAPE

Demand is driven by advertising and product needs of business customers. The profitability of individual companies is closely linked to effective **sales operations**. Large companies have scale advantages in buying materials like paper and ink, serving large customers with regional or national needs, and making efficient use of expensive presses. Small companies can compete effectively by offering better **local service** in a specific product category. Annual revenue per employee averages about \$160,000.

Digital technology has changed the competitive landscape of the commercial printing market. Prices for digital color pages are falling below offset printing prices and companies that fall behind in the shift to digital printing are at risk, especially in the pre-media portion of printing.

PRODUCTS, OPERATIONS & TECHNOLOGY

Commercial printers produce magazines, phone books, labels, advertising brochures, catalogs, newspaper inserts, direct mail marketing pieces, corporate reports and other financial printing, training manuals, promotional materials, and business forms. Most commercial printers offer four distinct services: design and other **prepress services**; actual **printing; finishing** (including folding, cutting, and binding); and **fulfillment**, which includes packing, storing, and shipping (often on a "just-in-time" basis). Other services can include packaging, database management, Web design, CD services, training, and consulting.

A typical commercial printer has different presses and binding equipment available to work on various types of jobs. The main printing process used is **offset lithography**, using either individual sheets (sheet-fed presses) or continuous rolls of paper (web presses). Sheet-fed presses print up to 16 pages of letter-sized product (a 16 page "signature") at a time, at speeds up to 15,000 impressions per hour. Web presses print 32 pages at a time at speeds over 40,000 impressions per hour, and are usually used for production runs of more than 50,000 copies.

Presses usually print in one, two, four, or six colors; some presses can print eight. Digital presses are increasing in use, especially for print runs under 5,000 pieces. **Digital technology** is also becoming the norm in pre-media services and design.

Paper is the biggest individual manufacturing cost, often amounting to 25 percent of revenues. Printing papers are often coated, and are bought in sheets or rolls from distributors. Many customers provide their own paper. Paper prices can vary significantly from year to year. Commercial printers generally don't keep large inventories of paper as requirements change from job to job; instead, they rely on regional distributors to provide the many varieties and grades. **Inks**, films, printing plates, and cleaning solvents are other major material costs. The solvents used to clean inks off the presses can be an air quality issue.

Major press manufacturers include Heidelberg and Komori for conventional presses; and Xerox, Hewlett-Packard's Indigo, Kodak's Nexpress, and Punch Graphix's Xeikon for digital. Large ink manufacturers include Sun Chemical and Flint Group.

Printing technology is evolving rapidly. Virtually all prepress work is now done with computers. Digital presses are still expensive, but falling in price and used mainly for smaller runs, but movement to an all-digital printing environment is rapid. Small printers that delayed transforming to digital technology are beginning to do so as the price falls. Digital presses also have the benefit of added labor productivity, reducing the man-hours required for press setup.

SALES & MARKETING

The largest single market for printing services is **advertising** for newspaper inserts, magazines, and direct mail materials. Although some work may be done regularly for large customers under long-term contracts (magazines, product catalogs, and phone books), most is on a project basis, often after a bidding process. Work may be episodic and many printers keep **extra presses** to meet anticipated peak demands. Marketing is usually by a traditional sales force calling on potential customers.

Commercial printing is a local business. Small printers can compete effectively because the small size and high variability of most printing jobs means that few economies are achieved by having larger presses. The high degree of **personal attention** that most print jobs require, such as client approvals of proofs and "press checks" during actual printing, means that customers prefer to use a local printer. Price is often a secondary consideration to quality and timeliness. Some types of printing, such as magazines and catalogs with large print runs, are more effectively handled by large printers.

FINANCE & REGULATION

Commercial printing has **seasonal variations**: printers specializing in financial printing have business peaks in spring due to corporate annual reports, revenue for consumer publication printers peaks in late summer to fall, and academic printing declines in summer. Commercial printers generally keep **low material inventories** and don't require inventory financing. Receivables are generally collected within 60 days, and are sometimes financed. **Equipment** is often financed or leased. Presses have become more expensive, but more versatile, because of computerized controls and enhancements. The number of employees in commercial printing has **declined** in the last five years, as more of the work is automated.

Commercial printers are subject to various federal and state regulations regarding workplace safety, air quality standards, and toxic wastes. Ink solvents and solvent used to clean printing presses can emit pollutants. Workplace safety, administered by OSHA and state agencies, has greatly improved.

REGIONAL & INTERNATIONAL ISSUES

Commercial printers in [California](#), [Illinois](#), [Pennsylvania](#), and [New York](#) account for over 30 percent of industry revenue. Commercial printing is primarily a **local business** and imports and exports are less than 10 percent of US sales. China and Canada account for over half of all imports. Almost half of US exports go to Canada; the UK and Mexico also account for a large percentage of US exported printing material.

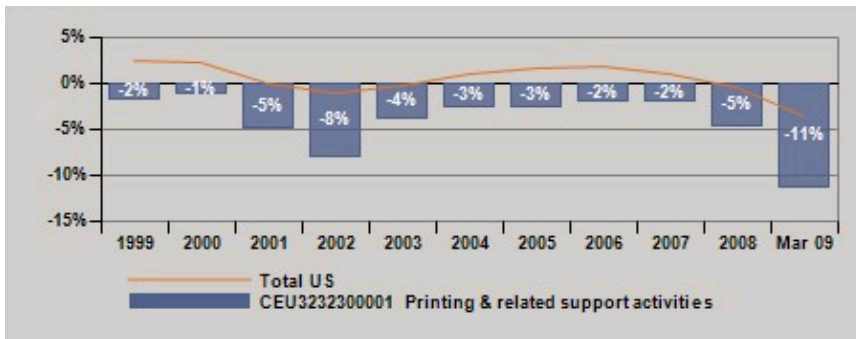
Large amounts of the **paper** used by commercial printers are imported from Canada. Total paper imports to the US are close to \$10 billion per year, of which \$7 billion are from Canada.

HUMAN RESOURCES

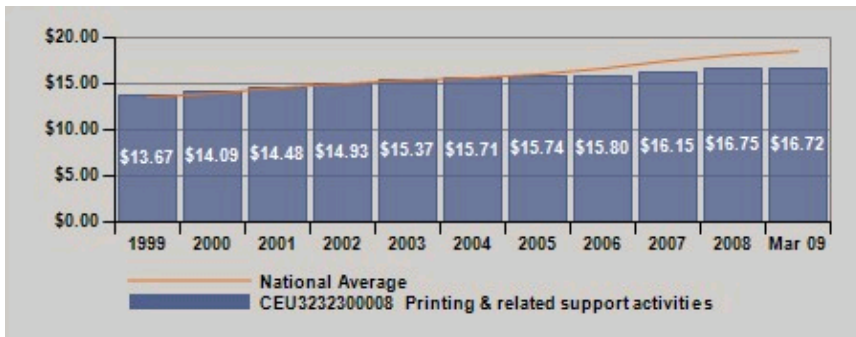
Production personnel in commercial printing plants includes employees with **special skills** in operating complicated machines, and lower-paid, relatively unskilled workers. Average hourly industry wages are slightly lower than the national average. **Fringe benefits** are about 20 percent of wages. Large commercial printers can have a large number of unionized employees. Although some printing jobs are directly concerned with presses, an increasing number are in prepress design and layout that make greater use of **computer skills**.

The number of employees in commercial printing has **declined** in the last five years, as more work is automated. The industry's annual injury rate is comparable to the national average for all industries.

Industry Employment Growth Bureau of Labor Statistics



Average Hourly Earnings & Annual Wage Increase Bureau of Labor Statistics



Industry Indicators

US corporate profits, an indicator for corporate demand for printing services, fell 21.5 percent in the fourth quarter of 2008 compared to the same period in 2007.

The spot price of crude oil, a key cost factor in commercial printing operations, dropped 54.5 percent in the week ending May 8, 2009, compared to the same week in 2008.

Quarterly Industry Update

Print Shipments Down - Shipments for commercial printers declined in 2008, although not as fast as those of other major manufacturing groups. Print shipments dropped 3.9 percent for the year compared to 2007, faring better than textile products and transportation equipment, which declined 12.3 percent and 10.3 percent respectively. Depressed business conditions and lower demand are the primary culprits, and 76 percent of commercial printers reported that conditions slowed even more in January 2009, according to the National Association for Printing Leadership's Printing Business Panel report.

RR Donnelley Closes Plants - Worsening economic conditions are impacting even the largest commercial printers. Industry giant RR Donnelley is closing two plants and slashing nearly 500 jobs. The company cited the economic downturn as the main reason for the decision to shutter the Maine and Illinois plants, both of which will cease operations by June. Earlier in 2009 RR Donnelley closed an Iowa plant and planned to cut its Missouri book printing business, according to *Graphic Arts Online*.

Recession Challenges Green Printing Movement - With price increasingly a priority, customers are reluctant to pay the upcharge for environmentally sustainable printing. About three-quarters of printers say that sustainability has grown in importance since first quarter 2008, but 4 percent have decreased their emphasis on green printing, according to the State of Sustainability in the Graphic Communications Industry study by *Graphic Arts Monthly*. Most printers use vegetable oil-based inks or Forest Stewardship Council paper certification to call themselves "green," and a quarter of companies surveyed are working harder to control energy costs.

Business Challenges

CRITICAL ISSUES

Dependence on Business Activity - The volume of commercial printing is closely tied to the health of the US economy, particularly advertising and consumer spending. Advertising-related jobs are the mainstay of commercial printing, but financial printing has grown in importance. Both advertising and financial activity are sharply affected by the economy and stock market.

Fluctuating Paper, Ink Costs - Printers feel the impact of cost fluctuations of paper and ink prices, as paper accounts for about 25 percent of printing costs. Paper price increases don't directly affect profits for many printers because they pass paper costs to customers, but lower prices encourage more volume. Environmental issues in paper manufacture may raise paper prices. Ink prices are affected by fluctuations in oil and resin prices.

OTHER BUSINESS CHALLENGES

Reduced Use of Printed Material - Information distribution via electronic means, such as the Internet and especially email, is reducing demand for printed materials. Company annual reports and prospectuses are now available electronically over the Internet, electronic catalogs are replacing print catalogs for orders placed over the Internet or via phone, and electronic versions of documents that can be stored and viewed on portable devices are becoming more popular.

Competition from In-House Printing - Laser and color printers in corporations and small businesses now produce many jobs formerly handled by commercial printers. Even smaller companies can produce many documents on their own high-volume printers. Desktop color printer use is growing. Copy shops have also taken business from traditional printers.

Competing on Speed - Customers are demanding faster and shorter runs, forcing printers to find ways to increase speed while maintaining profit margins. As cycle times shorten, incremental improvements may not by themselves shave enough time to meet ever-increasing customer demand for speed. Digital technology is best for faster and smaller runs.

Trends & Opportunities

BUSINESS TRENDS

Transition to Digital Technology - Digital presses have become the norm in commercial printing; industry growth is coming almost entirely from digital printing. The commercial printing industry is shifting to faster production of smaller order quantities with more color, the major benefit of digital printing over offset and other printing methods. While digital inkjet printers began at the small end of printers, technology is increasingly able to make digital printers with greater capacity.

Industry Consolidation - Consolidation has characterized the US commercial printing industry since the 1990s, and is ongoing due to the dramatic changes in the marketplace. Industry consolidations are driven by technology shifts and companies seeking to grow by expanding into new geographic markets through acquisitions. Most consolidations are private companies, losing value and unable to keep up technologically, selling to another private firm. Small, family-run printers are least likely to be able to afford digital printing technology and the investment it requires.

Transition to Service Business - Commercial printing has traditionally been a manufacturing industry. While it maintains its manufacturing focus, it's evolving into a service business. Smaller printing runs, subject to customer changes, edits, and faster deadlines, are becoming the norm. Almost all industry growth comes from companies with digital printing capabilities, able to respond to smaller runs and changing customer needs quickly.

Lower Cost Per Page - Advances in both digital and conventional offset printing technology are lowering the cost per page for new printers. InfoTrends projects that the decline in cost per page will average 10 percent per year through 2010. As the cost of color printing has dropped, spot color is starting to replace previously all black-and-white print jobs.

Digital Image Storage - Because of the increasing conversion of images to digital format before printing, some commercial printers provide digital inventory services. Some printers, to expand services, are capitalizing on their expertise in the transfer, manipulation, and storage of digital images, especially in the front-end CAD process, Web page design, CD production, and generally in document and information management and distribution.

New Printing Technologies - With the introduction of digital plate-making, the entire printing process can be handled

most effectively using digital technology. The traditional printing process relies on cameras and photographic film as an intermediate step in the photochemical production of the plates used in printing. New processes can make film from digital images without using a camera.

INDUSTRY OPPORTUNITIES

Using the Internet to Expand Markets - Increased use of digital files and low-cost courier services, and the increased ability of modern presses to accurately reproduce digitally prescribed colors, allow printers to solicit and fulfill orders from distant customers using the Internet. Online print production management solutions can save money on reworks, late fees, and obsolete materials. FedEx Kinko's, Mimeo, and NowDocs have online print shops that enable customers to submit and monitor jobs online, print at the vendor's site, and get overnight delivery. New online services have transformed the printing industry, eliminating the costly and time-consuming prepress stage.

Value-Added Services - Front-end design services and back-end inventory and distribution services are often as valuable as press operations. Printers are increasingly providing marketing campaign services, creative advertising input, content management, and pre-media services. Electronic prepress, finishing, binding, packaging, database management, Web page design, CD services, training, and consulting are all services that provide extra value for customers.

Security Document Printing - Printers are developing innovative new products to meet tighter security demands for printed documents. Numerous types of inks can be used, including UV and fluorescent; infrared (IR); thermochromic; photochromic; and magnetic. Some industry experts believe that IR ink printing will be a growth area.

New Inks, Equipment Technology - New ink and equipment technology can improve commercial printing operations and reduce long-term costs. Interest in single-fluid inks has increased. Single-fluid inks, which are waterless and water-washable, provide faster startups and wider temperature latitude, with no solvents required for cleanup. And a new, low-cost computer-to-plate (CTP) system targeting small commercial printers might save up to 50 percent in material costs by eliminating waste.

Digital Printing for Mass Distribution Market - Historically, 40 percent of books and almost 60 percent of magazines were printed but not purchased. Excess copies are collected, shredded, and landfilled. Digital platforms enable smaller, more cost-efficient print runs and reduce the waste of mass distribution. Photo specialty items such as calendars and greeting cards are particularly suited for digital printing.

Call Preparation Questions

CONVERSATION STARTERS

How does the company respond to fluctuating demand?

The volume of commercial printing is closely tied to the health of the US economy, particularly advertising and consumer spending.

How does the company mitigate increases in ink and paper costs?

Printers feel the impact of cost fluctuations of paper and ink prices, as paper accounts for about 25 percent of printing costs.

How does increased use of digital media affect the company's production volume and sales?

Information distribution via electronic means, such as the Internet and especially email, is reducing demand for printed materials.

What plans does the company have to add new computer or digital technology to improve production and services?

Increased use of digital files and low-cost courier services, and the increased ability of modern presses to accurately reproduce digitally prescribed colors, allow printers to solicit and fulfill orders from distant customers using the Internet.

What non-printing value-added services does the company offer, and to what benefit?

Front-end design services and back-end inventory and distribution services are often as valuable as press operations.

What opportunities does the company see in printing security documents?

Printers are developing innovative new products to meet tighter security demands for printed documents.

QUARTERLY INDUSTRY UPDATE

How is the company managing inventories in light of reduced demand?

Commercial printing shipments dropped 3.9 percent in 2008 compared to 2007.

What investments has the company made to improve the environmental sustainability of its operations?

With pricing increasingly a priority, customers are less willing to pay the upcharge for sustainable printing.

OPERATIONS, PRODUCTS, AND FACILITIES

In what types of work does the company specialize?

Some examples include magazines, phone books, labels, checks, coupons, advertising brochures and catalogs, newspaper inserts, direct mail marketing pieces, corporate reports and other financial printing, training manuals, and business forms.

What types of presses does the company have?

A company may have sheet fed, Web presses, two-, four-, six-, or eight-color or digital presses. Larger, heavier-duty 40-inch presses open the door to packaging print jobs.

How does the company's print capacity usage vary from month to month?

Due to the high fixed costs for presses, capacity usage is key to profitability.

Does the company use digital or film processing methods?

Most larger advertising agencies and publishers have gone to total digital processes.

Does the company use computer-to-plate technology?

Computer-to-plate units can lower costs and reduce waste compared to traditional image setting machines.

How much prepress design work does the company do?

Electronic prepress is the fastest-growing segment of the industry.

Does the company buy paper from one or several sources?

Most printers order paper for each printing job from wholesale distributors.

What finishing and fulfillment services does the company offer?

Finishing services include folding, cutting, and binding. Fulfillment includes packing, storing, and shipping. Some companies offer selective binding to customize documents for individual customers.

CUSTOMERS, MARKETING, PRICING, COMPETITION

What is the average size of a customer order?

How many customers does the company serve? In what types of industries?

Advertising and financial printing are the largest markets for commercial printing.

Does the company specialize in a particular industry?

Small printers may specialize to offer better customer service and specialized capabilities.

Who are the company's competitors?

Companies typically compete with other local printers, but the Internet is allowing companies to offer their services on a wider geographic basis.

How much of the company's business involves competitive bids?

Most commercial printing work is on a project basis, often after submission of bids to the customer.

How sensitive are customers to price?

Some customers are more concerned about quality and timeliness than price.

REGULATIONS, R&D, IMPORTS AND EXPORTS

Does the company have an export business?

This is unusual except for specialized products like banknotes.

How has the company addressed ergonomics and safety?

Commercial printers have high rates of repetitive motion injury and injury from hands caught in machinery.

Has the company had problems complying with environmental regulations?

Ink solvents and solvent used to clean printing presses can emit pollutants.

Has the company experimented with new types of ink? To what benefit?

Interest has increased in single-fluid inks, which are waterless, and water-washable inks that provide faster startups and wider temperature latitude; their cleanup requires no solvents.

ORGANIZATION AND MANAGEMENT**Is the company a division of a larger corporation?**

Some local companies are operated semi-autonomously by consolidators.

How large a sales force does the company have?

Marketing is usually through a traditional sales force calling on potential customers. Technology has enabled many firms to branch out geographically.

How does the printer plan to mitigate higher medical insurance costs for employees?

The largest increase in expenses is estimated to come from employee medical benefits.

What trend has the company seen in the size of its workforce?

The number of employees in commercial printing has declined in the last five years, as more of the work is automated.

Are the company's workers represented by a union?

Large commercial printers can have a large number of unionized employees.

FINANCIAL ANALYSIS**How seasonal are revenue and cash flow?**

Printers with many customers in advertising have their greatest workload in third and fourth quarters.

When does the company project it will need new presses? How does the company typically finance new presses?

Presses are the largest single investment of a printer, often accounting for 40 percent of total assets.

Does the company routinely pass the cost of paper to customers?

Most printers put a small markup on paper. Some customers provide their own paper.

What is the company's gross margin?

Gross margins are typically about 50 percent.

BUSINESS AND TECHNOLOGY STRATEGIES**What computer or digital technology does the company use in equipment or processes?**

Use of digital prepress design, digital presses, Internet communications, and digital image inventory is growing.

What are the company's most important opportunities for growth?

The overall outlook for printers is for low growth, so companies are looking for opportunities to expand services and markets.

What role does the Internet play in the company's current and future operations?

Some printers use Internet sites to receive digital files from customers; others use them for marketing.

How does the company differentiate itself from competitors?

Price, quality, fast service, and special services are some ways to compete.

Financial Information**COMPANY BENCHMARK INFORMATION****Printing and Related Support Activities - (NAICS: 3231)**

12 Month Rolling Data Period

Last Update March 2009

Small Company Data	Sales < \$1,172,215	
Table Data Format	Median Values	

US Private Company Data		
	Aggregate	Small Company
Company Count in Analysis	1899	475

Income Statement		
Net Sales	100%	100%
Gross Profit	48.5%	49.5%
Operating Income	4.0%	3.5%
Net Profit After Tax	1.9%	1.5%

Balance Sheet		
Cash	5.9%	8.4%
Accounts Receivable	24.6%	18.2%
Inventory	5.4%	3.7%
Total Current Assets	37.4%	31.1%
Total Fixed Assets	37.4%	37.8%
Other Non-Current Assets	25.3%	31.1%
Total Assets	100.0%	100.0%
Accounts Payable	9.2%	7.0%
Total Current Liabilities	33.6%	33.1%
Total Long-Term Liabilities	21.4%	18.1%
Net Worth	45.0%	48.7%

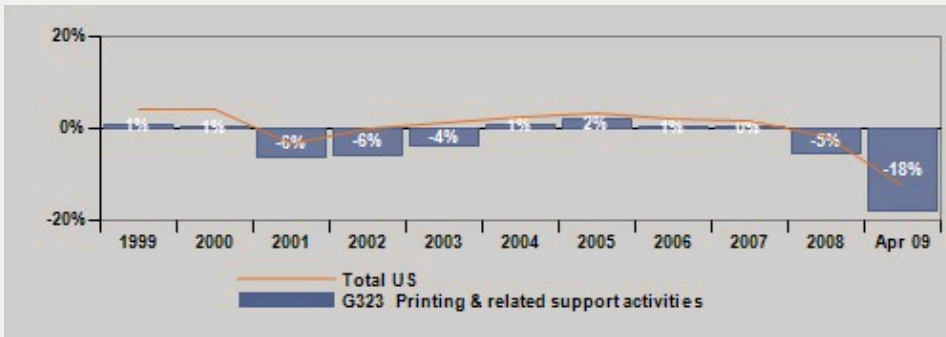
Financial Ratios (Click on any ratio for comprehensive definitions)		
Quick Ratio	1.17	1.18
Current Ratio	1.68	1.73
Current Liabilities to Net Worth	47.5%	26.0%
Current Liabilities to Inventory	392.5%	396.0%
Total Liabilities to Net Worth	94.5%	47.0%
Fixed Assets to Net Worth	6400%	4600%
Collection Period	38.1	25.8
Inventory Turnover	32.2	36.6
Assets to Sales	42.0%	37.0%
Sales to Working Capital	7.0	4.6
Accounts Payable to Sales	4.0%	3.0%
Return on Sales	2.0%	2.0%
Return on Assets	4.0%	3.5%

Return on Investment	19.0%	23.5%
Interest Coverage	3.9	2.7

Financial industry data provided by Fintel -- offering leading benchmarking with a database of over 900 industries. Utilize financial analysis through profitability, liquidity, sustainable growth rate, business valuation, custom research, and other tools. Visit us on the web at www.fintel.us/firstresearch to find out how we can help you.

ECONOMIC STATISTICS AND INFORMATION

Index of Industrial Production - Federal Reserve Board



VALUATION MULTIPLES

Commercial Printing

Acquisition multiples below are calculated using at least 94 private, middle-market (valued at less than \$1 billion) industry transactions completed between 1/1993 and 11/2008. Data updated every six months. Last updated: March 2009.

Valuation Multiple	MVIC/Net Sales	MVIC/Gross Profit	MVIC/EBIT	MVIC/EBITDA
Median Value	0.6	1.1	5.1	4.7

MVIC (Market Value of Invested Capital) = Also known as the selling price, the MVIC is the total consideration paid to the seller and includes any cash, notes and/or securities that were used as a form of payment plus any interest-bearing liabilities assumed by the buyer.

Net Sales = Annual Gross Sales, net of returns and discounts allowed, if any.

Gross Profit = Net Sales - Cost of Goods Sold

EBIT = Operating Profit

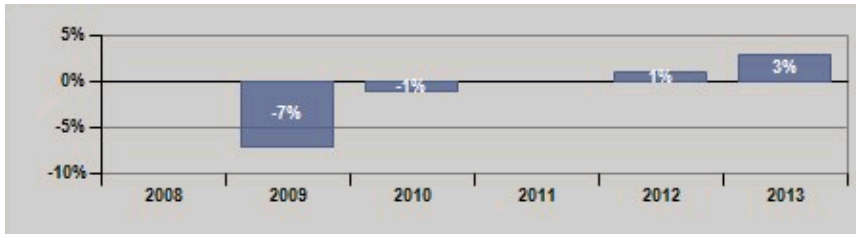
EBITDA = Operating Profit + Noncash Charges

SOURCE: Pratt's Stats™ (Portland, OR: Business Valuation Resources, LLC) To purchase more detailed information, please either visit www.BVMarketData.com or call 888-287-8258.

Industry Forecast

The output of US printing manufacturing is forecast to decline at an annual compounded rate of 1 percent between 2008 and 2013. Data Sourced: December 2008

Commercial Printing Output Growth Shrinks



First Research forecasts are based on INFORUM forecasts that are licensed from the Interindustry Economic Research Fund, Inc. (IERF) in College Park, MD. INFORUM's "interindustry-macro" approach to modeling the economy captures the links between industries and the aggregate economy.

Web Links & Acronyms

INDUSTRY WEBSITES

Graphic Arts Online

Business magazine for the printing industry.

Ink World

Articles on printing ink and coating industry.

National Association for Printing Leadership (NAPL)

Newsletters, publications, discussion forums, events, an online marketplace, and advice on sales, marketing, human relations, operations, technology, and financial management.

National Association of Printing Ink Manufacturers

Convention and general information; publications; issues concerning health, safety, and the environment; two magazines.

Print Solutions Magazine

Top distributors, news, links, stock watches, archives, and FAQs for form printing entrepreneurs written by the Document Manufacturers Industries Association.

Printing Industries of America

Industry news.

Printing News

News.

Specialty Graphic Imaging Association (SGIA)

Industry news and weekly updates on the advances and interests of digital and specialty imaging and printing.

The Association for Suppliers of Printing, Publishing, and Converting Technologies

Conferences, trade shows, education, government affairs, international trade, market data, market research, product safety, standards, publications, and legal issues.

WhatTheyThink

"Competitive intelligence for printing executives."

GLOSSARY OF ACRONYMS

CAD - computer-aided design

CTP - computer-to-plate

EDI - electronic document interchange

EDSF - Electronic Document Systems Foundation

NPES - The Association for Suppliers of Printing, Publishing, and Converting Technologies

PIA - Printing Industries of America, Inc.

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