

for Affiliates this month in Center research:

## Printing as an Industry, Commodity, and Activity

By the late 20th century, books, magazines, newspapers and the occasional special print order made by individual consumers constituted only a fraction of the output of the U.S. printing industry. Whenever we read the label on a can of soup, review a bill, sign a check, or send a package via FedEx or UPS, we are handling a product of the printing industry. Therefore, tracking the growth of the industry is a tricky proposition. A research publication of the RIT Printing Industry Center, entitled ***Printing as an Industry, Commodity, and Activity: An Economic Analysis of Growth and Inter-Industry Transactions***, by **Maryellen R. Kelley and Nicolas Rockler**, describes printing activity in the U.S., and defines the industry, the major printing commodities, types of customers, and the relationship between printing and the activities of other industries.

### Defining the U.S. Printing Industry

The problem of industry definition is the result, in part, of the legacy of the industrial classification system. The North American Industry Classification System (NAICS) was adopted by the U.S. Economic Census in 1997, replacing the Standard Industrial Classification (SIC) system that had been in use since 1939. This change had a profound impact on how researchers track the changes in the size and structure of the printing industry. Under the SIC system, printing and publishing were grouped into one code, but now they are two separate codes. In addition, the NAICS system created new classifications that track print specializations brought about by new technology (such as digital printing) and that isolate smaller specializations that had formerly been lumped into a broader category.

Using the 1997 Census definition of the printing industry, the authors reconstructed a time series of annual revenues for the years 1977 to 2002, and adjusted the data for inflation, benchmarking the series to 1997 prices. The data analysis includes a comparison of the major specializations within printing, namely, *printed books*, *business forms*, and *commercial printing*—the one specialization that is not identified with a specific type of document.

### Trends in Industry Growth

Overall, annual revenues for the printing industry increased from \$50.3 billion in 1977 to \$99.6 billion in 2000. During that time period, the 1980s saw the greatest growth. Between 1981 and 1990, the industry grew at the rate of 5.2% per year and industry shipments increased by \$32.4 billion (in 1997 dollars). Commercial printing was the fastest growing branch of the industry, responsible for 83.9% of its growth during these years.

### Center Spotlight



Printing as an Industry, Commodity, and Activity: An Economic Analysis of Growth and Inter-Industry Transactions

by Maryellen R. Kelley and Nicolas Rockler

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Of the four other contributors to printing industry revenues (business forms, books, prepress services, and bindery/postpress operations), business forms was the largest, with over 20% of the printing industry's annual revenues and growing at 2.4% per year.

Between 1991 and 2000, the revenues of the printing industry as a whole grew by only 1.7% per year. A decline in business forms revenues began in 1988, after having achieved a peak of \$15.6 billion in revenues for 1987. By 2002, the business forms segment was generating only \$8.5 billion in revenues, which was \$2.1 billion less than the real value of the industry's shipments in 1977 (\$10.6 billion).

This contrasts with the new NAICS classifications of quick printing, digital, screen, and flexography. They were responsible for 21.7% of the commercial printing industry's revenues, and this share increased to 25.5% by 2002.

### Changes in Industries' Use of the Commercial Print Commodity

The greatest increase in commercial print sales during the 25-year period studied was driven by the growth in demand from the service industries. Four industry groups—technical/professional business support & related administrative services; wholesale & retail trade; civic/business associations, professional & similar membership organizations; and publishing—increased their purchases by more than \$4 billion. Moreover, 25% of the overall growth in commercial print sales was attributable to the first of these groups: technical/professional business support & related administrative services. Purchases made by industries in this group increased by over 400% between 1972 and 1982, and by 150% between 1982 and 1997.

On the opposite end of the spectrum, three industry groups—paper, plastic & metal packaging; processed foods & related products; and finance, insurance & real estate—so reduced their use of commercial print that their 1997 purchases were smaller than the amounts purchased in 1972! The next section may explain why this happened.

### Printing Activity Elsewhere—Secondary Production of the Commercial Print Commodity

Some industries other than the printing industry generate their own printed output. Since it is impossible to measure the printing output of such secondary producers directly (because they are not classified as belonging to the printing industry), the authors used a "proxy" measure to estimate the commercial print commodity output produced by other industries.

The proxy measure they used was printing ink. The estimated amount of commercial print commodity output generated by an industry (outside the printing industry) was computed by multiplying that industry's purchases of printing ink by the reciprocal of the ink I-O coefficient. The results showed the amount of secondary commercial print production to be substantial, adding another \$21.3 billion, \$19.5 billion, \$30.5 billion, and \$42.5 billion to printing output in 1972, 1982, 1987, and 1997, respectively.

Co-Directors (email):  
Frank Cost and Pat Sorce

Communications Manager  
(email):  
Ashley Waltz  
(*Web site, publications,  
general info*)

Mailing Address:  
Printing Industry Center  
at RIT  
College of Imaging Arts  
and Sciences  
Rochester Institute of  
Technology  
55 Lomb Memorial Drive  
Rochester, NY 14623

Phone: (585) 475-2733  
Fax: (585) 475-7279

### About the Center

Dedicated to the study of major business environment influences in the printing industry precipitated by new technologies and societal changes, the Printing Industry Center at RIT addresses the concerns of the printing industry through educational outreach and research initiatives.

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Comparing the actual amounts of primary commercial print output reported in the I-O accounts, the overall amount of secondary output that was being produced (and not counted) in other industries exceeded primary output by 17.1% in 1972. This situation did not last, however. Secondary output was 26.3% less than the primary commercial print commodity output in 1982. Secondary print production increased again in 1987, and by 1997, other industries were estimated to be generating only 8.3% less print than the actual (primary) commercial print commodity output of \$46.3 billion.

The publishing and packaging industries were shown to be responsible for producing most of the secondary commercial print output in each of the benchmark years. Together, secondary print production by these two industry groups accounted for 84.1%, 82.6%, 84.1% and 75.8% of all secondary output estimated to have been produced in 1972, 1982, 1987, and 1997, respectively.

The newspaper industry is perhaps the only unambiguous case of a decline in print use by an industry. In 1997, the combination of secondary production and purchases of the commercial print commodity by the newspaper industry totaled \$3.9 billion—less than the \$4.3 billion the newspaper industry required in 1982.

### Final Observation

Since a substantial amount of print production takes place in industries in which the printing methods have become integrated into other processes that would not otherwise be identified as printing, the locus of printing activity and the conditions under which it may be expected to flourish are uncertain and difficult to predict.

### More Information :

The *Printing as an Industry, Commodity, and Activity* research publication of the RIT Printing Industry Center is a comprehensive analysis of the printing industry in the U.S., synthesizing the data collected since 1967 by the U.S. Department of Commerce in their economic census. It provides a detailed look at the existing data and adds new insights into the size and location of the printing activity in our economy.

The complete publication is available for purchase through Lulu at <http://www.lulu.com/content/265874>

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