Surface Finishing and Economic Trends: Recent Data From the U.S. Census

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As surface finishers continue to navigate the ever-pressing challenges of the global economy, the Government Relations program is engaged in a number of activities, including review of economic, technology and regulatory trends in the industry and their relevance to both industry and government decision makers. For this month's *P&SF* article, we've assembled some available economic data from the U.S. Census pointing to industry changes that most informed observers have recognized for some time. A summary of selected trends—part of a larger industry project on the "Future of Finishing"—is provided here.

Profitability

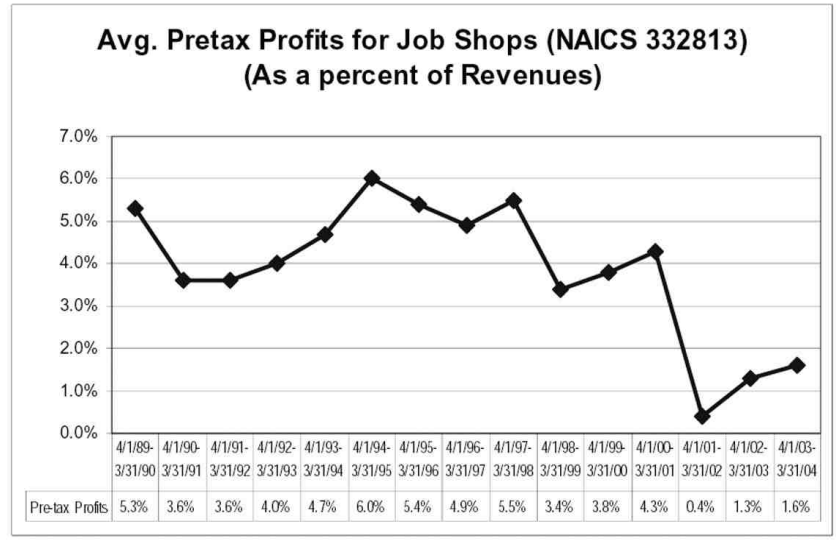
It's no secret that plating job shops experienced a troubling drop in profitability during the recent manufacturing recession. While profitability has improved somewhat since the trough in 2001–2002, it has not bounced back to historical levels. A close review of available data on the pretax profits of the industry (NAICS 332813) indicates that for the period of 1989–2000, profits fluctuated but remained in the range of 3 to 6 percent. However, beginning in 2000–2001, profits dropped from over 4 percent to under 0.5 percent, and had only recovered to 1.5 percent by 2004.

Given the escalation of outsourcing during this period by global manufacturing operations and their top tier suppliers—notably in the automotive, industrial equipment, communications and other manufacturing sectors traditionally serviced by plating operations—it is unlikely that profitability will recover in the short term.

Furthermore, in light of the fact that the outsourcing of manufacturing operations is emerging as a permanent feature of the global economy, U.S. plating industry profitability, on average, will continue to face pressure for the foreseeable future.

Smaller vs. Larger Job Shops

Over the 15-year period since 1990, it's consistently been true that larger plating



	4/1/89-3/31/90	4/1/90-3/31/91	4/1/91-3/31/92	4/1/92-3/31/93	4/1/93-3/31/94	4/1/94-3/31/95	4/1/95-3/31/96	4/1/96-3/31/97	4/1/97-3/31/98	4/1/98-3/31/99	4/1/99-3/31/00	4/1/00-3/31/01	4/1/01-3/31/02	4/1/02-3/31/03	4/1/03-3/31/04
Pre-tax Profits	5.3%	3.6%	3.6%	4.0%	4.7%	6.0%	5.4%	4.9%	5.5%	3.4%	3.8%	4.3%	0.4%	1.3%	1.6%

Figure 1.

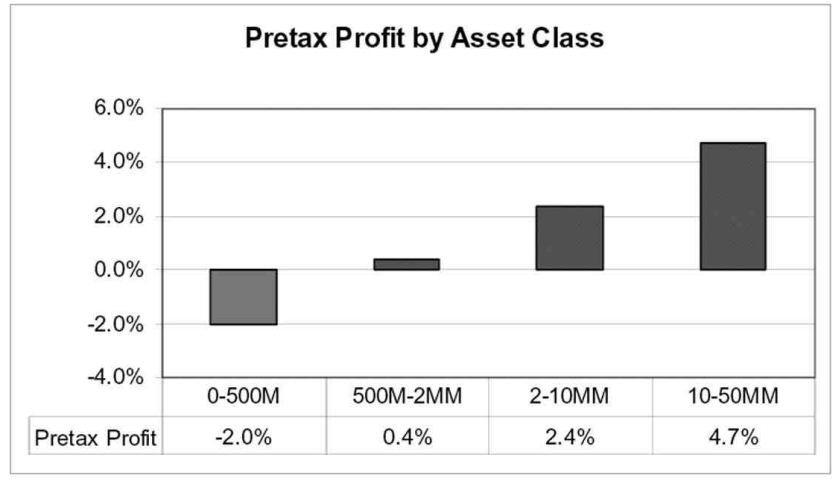


Figure 2.

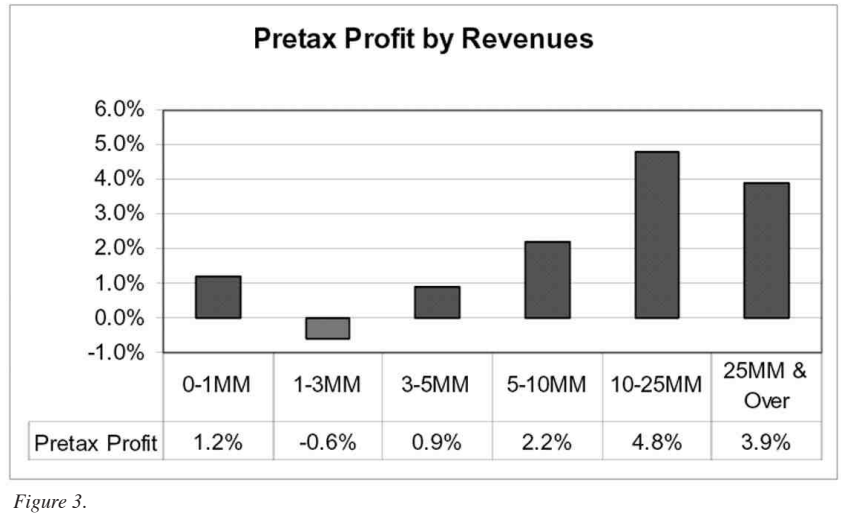


Figure 3.

firms (larger in terms of revenues, assets, or employment) have been more profitable than smaller ones. The same is not necessarily true in other industries. Among the factors behind this, larger finishing operations often face fewer hurdles in innovation and productivity improvements, or larger operations find it easier to manage the burden and complexity of the many environmental, health and safety challenges facing the industry.

On the other hand, recent anecdotal evidence points to the fact that while profitability tends to be higher for larger operations, even the largest operations are not immune from significant financial pressures associated with the recent manufacturing downturn.

Profitability and Market Share

Despite the consistent historical lower profitability of smaller job shops relative to larger ones, many small job shops have appeared to be maintaining their market share in the industry. From 1992 to 2002 (the most recent year for which this data is available), smaller job shops (< 20 workers) continued to account for about 21–22% of industry revenues and 24–25% of industry employment. There has been a slight shift over time in industry employment toward the largest job shops (100 or more employees)—in 1992 about 22% of industry employment was in these large job shops, and the figure had risen to 26% in 2002.

However, this small shift in employment toward the largest job shops has not been matched by a similar shift in revenues. In general, smaller job shops were holding their own within the industry during this period in terms of both employment and revenues, despite consistently lower historical reported profitability.

Job Shop Employment, Revenues

A review of available data on employment and revenues from the U.S. Census and other sources for job shop electroplating from 1977-2002 is instructive. Figures 4 through 9, showing data for each year from 1977 through 2002, show several things:

- **Job shop employment** – Fig. 4 illustrates that, "as manufacturing goes, so goes surface finishing." Job shops experienced rather slow growth from 1977 through 2000, but showed a sharp drop in employment during the period 2001-2002.
- **Job shop electroplating revenues** – Fig. 5 demonstrates a trend in revenues similar to that of employment above. Revenue shows what looks to be strong and steady growth from 1977 through 2000, then a sharp drop in 2001 and 2002 (the graph is in nominal dollars).
- **Job shop electroplating revenues vs. all manufacturing revenues** – Job shop revenues (Fig. 6) track manufacturing revenues relatively closely for this period. However, since 2000, the falloff in electroplating has been steeper than the falloff in manufacturing. This recent divergence between electroplating and manufacturing may be an aberration, but it also may be a significant, permanent trend.

Figure 4.

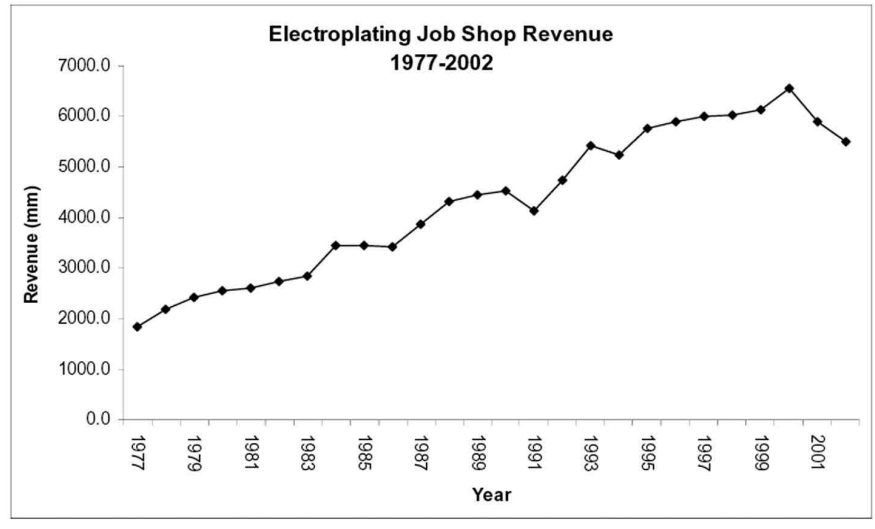


Figure 5.

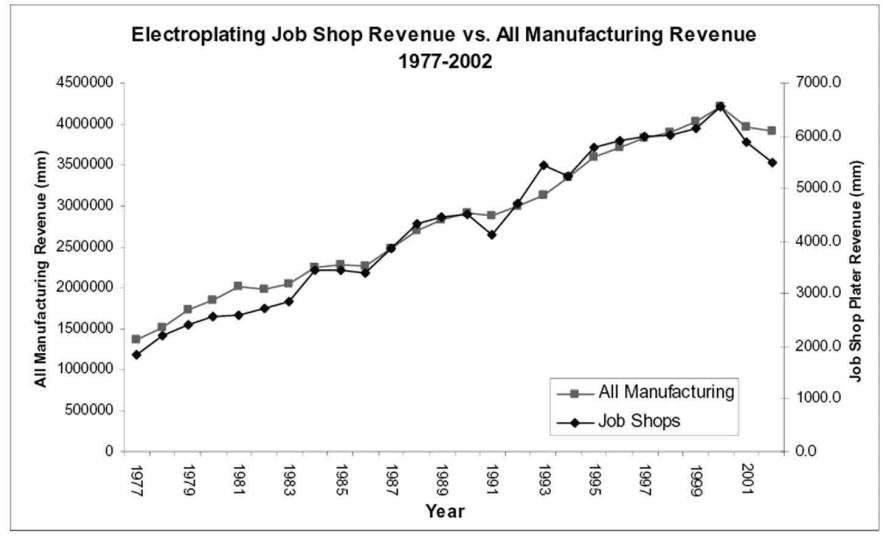


Figure 6.

However, U.S. Census data are not yet available for 2003 to evaluate whether this relationship between electroplating revenue and broader manufacturing revenue is continuing. With respect to data for manufacturing, revenues in 2003 recovered to 2001 levels. For job shop electroplating, 2003 data aren't available, due to the fact that the U.S. Census for 2003 has combined the job shop NAICS code (332813) with other NAICS codes for heat treating, coating, engraving, and other industrial operations. Government Relations is expecting to get more detailed information shortly for 2003.

- **Job shop plating revenue as a share of manufacturing revenues** – This indicator—illustrated in Fig. 7—is another way to explore the issue raised above. It appears that job shops were slowly growing as a share of all manufacturing for 1977–1993, but have since remained in slow decline. The decline becomes sharper for 2000–2002. It may be accurate to say that "as manufacturing goes, so goes electroplating", but since 1993 electroplating hasn't been keeping pace with manufacturing generally.
- **Job shop plating employment as a share of manufacturing employment** – Fig. 8 shows a very slow but steady increase through 2000, then a drop. Electroplating is traditionally more employee-intensive than manufacturing generally (*e.g.*, electroplating's share of manufacturing employment is roughly 0.004, while its share of manufacturing revenues is less than half as much, roughly 0.0015). Electroplating firms do have the option (depending on the processes or lines involved) to substitute technology for labor, but this indicator seems to show that technology may not be replacing labor at a pace equivalent to the manufacturing sector in general.
- **Job shop electroplating revenues in real terms (in constant year 2000 dollars)** – In contrast to the data shown Fig. 8, Fig. 9 generally shows reasonably consistent growth from 1977 through 2000, but at a much lower overall rate of growth than is suggested by measurement in nominal dollars. Similarly, however, the drop from 2000 to 2002 is sharp.

While these data point out the very real challenges facing the surface finishing industry, recent anecdotal evidence from actual finishing firms suggests that many companies are up to the task and succeeding in the new global economy. Stay tuned for future articles on where the industry may be headed next. **P&SF**

Figure 7.

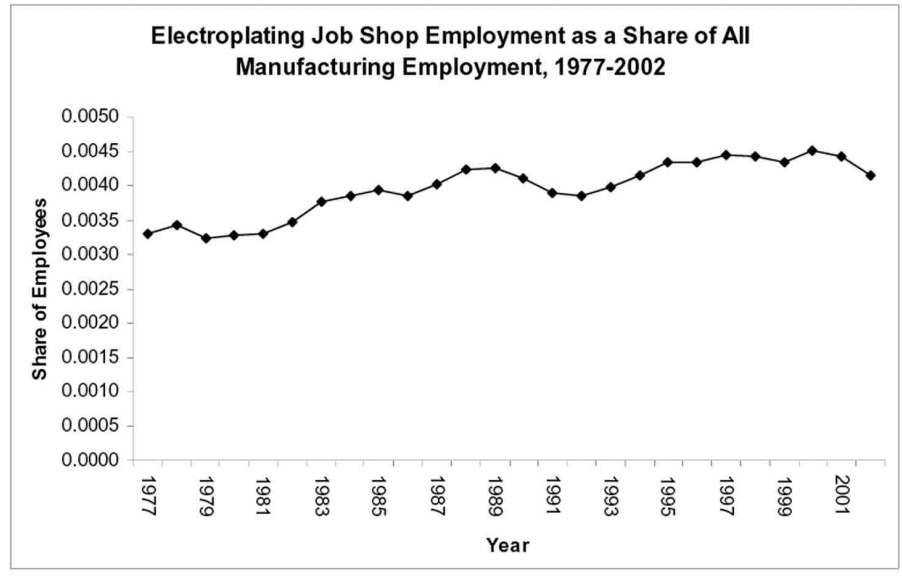


Figure 8.

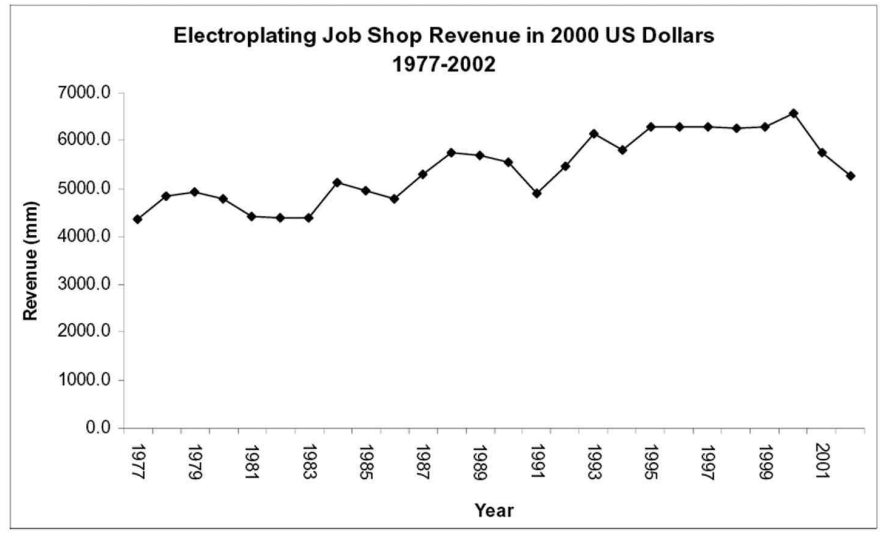


Figure 9.