RIT Printing Industry Center

May 2010

eReview

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Current Practices in

Printing Industry Demographics

The primary goal of month's research study, *An Investigation into Printing Industry Demographics—2009* (PICRM-2010-04), by Frank Romano, Professor Emeritus, RIT School of Print Media, and David Broudy, M.S., RIT School of Print Media, was to discuss definitions for the U.S. printing industry and the "print universe." The print universe is the authors' term for an expanded view of establishments that produce some kind of reproduction as a service.

Defining the Printing Industry

Data Sources

Printing industry information sources include the following:

- Graphic Arts Blue Book
- Dun & Bradstreet
- NAPL
- Yellow Pages
- PIA (Printing Industries of America)
- State Street Consultants
- C. Barnes
- InfoTrends
- NPES
- Trade magazines
- Industry suppliers
- U.S. Government

The Census Bureau and Bureau of Labor Statistics keep track of the number of U.S. businesses by business or industrial category within each U.S. county. County Business Patterns is an important information resource and business tool. Data for 1992 through

2002 is readily available and 2007 data is now being released. These data count printing establishments in each county and categorize them by their NAICS (North American Industry Classification System).

This categorization is based on how each company defines itself on its tax form. Because of tax form data collection methods, some establishments are missed because the establishment selects codes from its primary industries (which could be converting, packaging, or specialty areas), or the company is so small that it does not file a tax form because it has no employees. Data is shared between IRS and BLS via Schedule SE for self-employed individuals; however, some proprietorships may file a Schedule C instead of a Schedule SE.

Thus, the entire system is flawed because each entity decides what they are and some entities are missed completely. The possession and use of a printing device does not automatically correlate that the entity is in NAICS 323.
This investigation surmises that small companies are undercounted—and the U.S. printing industry is mostly small companies.

There is a more detailed economic census every five years, for years ending in "2" or "7"—the last was in 2007 and data is being released as this report is being finalized. Firms that constitute 80 percent of the printing industry receive the long form, and the balance of firms is sampled.

Thus, we are usually working from "old" data in an industry that is changing rapidly. We have many data sources for the printing industry; yet, we really do not know what is happening as it is happening. Data, as always, needs interpretation, opinion, and explanation.

We contend that any entity, individual or company, that sells reproduced material from any kind of reproduction device should be considered in the demographics of the printing industry. Thus, newspaper, lettershop, and pre-press firms that sell print services must be counted.

A Quick Comparison

One can see the differences between some of these information sources. Once the methodology and definitions are understood, each may be valid in its own right. Since different marketing people in different organizations select one or another source, their opinions and presentations reflect their selected sources. Thus, we hear conflicting numbers for the size and scope of the printing industry. Fortunately, most tend to be within a reasonable range—especially counts for larger firms.

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June 2 - 4
FFTA/RIT Color Management for Flexography

June 3 - 5
Predictable Color Proofing and Printing

June 8 - 12
Orientation to the Graphic Arts

Table 1: Comparison of five data sources describing the printing industry, 2008
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Data Sources	Number of Firms*
County Business Patterns	29,000
Blue Book	36,000
Dun & Bradstreet	48,000
Yellow Pages	57,000
Magazine circulation	71,000

*Numbers rounded to nearest thousand.

Methodology and What We Learned from the Phone Book List

Our 1999 report was based in large part on analysis from a Dun & Bradstreet database acquired by RIT. This 2009 report used a list compiled from phone books by InfoUSA. The D&B list was nationwide. The InfoUSA list included New York and the six New England states and national data was extrapolated.

Because we were using a sample audience for analysis, we needed to compare the sample to base data. In this case the base data is the last three Economic Censuses. The 7-state sample represented 12.52 percent of the U.S. This has changed slightly from 13.19 percent in 1997 and 12.64 percent in 2002.

Table 2: County Business Patterns, 1997-2007 (U.S. Economic Census data, 1997-2007)
click to see the image larger

State	1997	Percent of U.S.	2002	Percent of U.S.	2007	Percent of U.S.
NY	3,005	7.01%	2,542	6.77%	1,912	6.65%
CT	678	1.58%	557	1.48%	423	1.47%
MA	1,164	2.72%	984	2.62%	753	2.62%
ME	192	0.45%	176	0.47%	132	0.46%
NH	253	0.59%	210	0.56%	164	0.57%
RI	225	0.52%	171	0.46%	135	0.47%
VT	135	0.31%	105	0.28%	81	0.28%
Total	5,652	13.19%	4,745	12.64%	3,600	12.52%
All US	42,863	--	37,538	--	28,754	--

Our sample required several adjustments. Because the Yellow Pages category is selfselecting, we had to analyze the InfoUSA list. We categorized all records and they fell into nine categories that are not considered part of the printing industry. 73.94 percent were print-related.

Table 3: Sample list categories from 2009 InfoUSA list
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June 16 - 17
FFTA/RIT Principles of Flexography

June 16 - 19
Printing Process Identification and Image Analysis for Forensic Document Examiners

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The *eReview* is a monthly publication of the Printing Industry Center at RIT for registered Affiliate companies. Articles are also published in the quarterly printed publication *PrintReview.*

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Description	List Amount	Percent of List
Printers (Mfrs), Commercial Printing Nec (Mfrs), Commercial Printing-Lithographic (Mfrs), Commercial Printing-Gravure (Mfrs), Offset Reproductions (Mfrs), and Manifold Business Forms (Mfrs)	4,736	66.98%
Silk Screen Printing, Screen Printing (Mfrs)	456	6.45%
Business Forms & Systems	36	0.51%
Print-Related Subtotal	5,228	73.94%
Copying & Duplicating Service	138	1.95%
Newspapers (Publishers/Mfrs)	38	0.54%
Advertising-Specialties (Whls)	43	0.61%
Business Service Centers	183	2.59%
Mailing & Shipping Services	22	0.31%
Embroidery	148	2.09%
Office Supplies	216	3.05%
Signs	81	1.15%
Other	974	13.77%
List Total	7,071	100.00%

This analysis resulted in the Adjusted Sample column. Interviews by phone, e-mail, and in-person revealed the number that were not physical printing firms:

- 15% of the listings were printing brokers with no equipment
- 7% were printers operating with different trade names from the same facility
- 4% were printers in a different city but with a local phone number
- 3% were sales offices for printing firms in other cities
- 1% were local plants of national firms
- 1% were printers that merged or ceased business

Thus, 31 percent of the listings were not printers.

Table 4: Sample list analysis
click to see the image larger

State	Sample InfoUSA	Adjusted Sample (no brokers, no dupes)	Adjusted Final Sample
NY	3,859	2,852	1,968
CT	750	554	394
MA	1,457	1,077	754
ME	266	197	140
NH	364	269	178
RI	217	160	109
VT	158	117	79
Total	7,071	5,225	3,621
All U.S.	56,168	41,508	28,641
Percent of U.S.	12.59%	12.59%	12.64%

The resultant analysis placed the six states at 12.64 percent of the U.S., while Federal data placed the seven states at 12.52 percent.

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(Web site, publications, general info)

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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.

Support for the Center comes from:

Sloan Foundation
Rochester Institute of Technology

Adobe
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Hewlett-Packard
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NPES
Scripps Howard Foundation
VIGC
Xerox Corporation

We contacted 1,217 of the 7,071 names in the purchased database using phone, in-person, and e-mail surveying. This allowed us to define the companies on the list. The survey questions are included in the appendix in the full monograph.

Table 5: Interviews
click to see the image larger

State	Phone	In person	E-mail	Total
NY	109	21	210	340
CT	84	33	121	238
MA	99	43	176	318
ME	28	11	56	95
NH	23	7	57	87
RI	19	3	45	67
VT	21	3	48	72
Total	383	121	713	1,217

Trade magazine lists emphasize circulation; thus, they have higher numbers in order to support advertising rates that are based on "cost per thousand" for advertisers. They achieve higher numbers by sending multiple copies to printing sites based on qualification forms.

Table 6: Magazine circulation by state*
click to see the image larger

State	Magazine A (AP) 2008	Magazine B (PI) 2008	Magazine C (GAM) 2008
NY	3,783	4,279	5,225
CT	738	1,028	1,097
MA	1,333	1,789	1,871
ME	211	305	326
NH	290	462	416
RI	168	264	267
VT	154	197	188
Total	6,677	8,324	9,390

**American Printer, Printing Impressions, and Graphic Arts Monthly counts*

Using Google, the A.F. Lewis Blue Book, industrial directories, one print magazine list, and on-line Yellow Pages, we sought to discover if there were printers that were not included in the InfoUSA list.

Table 7: Printers not on the sample list
click to see the image larger

State	Number

State	Number
NY	122
CT	16
MA	54
ME	0
NH	0
RI	2
VT	4
Total	198

The underlying problem is that the majority of printers are individuals or proprietorships and some may not be listed anywhere.

Table 8: Preliminary NAICS 323 data presented by County Business Patterns based on 2007 Economic Census
click to see the image larger

State	Corporations	Individual Proprietorships	Partnerships	Total
CT	26	283	25	334
ME	7	102	4	113
MA	59	581	5	645
NH	12	138	10	160
NY	423	1,356	92	1,871
VT	13	13	56	82
RI	11	78	2	91
Total	551	2,551	194	3,296
Percent of 7 states	16.72%	77.40%	5.89%	100.01%

Non-employer statistics originate from tax return information of the Internal Revenue Service. The data are subject to non-sampling error such as errors of self-classification by industry on tax forms, as well as errors of response, non-reporting and coverage. Values provided by each firm are slightly modified to protect the respondent's confidentiality.

The result is that the sample selected and analyzed was a good basic list to establish an understanding of the printing industry.

Criteria for Consideration

The following criteria were considered, although the full discussion is not included in this summary. Please read this section in the full monograph for more detail.

1. Is any person or company with a reproduction device that

sells print, a printer?
2. Should anyone who provides copying services be counted?
3. Should anyone who provides digital printing services be included?
4. Do packaging printers count?
5. Do specialty printers count?
6. Do screen printers count?
7. Do newspapers count?
8. Should we count pre-press and post-press (finishing) services?
9. Should we count firms or plants (establishments)?
10. What years' data are we using?
11. What is the difference between a small printer and a quick printer?
12. Should we categorize by reproduction processes?
13. Should "in-plant" operations be considered?
14. What about companies that do not provide data?
15. What about multi-national firms?
16. What about direct mail and graphic design firms?

The Bottom Line: Reconciling the Numbers

Each decision made in the points above changes the final total. Because different marketers and analysts segment the data differently, they arrive at different counts.

Table 9: U.S. printing industry from four points of view

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Category	County Business Patterns	Blue Book	PIA (Davis)	RIT (Romano)
COMMERCIAL PRINTING				
General Commercial	Y	Y	Y	Y
Quick Printing	Y	Y	Y	Y
Magazine Printing	Y	Y	Y	Y
Newspaper Printing	Y**	N*	Y	Y**
Book Printing	Y	Y	Y	Y
Financial, Legal Printing	Y	Y	Y	Y
Screen Printing	N	Y	Y	N
Thermography	Y	Y	Y	Y
FORM, LABEL & TAG PRINTING				
Business Forms Printing	Y	Y	Y	Y
Label, Wrapper Printing	Y	Y	Y	Y
Tag, Ticket, Tape Printing	Y	Y	Y	Y
OTHER PRINTING				
Copy Shops	N	N	N	Y
Greeting Card	Y	Y	Y	Y
Specialty Printing	N	Y	Y	Y
Packaging Printing	N	Y	Y	Y
Selected Converters	N	N	N	Y
TRADE SERVICES				
Prepress Services	Y	N*	Y	Y**
Trade Binding	Y	N*	Y	N
Other Services (mailing)	N	N*	Y	N
OTHER CLASSIFYING FEATURES				
Firms or Establishments	F/E	E	F	E
In-plant operations	N	N*	N	Y
2002 DATA				
Total firms/establishments	34,172	38,336	45,181	55,563

**Not automatically counted in printing numbers*

***Those that provide commercial printing services*

Conclusions and Projections

Table 32 is an overview of the printing industry and the print universe. The print universe combines traditional categories that have been considered part of the printing industry with additional categories that include selected company types that apply production-level printing technology.

Table 10: The Print Universe, 1995-2015

click to see the image larger

Category	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2015
Commercial Printing												
General Commercial	24,900	21,878	21,076	20,497	20,205	19,392	17,527	16,800	13,197	13,000	12,100	11,800
Quick Printing	9,700	8,996	7,699	7,259	7,150	7,136	6,779	6,190	6,157	6,123	5,900	4,000
Newspaper Printing	6,400	5,213	5,124	5,079	5,042	5,002	4,897	4,797	4,690	4,400	4,300	3,000
Book Printing	430	367	361	341	343	341	295	285	281	281	281	245
Financial, Legal Printing	200	173	173	173	172	171	137	130	121	111	102	98
Screen Printing	4,122	4,096	4,188	4,382	4,474	4,549	4,630	4,698	4,687	4,204	3,999	2,000
Digital Printing	11	386	554	1,036	1,498	1,792	1,930	2,160	2,346	2,860	3,190	3,000
Subtotal	45,763	41,109	39,175	38,767	38,884	38,383	36,195	35,060	31,479	30,979	29,872	24,143
Form, Label & Tag Printing												
Business Forms Printing	1,178	764	736	704	682	660	558	502	499	479	469	300
Label, Wrapper Printing	890	822	814	798	797	797	709	699	689	650	640	510
Tag, Ticket, Tape Printing	210	146	141	136	136	135	124	120	120	110	105	95
Subtotal	2,278	1,732	1,691	1,638	1,615	1,592	1,391	1,321	1,308	1,239	1,214	905
Other Printing												
Greeting Card	70	55	51	49	49	48	39	32	31	31	29	20
Specialty Printing	1,200	1,019	991	994	975	951	821	800	798	788	790	980
Packaging Printing	1,900	1,700	1,667	1,630	1,624	1,559	1,436	1,400	1,380	1,360	1,340	1,310
Subtotal	3,170	2,774	2,709	2,673	2,648	2,619	2,619	2,619	2,619	2,619	2,619	2,600
U.S. PRINTING FIRMS	51,211	45,615	43,575	43,078	43,147	42,594	40,205	39,000	35,406	34,837	33,705	27,648
Trade Services												
Prepress Services	7,300	2,753	2,491	2,153	2,070	1,900	1,700	1,600	1,500	1,300	1,200	500
Trade Binding	1,400	1,300	1,299	1,239	1,200	1,190	1,100	1,089	1,057	1,003	1,000	1,000
Other Finishing Services	900	811	780	779	762	743	956	1,636	1,910	2,000	2,200	2,000
Subtotal	9,600	4,864	4,570	4,171	4,032	3,833	3,756	4,325	4,467	4,303	4,400	3,500
U.S. PRINTING INDUSTRY	60,811	50,479	48,145	47,249	47,179	46,427	43,961	43,325	39,873	39,140	38,105	31,148
Other Services												
Direct Mail Services	4,211	4,178	4,087	3,977	3,843	3,673	3,603	3,588	3,556	3,501	3,477	3,200
Graphics/Photo Services	5,300	5,990	6,100	6,300	6,400	6,600	6,890	7,002	7,500	7,670	8,000	9,000
Copy Shops	9,000	6,900	6,300	6,202	6,100	6,000	5,930	5,840	5,856	5,900	5,800	4,000
In-plant Services	12,000	7,900	7,100	6,854	5,977	5,442	5,241	5,198	5,188	5,165	5,100	5,000
Subtotal	30,511	24,968	23,587	23,333	22,320	21,715	21,664	21,628	22,100	22,236	22,377	21,200
PRINT UNIVERSE	91,322	75,447	71,732	70,582	69,499	68,142	65,625	64,953	61,973	61,376	60,482	52,348

The number of printing industry firms has been contracting since 1995, and we project that it will be close to 50 percent of its size in 2015 as compared with 1995. It is digital printing that has allowed the expansion of the printing industry into new categories of user.

The chart that follows plots the number of traditional printing firms from 1965 to 2020 and projects that the printing industry will return to its 1965 size in 2020. This is based on the fact that electronic substitution will continue to reduce the volume of print and this will result in fewer printers needed to produce the reduced print volume.

Figure 1: The growth and decline of printing firms in the U. S., 1965 - 2020

click to see the image larger

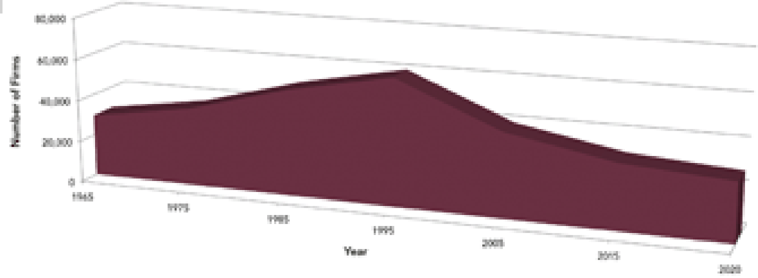

Table 11: Number of traditional printing firms in the U.S., 1965 – 2020

click to see the image larger

Year	1965	1975	1985	1995	2005	2015	2020
Firms	29,800	37,500	51,000	60,811	40,205	31,148	28,000

Summary

The printing industry is diverse and complex. Selecting a set of criteria for quantifying and tracking the industry is equally diverse and complex. A lot may have to do with what is sold to the industry and how it is sold. But there is a fundamental need for base data to allow consistent comparison over time for the printing companies themselves.

The printing industry needs a centralized database in order to maintain and research relevant information on a timely basis.

2009-2010 Research Monographs

To read about this research in detail, download the monograph from: http://print.rit.edu/pubs/picrm201004.pdf

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