Printing Industries of America

CENTER FOR PRINT ECONOMICS AND MANAGEMENT

REPORT

What Now?
Economic and Print Market Trends and Outlook 2017–2018

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What Now? Economic and Print Market Trends and Outlook 2017–2018

Although last fall's election settled the big political questions of the day, economic policy issues remain cloudy at best. With the new administration in office around 100 days, we update our economic and print market forecast. Economic forecasting is always precarious but it may be much more so with the current disruptions, uncertainty, and conflicts. Even so, in this *Flash* we offer our assessment of the direction of the economy over the next two years and the resulting impacts on print markets and printers. We also offer observations on the longer-run profile of the economy and print markets for the next ten years.

Under discussion are many policy changes that could shape the economy positively and negatively over the next two years. The most significant positives that could boost economic growth are:

- Deregulation
- Corporate tax reform
- Increased government spending on defense and infrastructure

On the potential downside:

- Trade protection policies fueling a wave of global trade war

Finally, the unknowns that could go either way:

- Restrictions on immigration—Will they increase U.S. wages as domestic labor is substituted for immigrant labor or is immigrant labor a complement to U.S. labor, thus reducing domestic labor demand and wages?
- Will the idea of a "border adjustment tax" stall the enactment of lower corporate taxes? In theory, this tax would cause adjustments in the exchange rates between the U.S. and our trading partners, keeping consumer prices the same and forcing importers to pay the tax. The big question is will the theory work in practice?
- Monetary policy reform—return to more normalcy and slightly higher interest rates
- Competitive policy changes (antitrust enforcement)
- Budgetary and deficit issues that ultimately must be addressed if not in the short term at least in the long term

This conflicted mix of positives, negatives, and unknowns creates considerable uncertainty so we will limit our forecast assumptions to three of the more likely policy initiatives to take shape over the next two years.

- *Regulatory reform—rolling back and easing of various business regulations.* The new administration has already started this process. At this time we are ignoring the issue of "repeal and replace" of the Affordable Care Act.

- *Tax reform—particularly corporate tax reform since this will have more immediate impacts on the direction of the economy.* Our assumption is that there will be some tax reform overall this year. For the most part, this will include lowering U.S. corporate tax rates to make them more competitive and incentives to repatriate the approximately $2 trillion in foreign-held retained earnings of U.S. corporations. However, the "border tax adjustment" idea as an offset to the lost revenue from the tax cut has added an additional element of uncertainty to the discussion.
- *Increased spending on infrastructure.* While this sounds like an easy political win, there are complexities in how to pay for it given the already swelling deficit.

The overall consensus is that the economy will get a boost from policies. Some indicators:

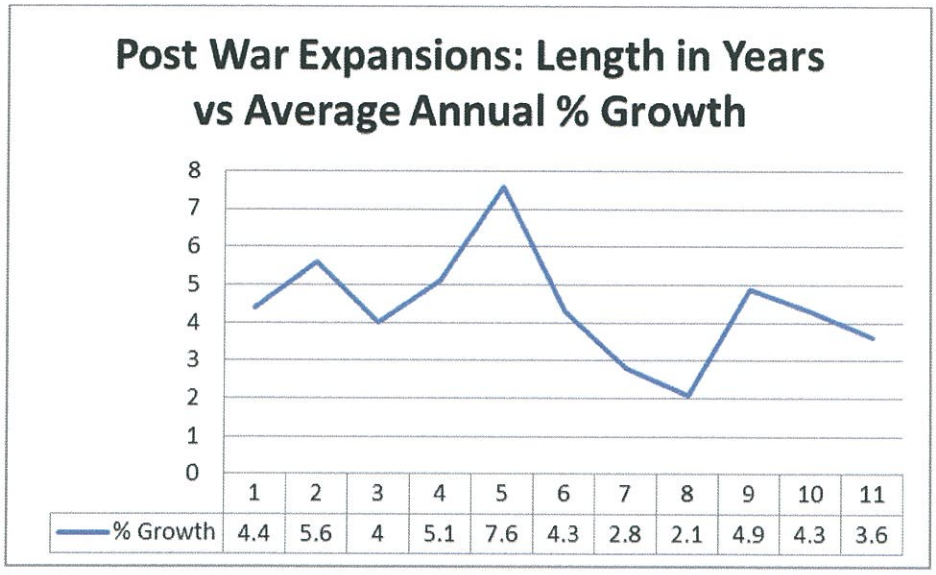
- The big boost in the stock market since the election
- The lift in consumer confidence
- The improvement in business confidence

So how will these actually impact the economy? The early consensus among economists calls for slightly higher growth in GDP, somewhat higher inflation, and job growth. Our own assessment is on the upper end of the consensus for each of these variables.

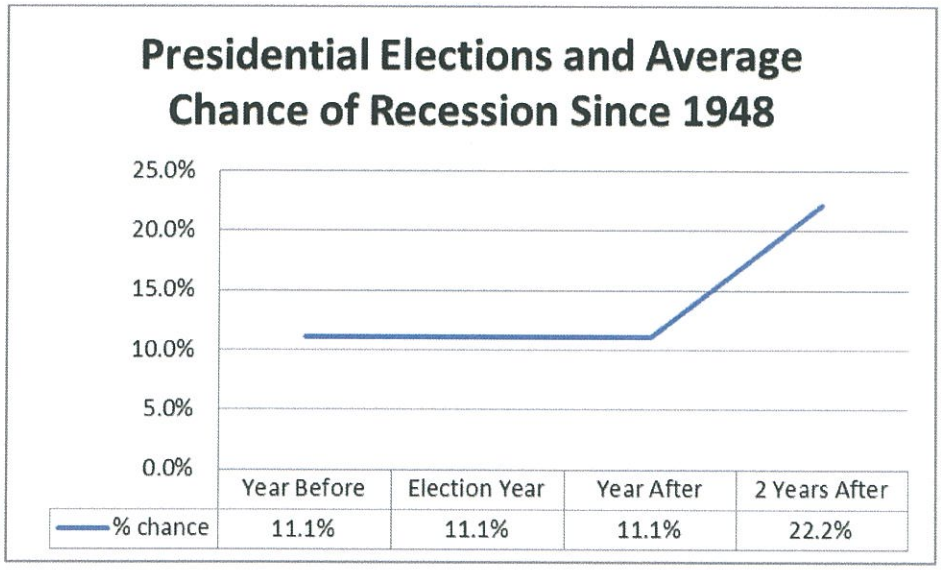
The 2017–2018 Economy: Breaking the Two-Percent Ceiling?

The U.S. economy has been expanding since the end of the *Great Recession* in June 2009. However, it has been an extremely weak expansion—in fact the weakest of the 11 expansions since 1948—and is also getting old. The current economic expansion is now eight years old—one year beyond the average total length of the 11 post war expansions, making it the eighth oldest.

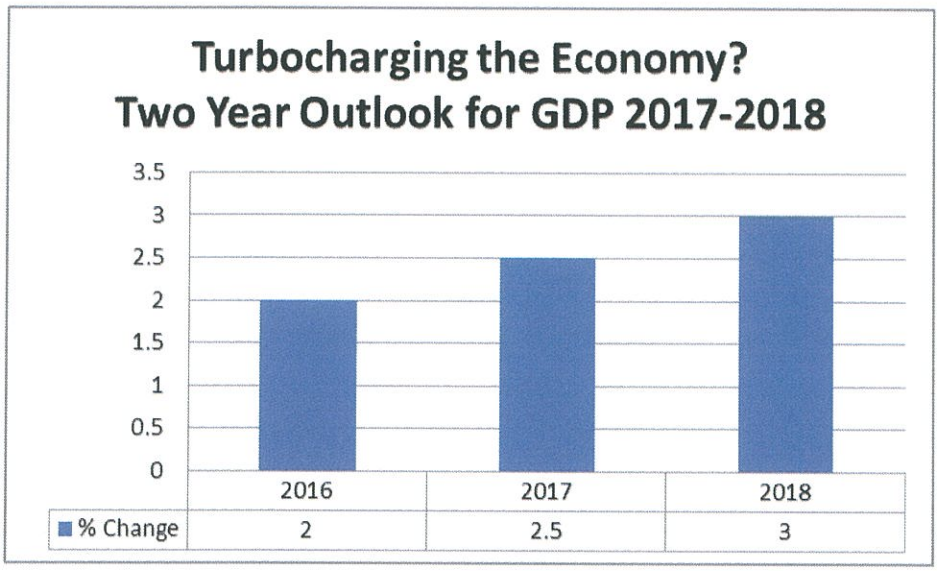
Does it have any life left? If so, can the economy break the two-percent growth ceiling that has restrained it over the recovery? I believe the answer to both questions is yes, for two main reasons. First, the policy initiatives discussed above should, if enacted in some form, boost growth. Second, the three longer expansions actually had higher average growth rates so longer-run expansions need not be weak expansions.



Taking a further look at history, the second year after a presidential election (in this case 2018) has had double the risk of recession than the other three years of the cycle. This correlation adds a bit of jeopardy to our forecast. However, the odds still favor the continuation of the expansion.

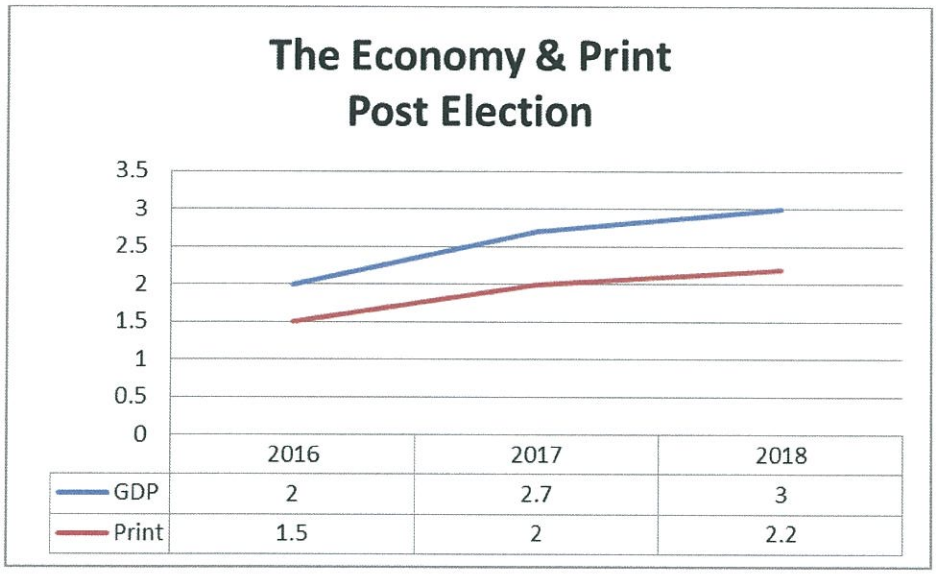


Our bottom-line forecast calls for the economy to continue expanding and pick up a little speed over the course of 2017 and 2018. Overall, we project GDP growth in the range of 2.5 to 3 percent, a significant jump from the expected 2 percent in 2016.

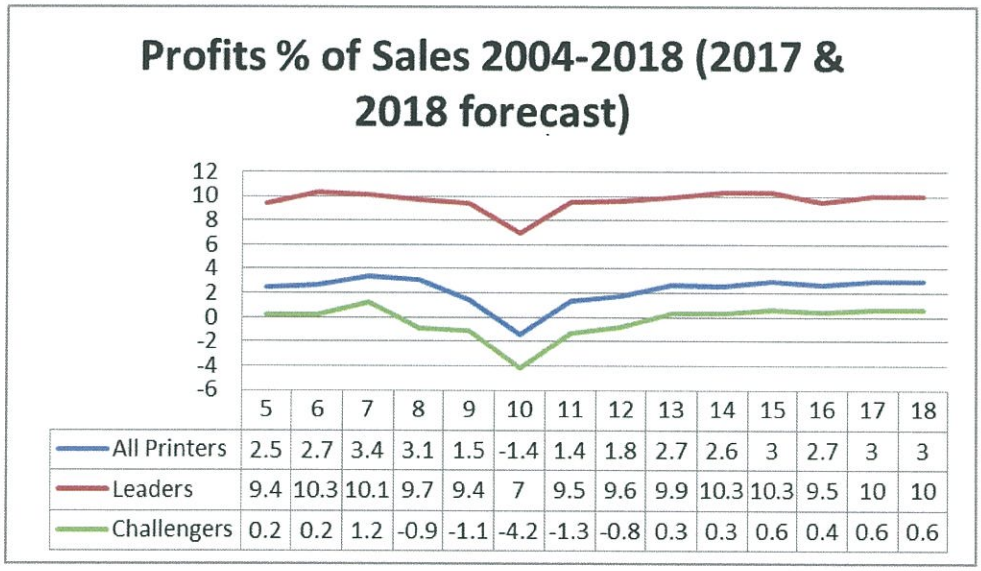


2016–2017 Print Markets

Print markets will, of course, be helped by the bump in the economy. There will be some downward pressure because of the drop in election print, but the upswing in the economy should offset this. Our expectations are for print markets to grow nominally (including print inflation) at 2 to 2.2 percent over the next two years.



In this scenario, print markets will add about $3 billion in additional sales in each of the next two years. At this sales pace, the current 3-percent profit rate on sales earned by the average printer and the 10 percent earned by industry profit leaders (top 25 percent of profitability) should continue.



A Longer Run View

What about the longer run—over the next ten years or so? As always, forecasting over an extended period involves more risks and uncertainties. However, we still offer our observation about the longer-term viability of print and printers.

Our view of longer-term print markets pre-supposes some longer-term improvement in the economy from the short-term boosts discussed above. Our view is that the U.S. economy could sustain a 3-percent growth trajectory. There has been considerable discussion among economists on the issue of longer-term growth. Many believe that there is a growth ceiling of 1.5 to 2 percent because of the slowdown in productivity growth plus the slow growth of the labor force from demographics.

Our view is not so pessimistic. We believe that the economy can be regenerated with new investments as a result of lower corporate tax rates boosting productivity from improving the capital-labor ratios. Further, we believe that there could be a fairly elastic labor force response from higher wages that would boost the labor force participation rate and the overall employment rate. Together, both of these could easily boost GDP growth from the 1.5- to 2-percent range to 3 percent or more. At this rate the economy would generate another $200 billion or so per year in additional output.

If this admittedly optimistic ten year scenario develops print would benefit considerably:

Print Sales—The improving economy should lift print demand sufficiently to grow overall industry sales on a nominal basis in the range of 1-2 percent per year. The three functional areas of print will have differing sales records:

- Logistics print (packaging and labels/wrappers) will lead the industry with growth approximately inline with the overall economy, 2–3 percent per year.
- Promotional print (direct marketing including catalogs, brochures, and direct mail) should remain healthy and have revenue growth of around 1–2 percent.
- Informational print (magazines, books, and newspapers) will remain challenged with sales stable or declining slightly.

Printing Plants—The printing industry will continue the longer-term restructuring trend of a decline in the number of printers (currently about 45,000) but an increase in average sales.

Printing Employment—Printing employment will continue to trend downward even as sales rise slightly. The current level of total industry employment (around 900,000) will decline slightly over the next ten years. However, most importantly, this trend does not mean that the industry will not be hiring employees. Depending on annual turnover rates, the printing industry will be hiring perhaps 40,000–60,000 employees per year. Interestingly, this number just about

equals the current number of printing plants (about 45,000), so on average each plant will hire about one person per year to add to its base of around 15–20 employees. Of course, many of these will be "churn" or printers hiring employees from other printers. Even with this qualifier, we estimate that the industry might need around 20,000 to 30,000 new (to the industry) employees each year over the next decade.

Printers' Profits—In terms of profits, the average printer could earn a sustained 3 to 3.5 percent of sales under the above scenario. Profit leading printers would average about 10 percent of sales. The industry will remain split between the haves and have-nots with the have-nots (profit challengers or printers in the bottom 75 percent of profitability) earning profits of less than 1 percent on sales.

Caveats and Qualifications—Keep in mind that the above longer-term outlook is at very much the optimistic end of expectations. Most specifically remember:

- Over any ten year period there will be years of expansion and years of contraction. The U.S. economy rarely goes ten years without at least one downturn.
- While we believe the optimistic view is, at least at this point in time, more likely to occur than a pessimistic view, it is always good, in business planning, to have an alternative pessimistic view. In this view, the economy would not break out of the 2-percent ceiling and print will likely experience flat sales or increases of no more than 1 percent per year. Profits will remain at or below the 3-percent range.

For business planning purposes, it is always good advice to hope for the best but plan for the worst. However, at the same time, plan for the best and look for new opportunities that may arise with the improved economy and print markets.

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CENTER FOR PRINT ECONOMICS AND MANAGEMENT

PRINT MANAGEMENT ALERT

Understanding Productivity: The Key to Lower Cost and Higher Profits in the Printing Industry

By Dr. Ronnie H. Davis

Senior Vice President and Chief Economist

Understanding Productivity:
The Key to Lower Cost and Higher Profits in the Printing Industry

Today's printing industry is a capital-intensive business that is a hybrid of production, distribution, and ancillary services. In this paper, we examine the relationship between productivity and profitability in print. Independent industry data[1] for sheetfed commercial printers covering primarily commercial and advertising, direct mail, and packaging has been used in this white paper, while the budgeted hourly rates are from an industry accepted source[2].

First, let's define productivity from an economic perspective. Productivity is the connection between inputs (resources used to produce a good or service) and outputs (the quantity of goods or services produced). Productivity goes up if we can produce more output for the same amount of inputs or produce the same amount of output with fewer inputs.

In the printing industry, typical economic metrics for productivity are sales per employee, sales per factory employee, or value added per employee or factory employee. For this white paper, let's focus on the value-added component. A comparison of these metrics for sheetfed printers (Figure 1) dramatically demonstrates how much more productive profit leaders (printers at the top quartile of profitability) are than those with profit potential (printers at the lower quartile of profitability). For example, profit-leading printers produce in excess of 44 percent more value added per production worker than those with profit potential.

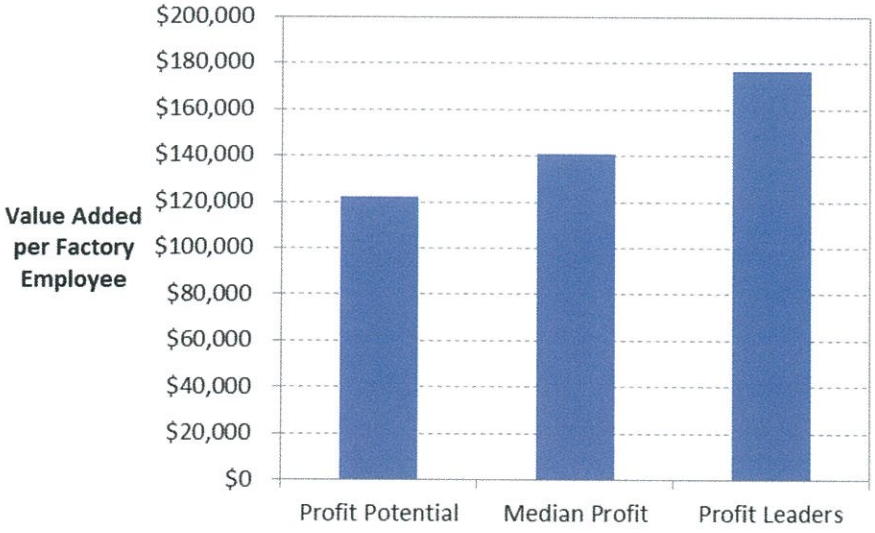

Figure 1: Value Added per Factory Employee

It is important from a business's perspective to understand what underlying reasons for this differential. A vital reason for this competitive advantage in productivity is the difference in machinery and equipment per factory employee. Data[1] indicates that high-profit printers are much more likely to substitute capital for labor (Figure 2). In fact, high-profit printers have almost double the investment per factory employee compared to low-profit printers.

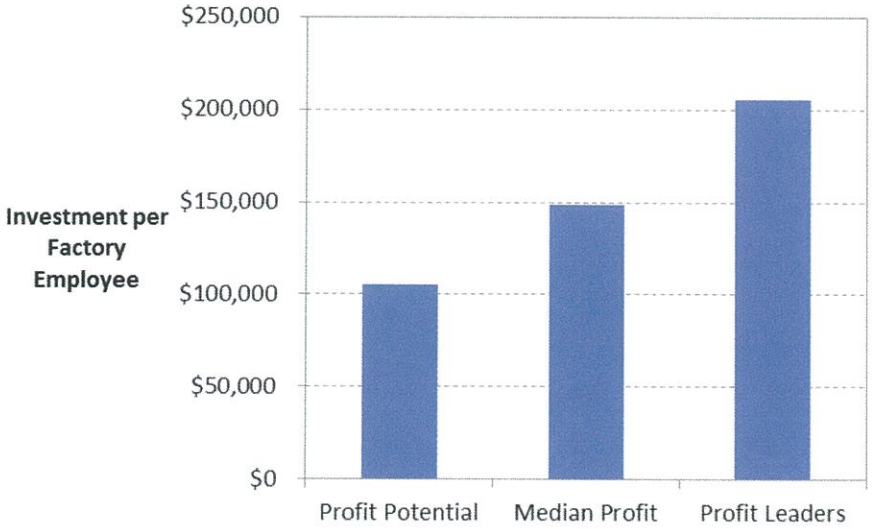

Figure 2: Investment in Machinery per Factory Employee

Why is capital investment an important factor in profitability? Higher investment on the factory floor equates to less labor in the factory. Indeed, high-profit printers use approximately 30 percent fewer factory employees per million dollars of sales (Figure 3). For comparison purposes, a $10-million profit-leading printer would have 17 fewer factory employees than a printer with profit potential. This reduction in staffing significantly impacts the profitability of the printer.

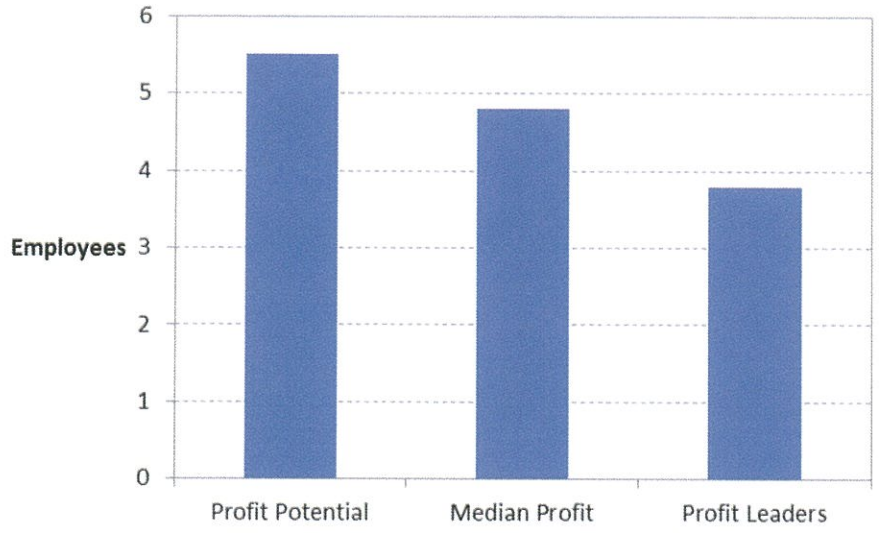

Figure 3: Factory Employees per Million Dollars of Sales

This comparative focus on equipment and efficiency allows high-profit printers to achieve a significant reduction in direct labor cost as a percentage of value added with a savings of around 7 percent (Figure 4).

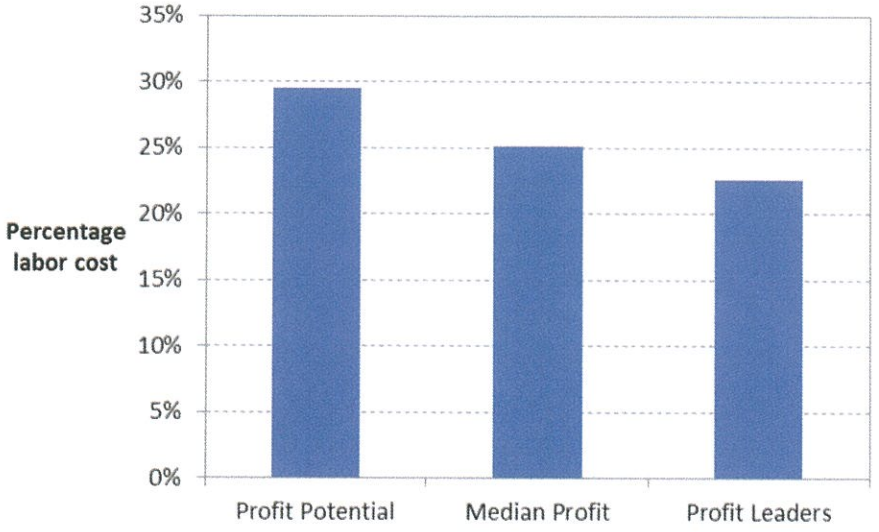

Figure 4: Direct Labor Cost as a Percentage of Value Added

It is important to understand how this lower cost is achieved. The cost to manufacture an item is comprised of material costs, cost to produce it (budgeted hourly rate or BHR), and how many of the item can be produced over a period of time (productivity). Let's consider a simple case of two manufacturing scenarios for the same item. The first has a BHR of $300 and net productivity of 1000 items per hour, while the second has a BHR of $360 and net productivity of 1500 items per hour. In the first case it costs $0.30 per item, while in the second it costs $0.24 per item. The

second manufacturing scenario, while at a higher BHR, has a lower manufacturing cost. This example clearly demonstrates that both BHR and productivity should be considered in tandem when evaluating your manufacturing costs.

Now, let's examine in more detail the connection between the cost of equipment (in this case a press), the BHR, and press productivity. In general, the depreciation and finance cost of a new press makes up between 20 to 35 percent of budgeted hourly rates. The remainder of the BHR is composed of manufacturing labor, other manufacturing costs, and sales and administrative costs. On this basis, higher equipment costs translate to only approximately a 6- to 10-percent increase in BHR depending on the factors above. This could be considered a significant difference in a competitive industry like printing. However, this difference is significantly impacted by any productivity difference in equipment as indicated above.

In the example for a typical two-shift operation, a 25-percent premium in equipment costs is equalized by an 8.75-percent difference in equipment productivity, a factor defined as the *productivity equalizer*. In general, productivity is three times more important than price differential between equipment. Therefore, in this case, at any productivity difference above 8.75 percent, the business would reduce costs and increase profitability despite paying 25 percent more for the equipment.

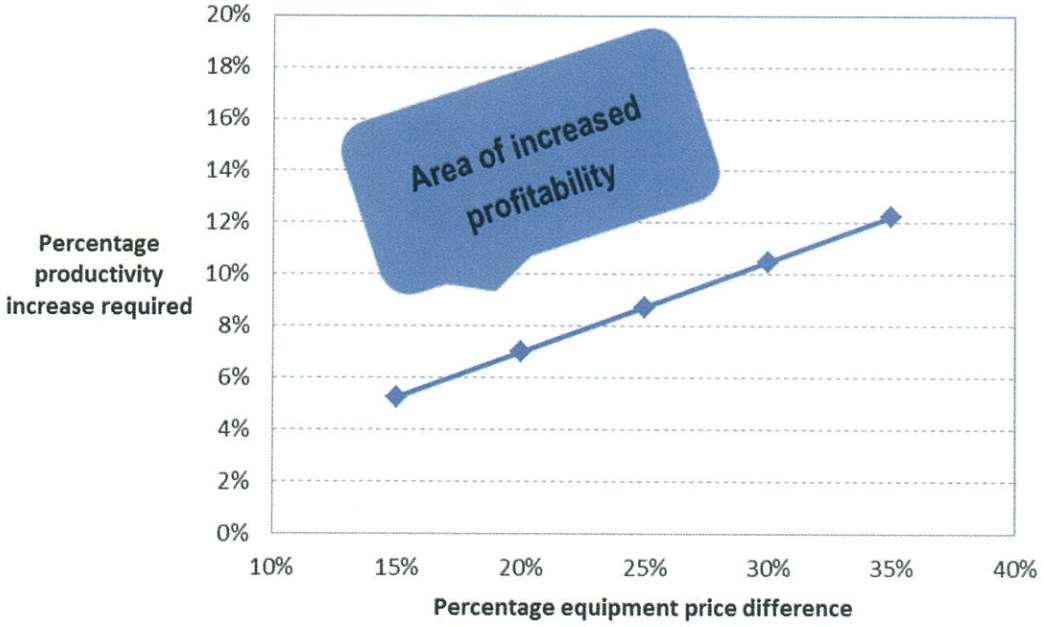

Figure 5: Productivity Equalizer—Relationship Between Difference in Percentage Equipment Price and Press Performance

The bottom line is that productivity driven by automation, innovation, and technology-embedded equipment drives down costs and increases financial performance. The key to managing this complex process is to understand the dynamics of the interactions better than your competitors.

References

1. Printing Industries of America's *Dynamic Ratios* for printers that are primarily general commercial sheetfed printers but also use other processes such as digital and inkjet.

2. Cost Rates Advisors, Profectus

Printing Industries of America

CENTER FOR PRINT ECONOMICS AND MANAGEMENT

PRINT MANAGEMENT ALERT

Impact of Cost on Profitability in the Printing Industry

By Dr. Ronnie H. Davis

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The Impact of Cost on Profitability in the Printing Industry

Dr. Ronnie H. Davis, Senior Vice President/Chief Economist
Printing Industries of America

Pinpointing how costs impact profitability in the printing industry is critical for printers to understand and leverage in their businesses. The key factors that can help them to lower costs and increase profitability are presented here using industry data[1] for sheetfed commercial printers covering primarily commercial and advertising, direct mail, and packaging.

The underlying drivers of printer profitability are sales or total revenues, the prices they charge, and their cost structure. In general, increased sales, higher prices, and lower costs all add to the bottom line and the profitability of companies. Last year, a typical sheetfed printer's costs comprised just under 98 percent of total sales, leaving only two-percent profits across the industry. Often in today's print market, there is a "street price" for the product, above which the printer cannot increase their pricing unless there are additional value-added services. Printers can increase profitability by analyzing their sales and operations, making business changes that increase sales volumes, and or lowering their manufacturing costs.

The complex recipe for print production results in over 100 separate cost-expense items for a typical printer's chart of accounts. However, these can be grouped into the main categories[1] shown in Figure 1.

In this data, for an average sheetfed printer the manufacturing costs cover the majority of the costs at 76 percent. This is made up from the factory payroll (all factory employees, benefits, etc.), factory expenses (rent, insurance, power, etc.) paper, materials, and outside services. Admin and selling costs account for 22 percent, leaving just over two-percent average profitability. Clearly, reducing the costs indicated above will impact companies' profitability.

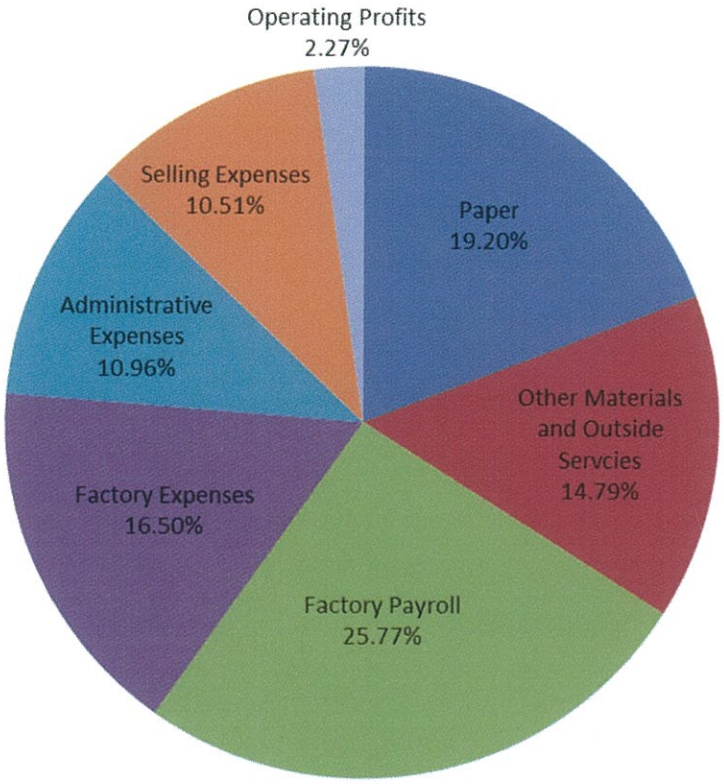

Figure 1: Sheetfed Printer Costs

So what happens to profits as companies reduce costs? As profit margins are typically slim, profits increase disproportionally to a given percentage-cost decrease. For example, a one-percent decrease in manufacturing costs (factory expenses and payroll, paper and other materials/outside services) translates to a 34-percent increase in profits, other things remaining equal. Therefore, achieving a three-percent reduction in the manufacturing costs doubles profits! A one-percent decrease in overall total costs translates to a 43-percent jump in profits. By leveraging manufacturing efficiency, printers can turbocharge their profitability.

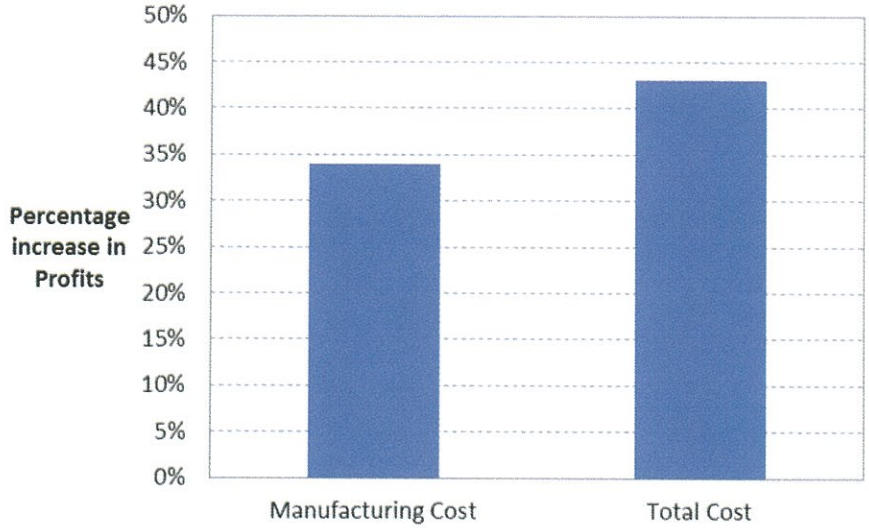

Figure 2: Effect of One-Percent Reduction in Costs on Companies' Profitability

How does this relate to the printers' profitability as defined by the *PIA Dynamic Ratios*[1] studies? Profit-leading printers (printers at the top quartile of profitability) have significantly lower cost structures than those with profit potential (printers at the bottom quartile) with a differential of approximately $13.00 on every $100 of sales to the profit challengers (Figure 3). This shows that controlling manufacturing costs is a primary driver in increasing profitability. This reduction in the comparative cost of production has two benefits to the profit leaders. Not only are they making increased profit on their equipment, they also have the flexibility to adjust pricing to increase their conversion rate with estimates, therefore also increasing total sales.

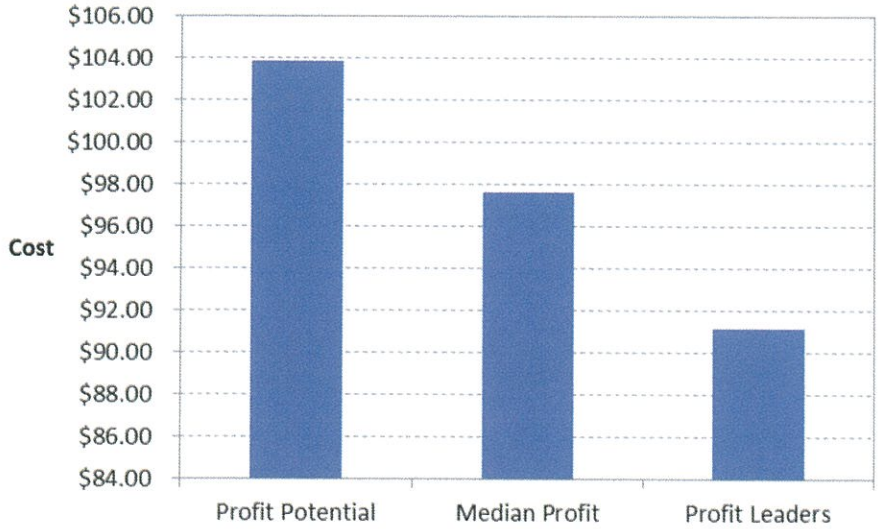

Figure 3: Comparative Cost for Every $100 Job

Investigating the data in more detail identifies the secret of achieving this low-cost advantage. A big part is the classic practice of substituting capital for labor and increasing productivity. The profit leaders have almost double the investment per factory employee compared to those with profit potential. This is due to continual performance improvements in equipment, which lead to higher productivity and lower staffing levels. All of this translates into the number of employees in a company, where the profit leaders save more than two employees per million dollars in sales compared to those with profit potential.

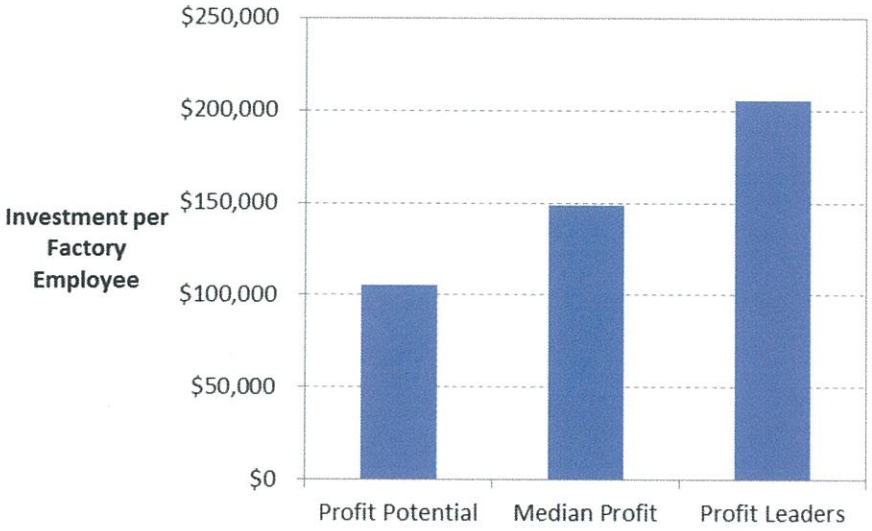

Figure 4: Investment in Machinery per Factory Employee

This savings in labor results in a dramatic impact in terms of profits per employee. The profit-leading printers earned almost $8,700 per employee last year compared to a loss of over $600 for those with profit potential (Figure 5). Analyzing your own performance will allow you to know where you are and what types of changes are needed to further maximize your profitability.

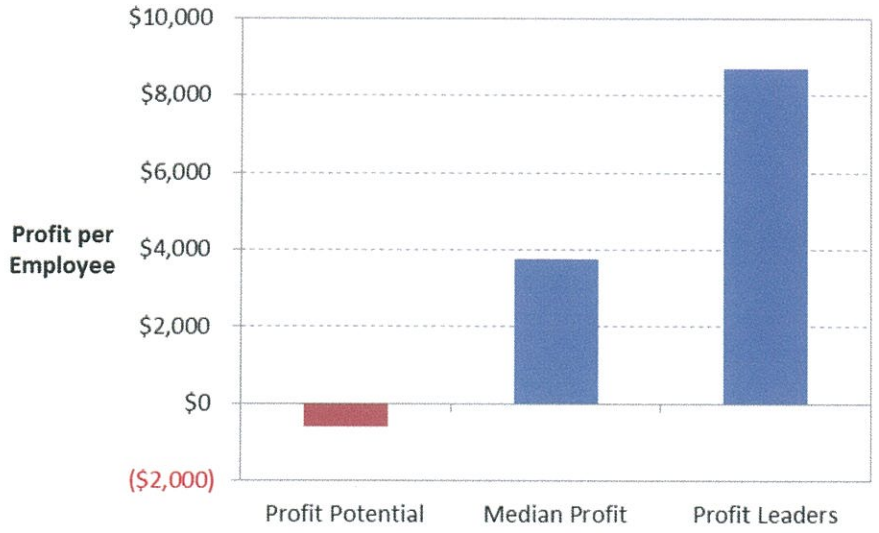

Figure 5: Profit per Employee

In conclusion, a primary path to higher profitability for printing companies is lowering cost. This will also, by definition, increase the sales conversion rate and therefore also increase total sales. There are two key drivers for lower costs:

- More equipment, specifically newer and more productive equipment, for manufacturing
- Fewer but more productive and higher-paid people

These two factors working in tandem are the crucial determinants of the profit gap between industry profit leaders (sheetfed printers in the top quartile of profitability) and the rest of the industry (the other 75 percent of the industry) where over the last 10 years there has been, on average, a 10-percent profit differential between these groups (*Figure*).

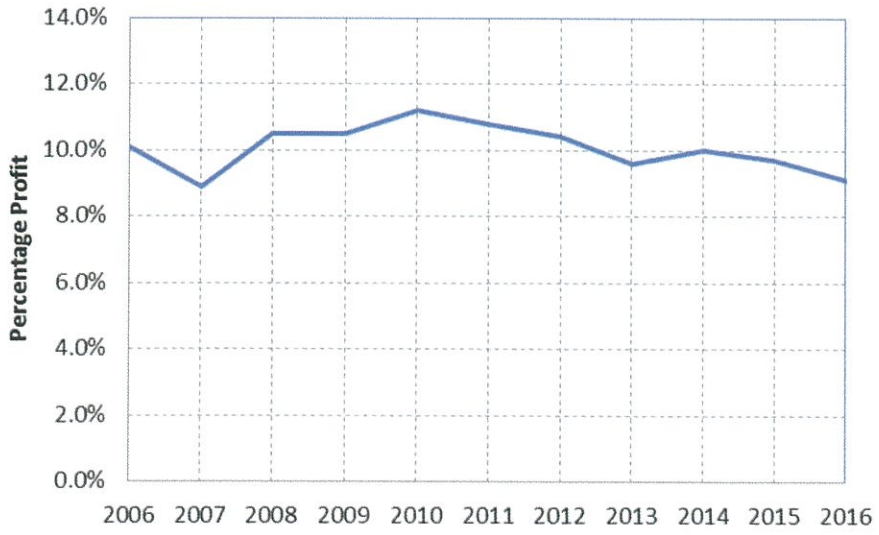

Figure 6: Profit Gap Between Profit Leaders and Rest of the Industry

References

1. Printing Industries of America's *Dynamic Ratios* for printers that are primarily general commercial sheetfed printers but also use other processes such as digital and inkjet.