

State of the Industry 2016



Management Information Committee

- **Jim Leitch**
- **Chris Gawert**
- **Bryce Kristo**
- **John Jilek, Jr.**
- **Mike Ball**
- **Tony Laurino**
- **John Sergeant**
- **Bill McDermott**
- **Kim Stone**
- **Dave Grabacki**
- **Pat Carlisle**
- **Chris Rohde**
- **Jane Krasner**

Braden Sutphin
Actega North America
INX
Ink Solutions
Toyo Ink America
Sun Chemical
Modern Printing Colors
Ingevity
Flint Group
Keim-Additec
Joules Angstrom
Siegwerk
Toyo Ink America

Source Data for Report

- **Bi-Annual Sales Report**
 - Collected Semi-Annually from members
- **Outlook Survey**
 - Collected once a year in January from members
- **Operating Ratio Survey**
- **U.S. Commerce Dept., Bureau of Labor Statistics, OSHA**
- **Idealliance**
- **National Association of Manufacturers (NAM)**
- **Printing Industries of America (PIA)**
- **Members Sharing**



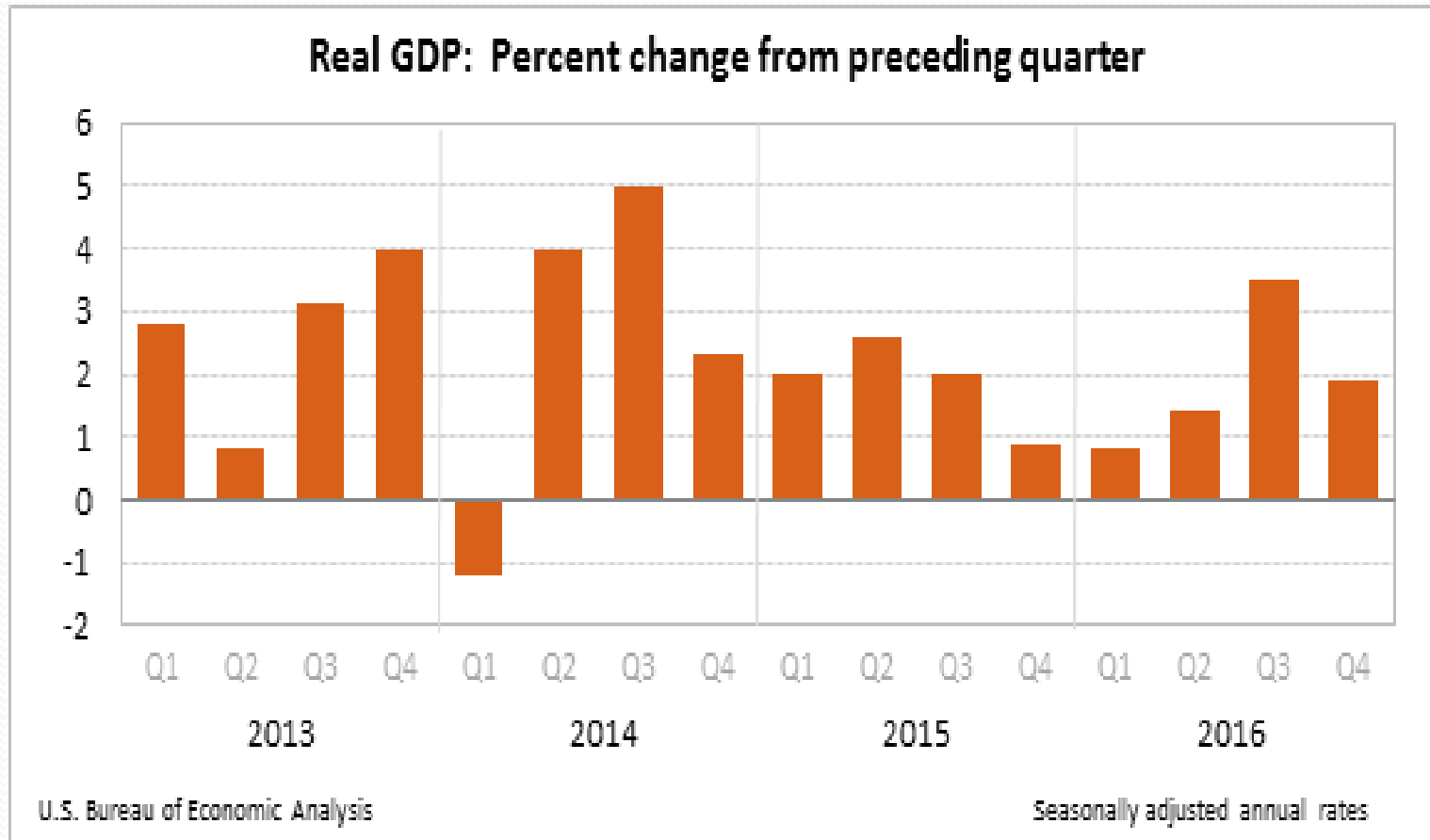
❖ **Certified Public Accountants and Consultants are located in Washington, DC and Chicago. They specialize in service to the nonprofit associations.**

Report Elements

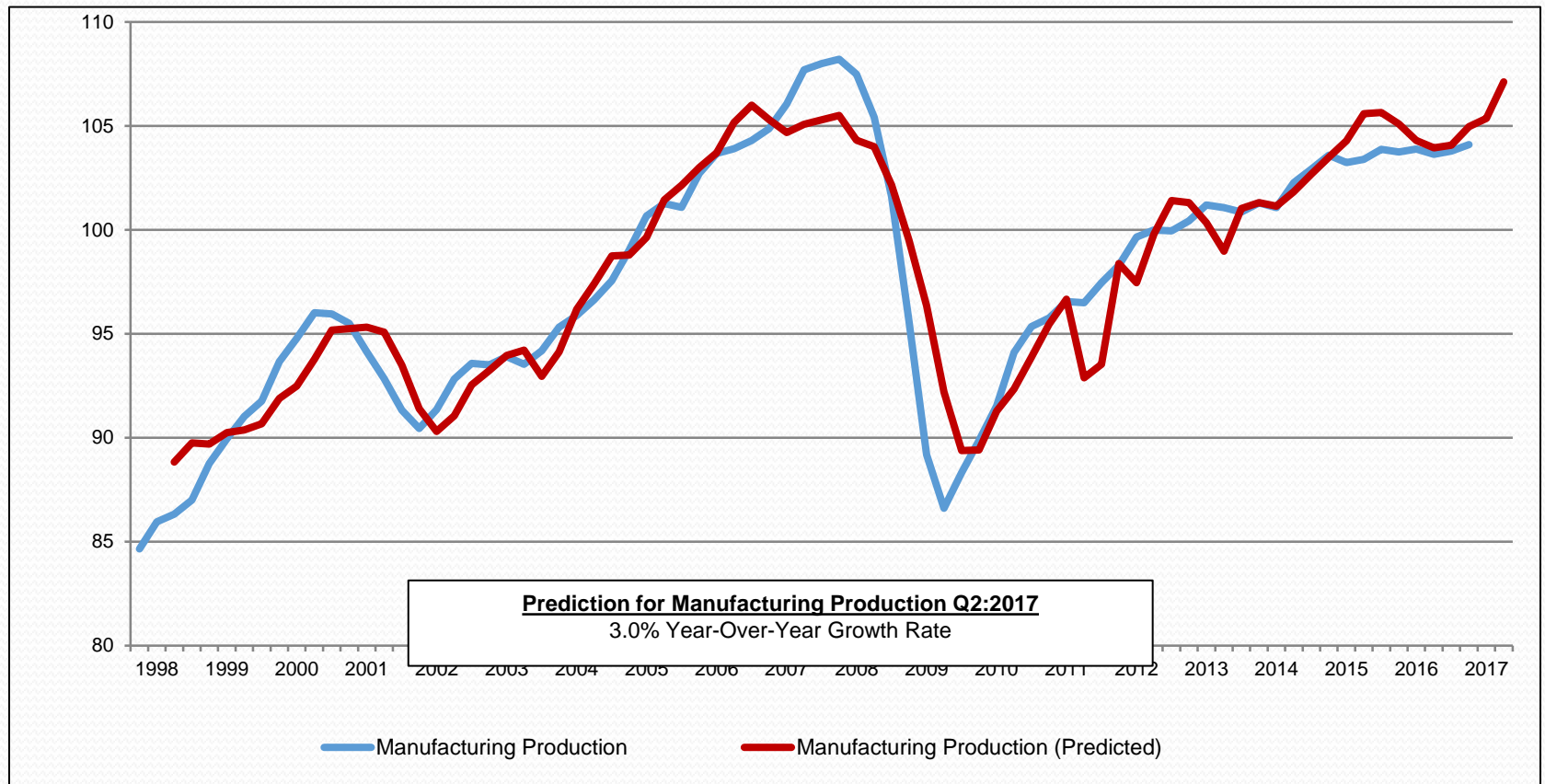
- **Global and Industry Issues**
- **Revenue and Growth**
- **Profit**
- **End Use Markets**
- **Foreign Trade**
- **Safety, Health & Environmental**
- **Questions and Comments**

Global and Industry Issues

Real Gross Domestic Product

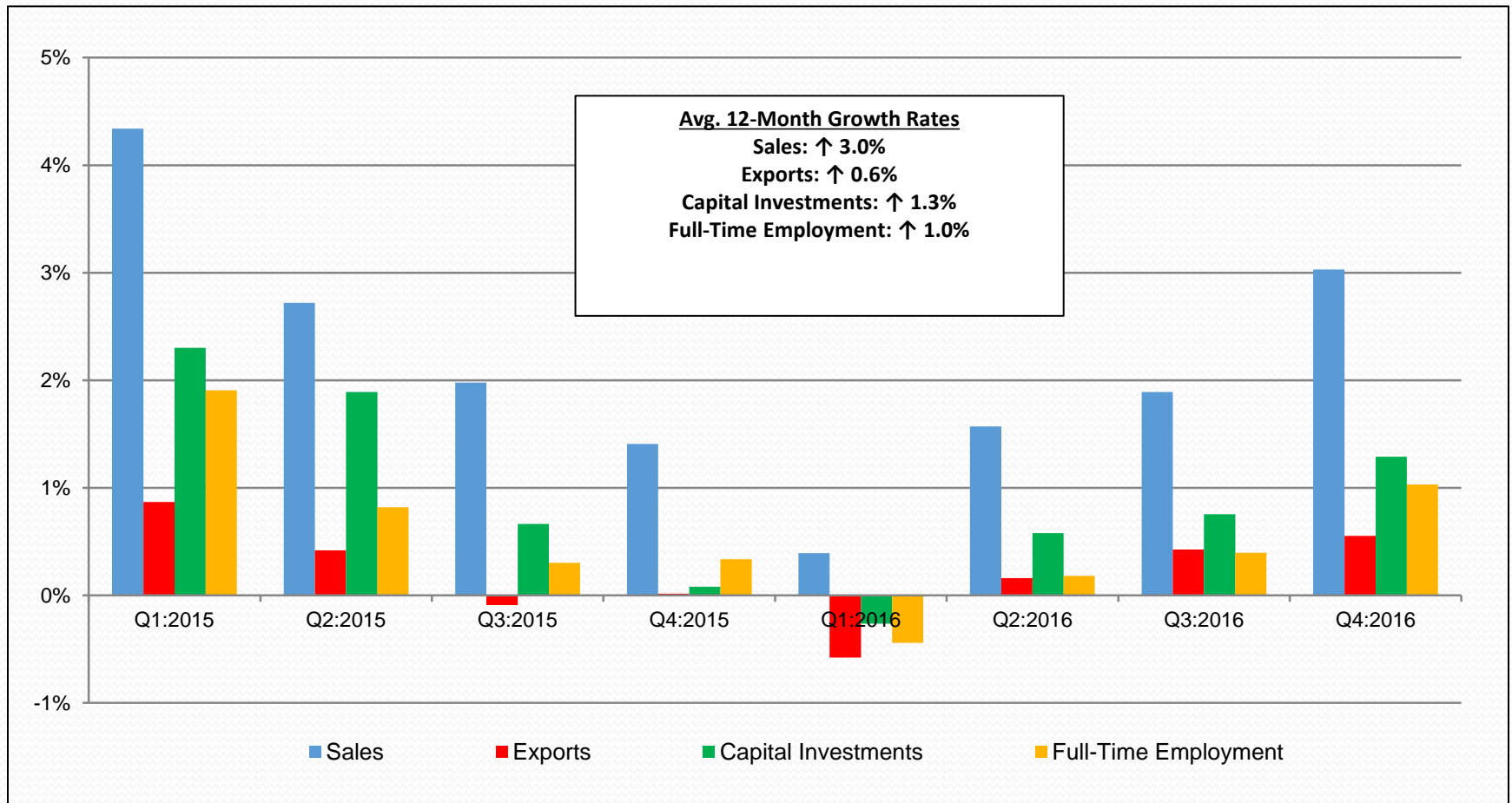


Predicted Manufacturing Production (NAICS)



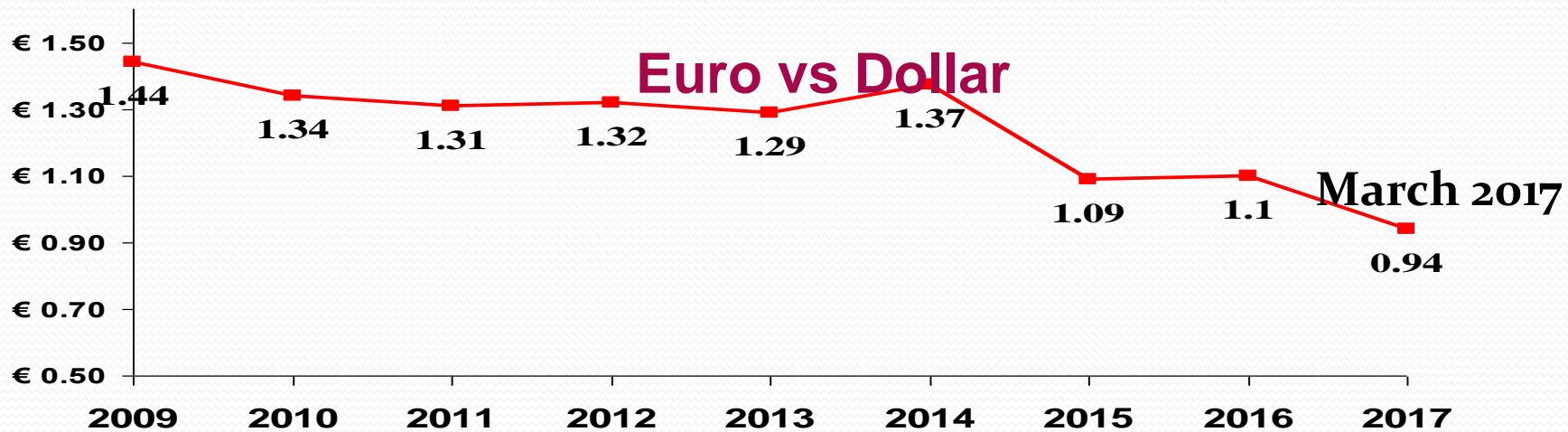
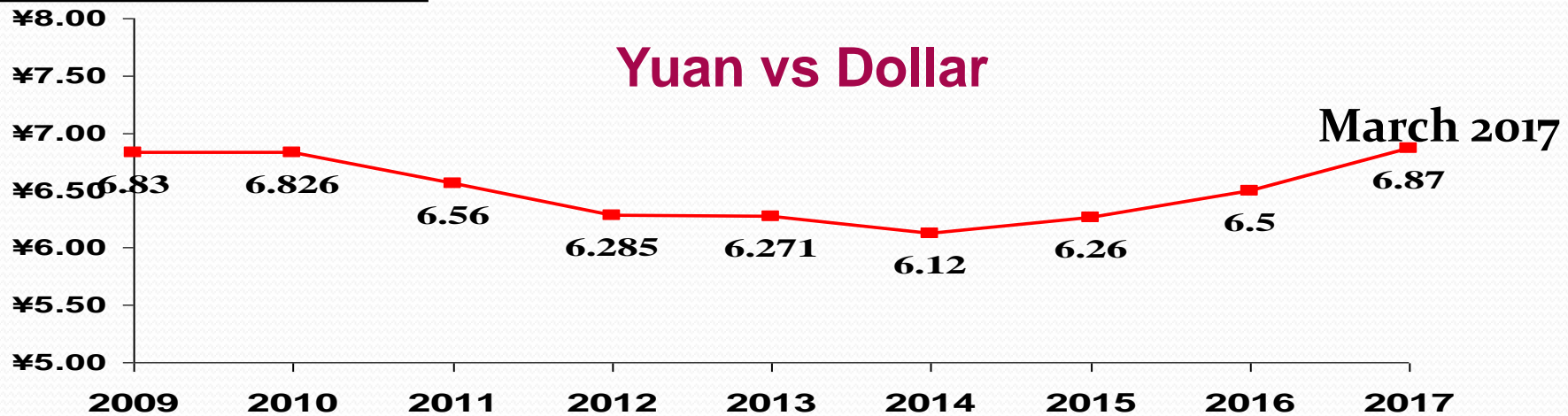
Source: National Association of Manufacturers

Expected Growth of Manufacturing Activity, 2015–2016



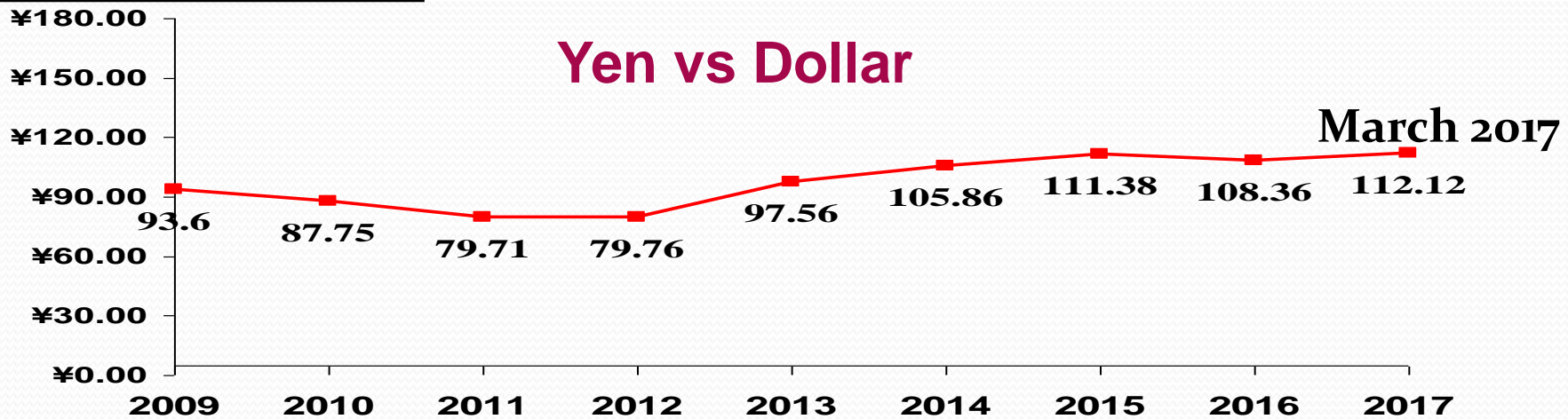
Source: National Association of Manufacturers

Currencies



Source: Y Charts

Currencies



Source: Y Charts

Crude Spot Price FOB



Natural Gas Prices

\$/Mcf

15.0

12.5

10.0

7.5

5.0

2.5

0.0

2004

2006

2008

2010

2012

2014

2016

— United States Natural Gas Industrial Price



Source: U.S. Energy Information Administration

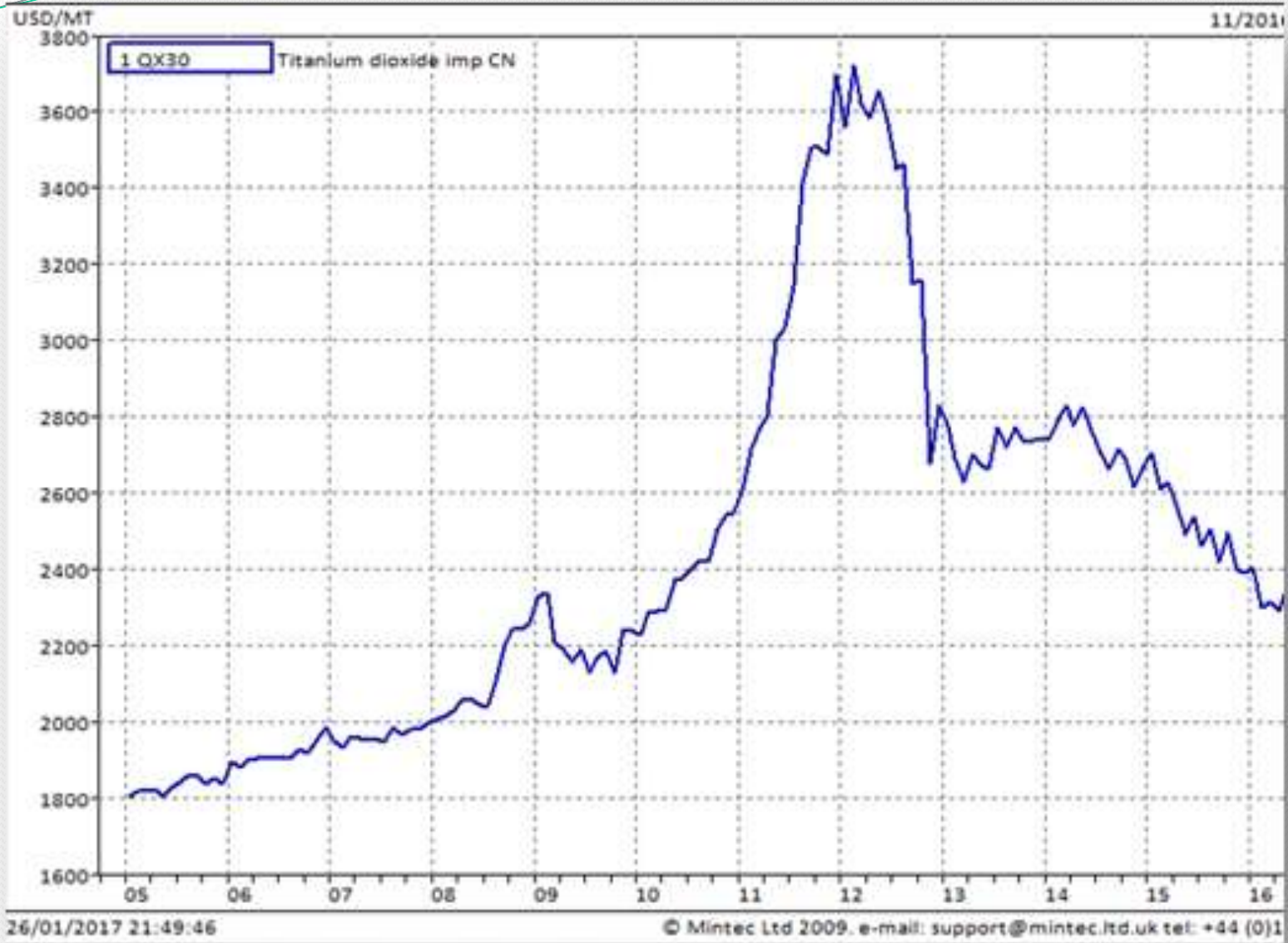
Chinese Gum Rosin Pricing

PRICE CHART FOR GUM ROSIN
(Export Data from the Customs)



Source: <http://www.pinechem.net>

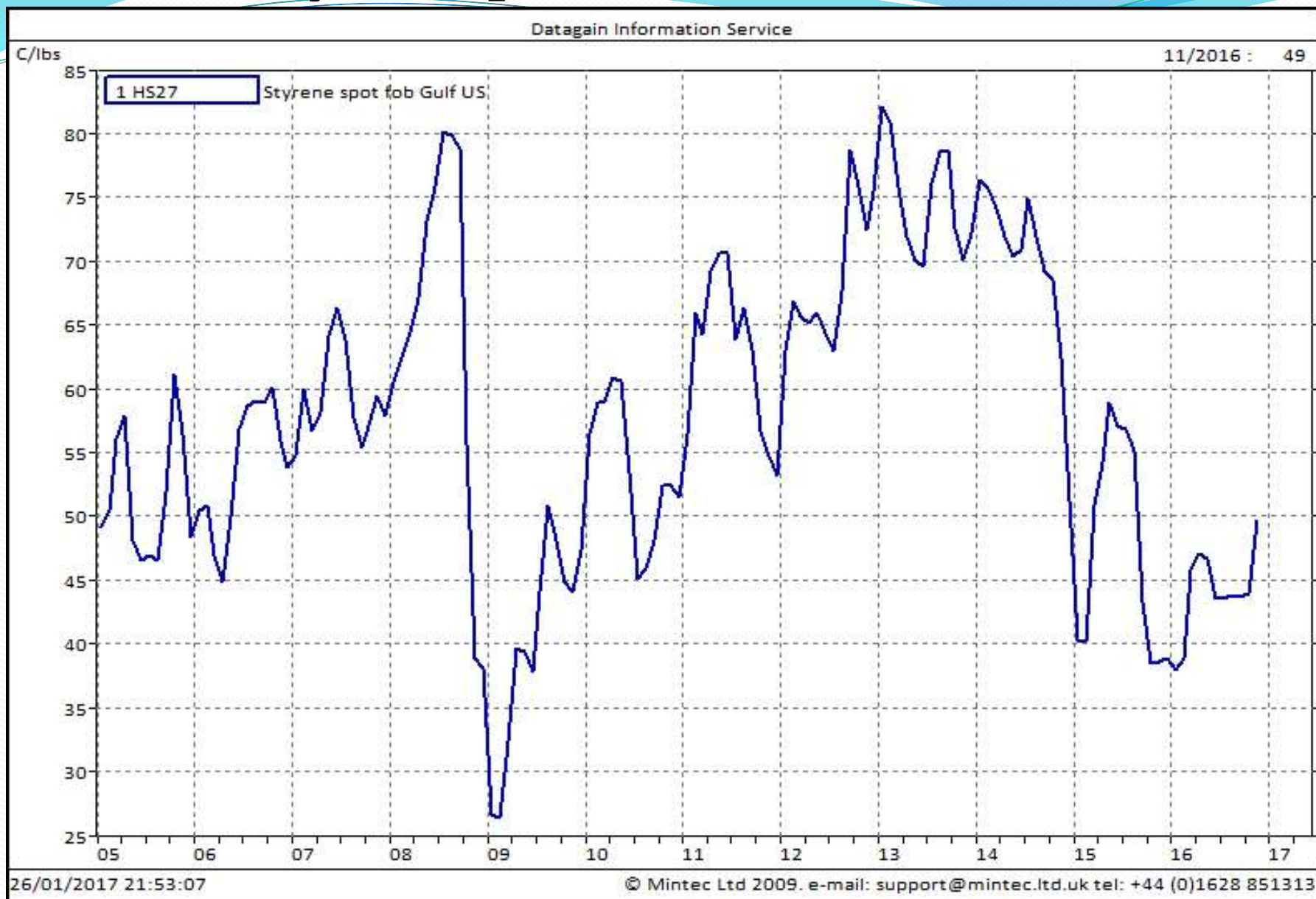
Titanium dioxide imp CN 2005-2016



Titanium Dioxide imp CN



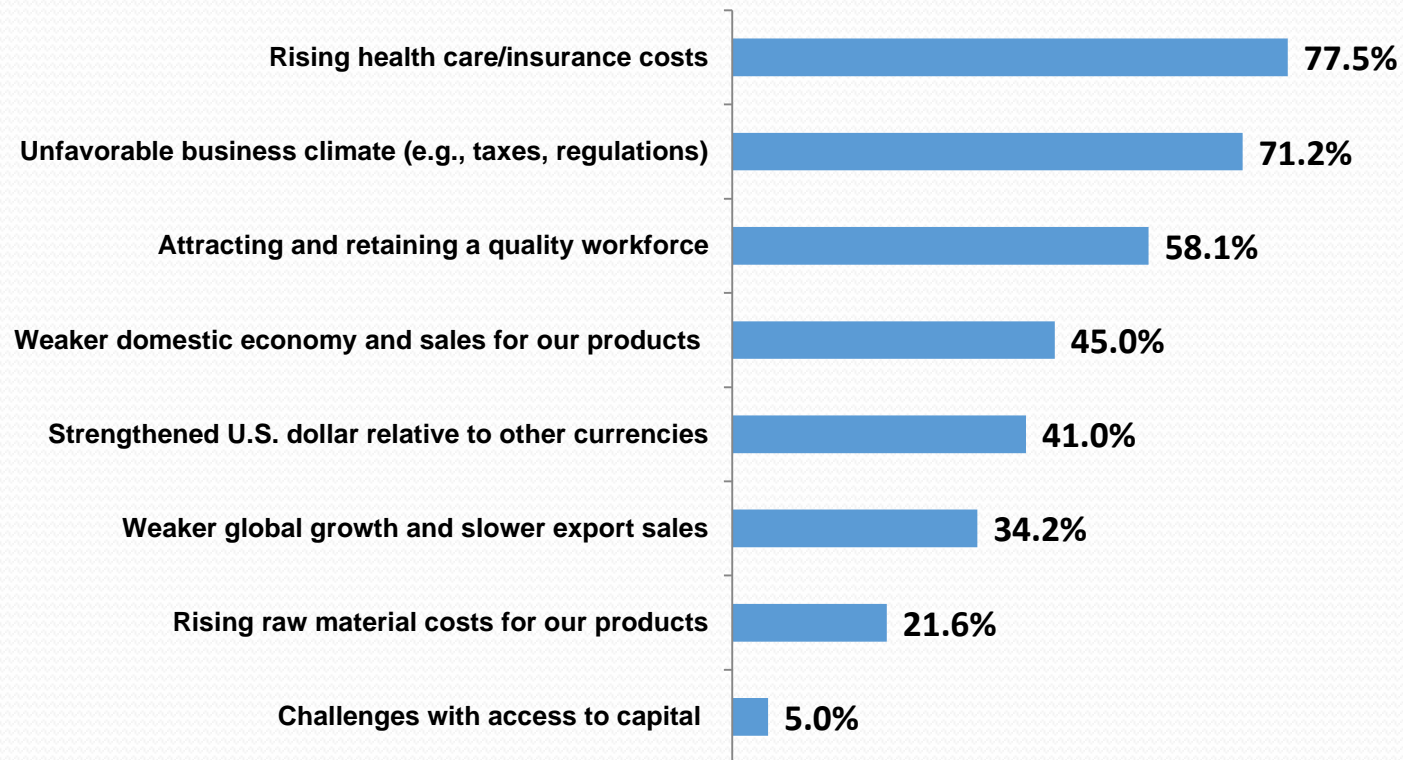
Styrene spot fob Gulf US



Top Current Concerns

Primary Current Business Challenges – All Businesses

Figure 4: Primary Current Business Challenges, Fourth Quarter 2016



Top Current Concerns

- Ink Companies concerns heading into 2017:

Overall	2016
1. Overall Economic Activity	1
2. Customer Consolidations/Closings	2
3. Imports	3

Market	2016
1. Market Competition & Raw Material Costs	1
2. Government Regulations	2
3. Market Dynamics	2

Internal	2016
1. Qualified Worker	1
2. Healthcare Costs	2
3. Wage Rate Structure	3

Top Current Concerns

- TAM Companies concerns heading into 2017:

Overall		2016
1. Overall Economic Activity		1
2. Imports		2
3. Customer Consolidations/Closings		3
Market		2016
1. Satisfying Additional Customer Requests		1
2. Market Competition		2
3. Raw Material Costs		3
Internal		2016
1. Qualified Workers		1
2. Healthcare Costs		2
3. Workers Compensation Costs		3

Source: NAPIM Outlook Survey

Ink Companies say Printers Value

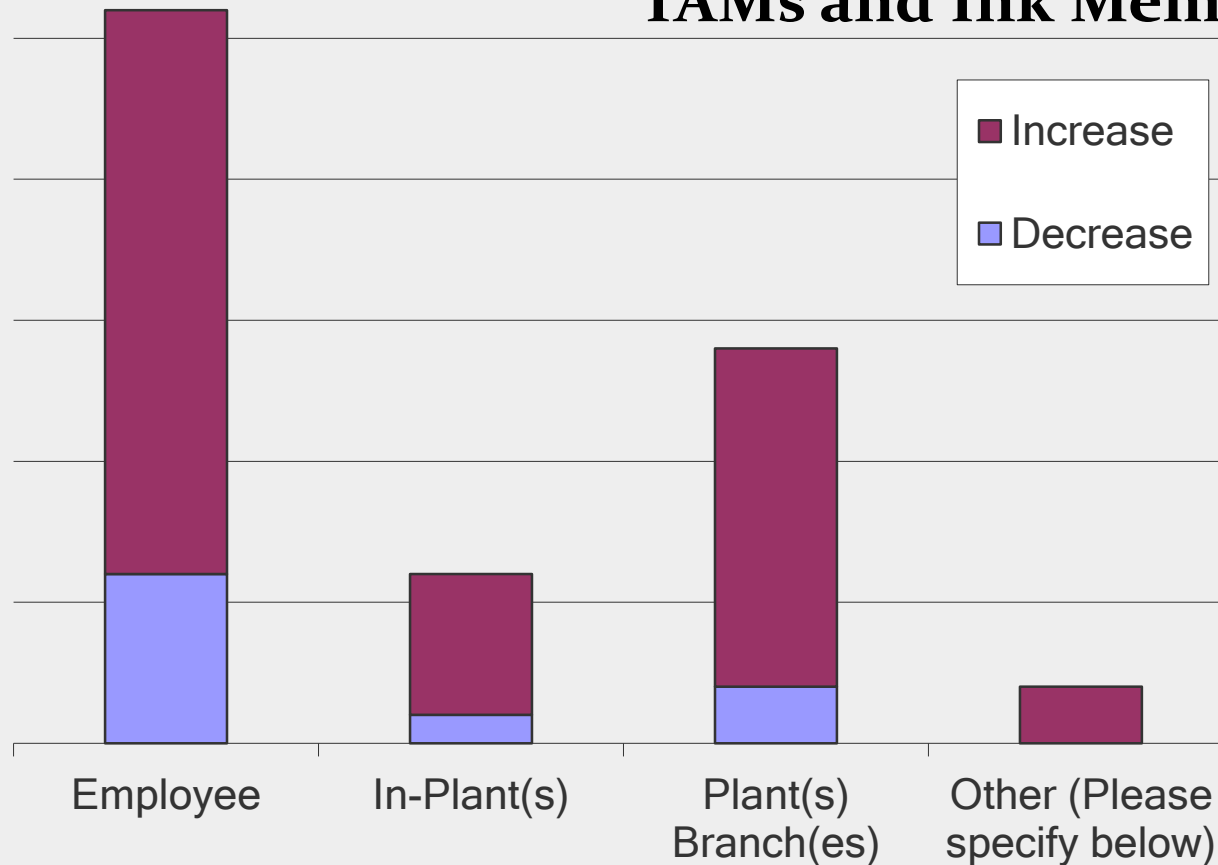
2016	
1. Consistent Product Quality	1
2. Price	2
3. Technical Support	3

TAM Companies say Ink Companies Value

2016	
1. Price	1
2. Consistent Product Quality	2
3. Technical Support	3

Is your company planning to change its current capacity in 2017?

TAMs and Ink Members



NAPIM

Industry Outlook Survey 2017

What additional value can NAPIM supply to its members (ink or supplier)?

- Data on Market trends in ink segments, inks for food, packaging.
- Continued education, focus on low migration and print technology with EC, reach registration process.
- Get members involved in responding to surveys and serving on committees. Market info from all ink producers.
- Technical papers on inks and government regulations related to inks.
- Environmental training and Safety Standards training
- Create reciprocity with EuPIA and Global Ink/Coating associations
- Impact of online ads and digital printing to core print segments.
- Continue lobbying for industry, very important to have a voice. Video or whitepaper on legislative initiatives impacting inks and components.
- Continued guidance through gov't regulation changes; perhaps partner with PRIMIR/NPES re: market reports esp.
- Improve quarterly industry statistics
- Whitepapers, webinars, print statistics, additional import/export data

Source: NAPIM Outlook Survey

Pertinent/Relevant Legislative Issues

- Import tax reform, Coordination of Global Environmental Regulations are a benefit for companies that Import or Export.
- Indirect and direct food contact applications
- Environmental regulations choke the US ability to compete in a world market
- TSCA reform, OSHA, REACH, DSL, Prop. 65 updates, EPS/SNURS, Nestle
- Healthcare, economic growth initiatives
- We are very interested in FAP's sustainability efforts and also global brand owners adopting the Swiss Ordinance.
- Healthcare Reform, Environmental Regulation relief, Immigration reform, International trade

Revenue and Growth

Inform & Communicate

Magazines & Periodicals

Newspaper Printing

Book Printing

Financial & Legal Printing

Business Forms Printing

Greeting Card Printing

Product Logistics

Converters, Label, & Wrapper Printing

Package Printing

Market & Promote

General Commercial Printing

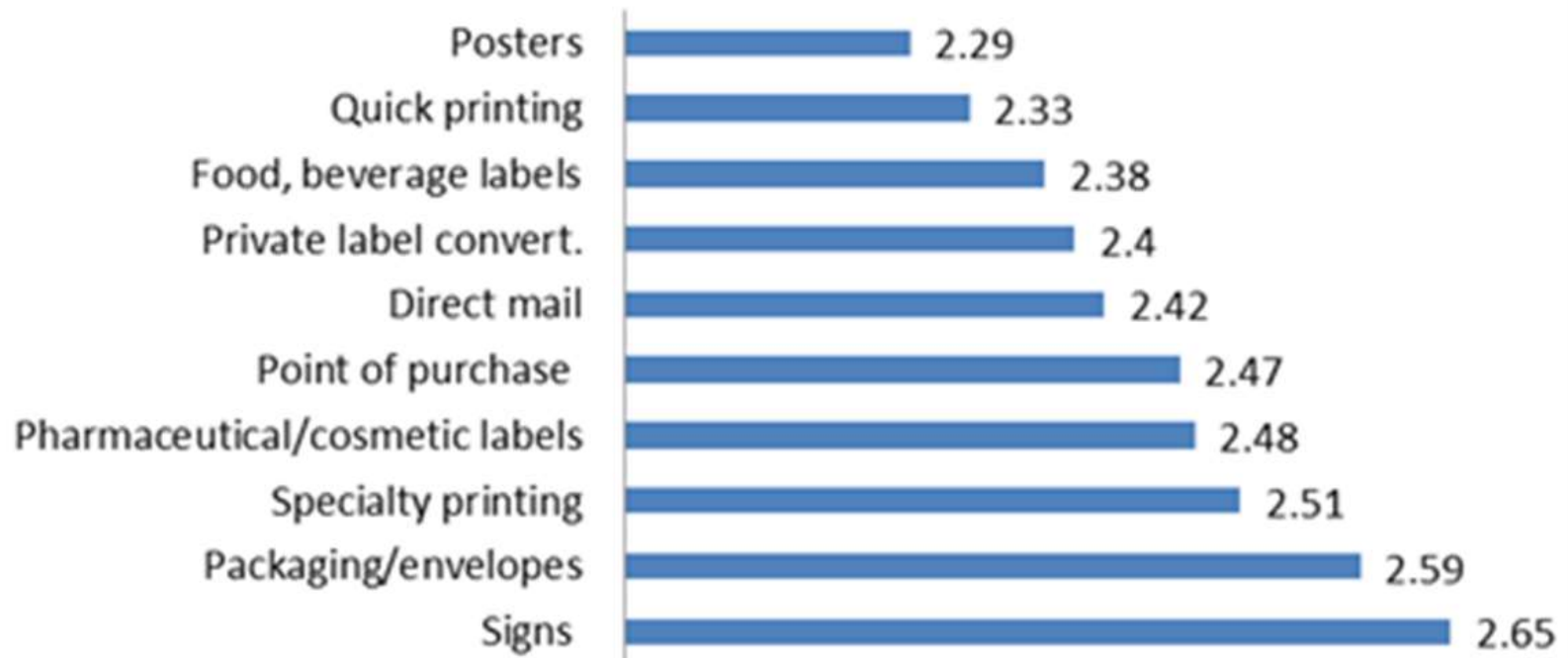
Quick Printer

Direct Mail Printer

Signs & Signage

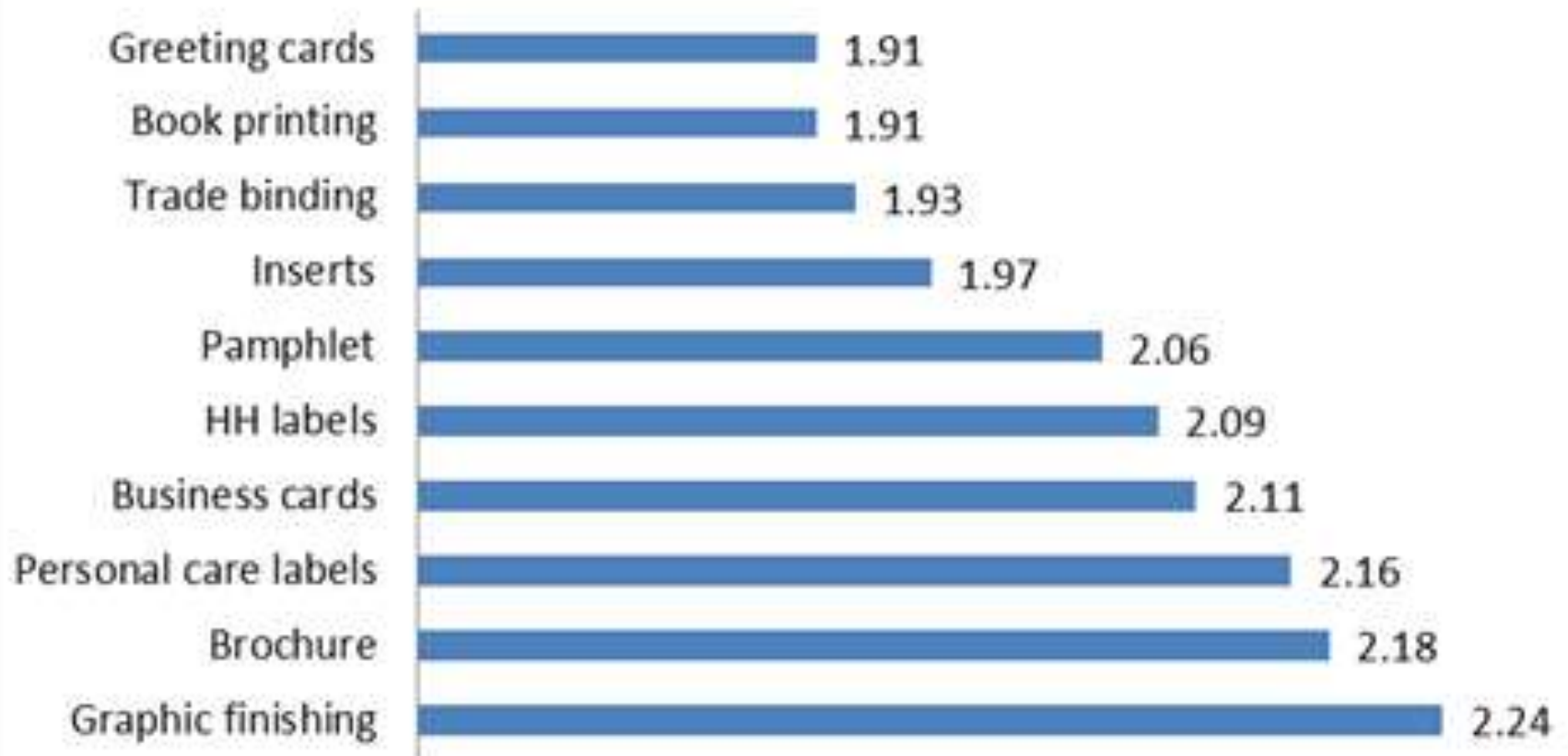
Print Markets

Hot Print Markets: Top 10



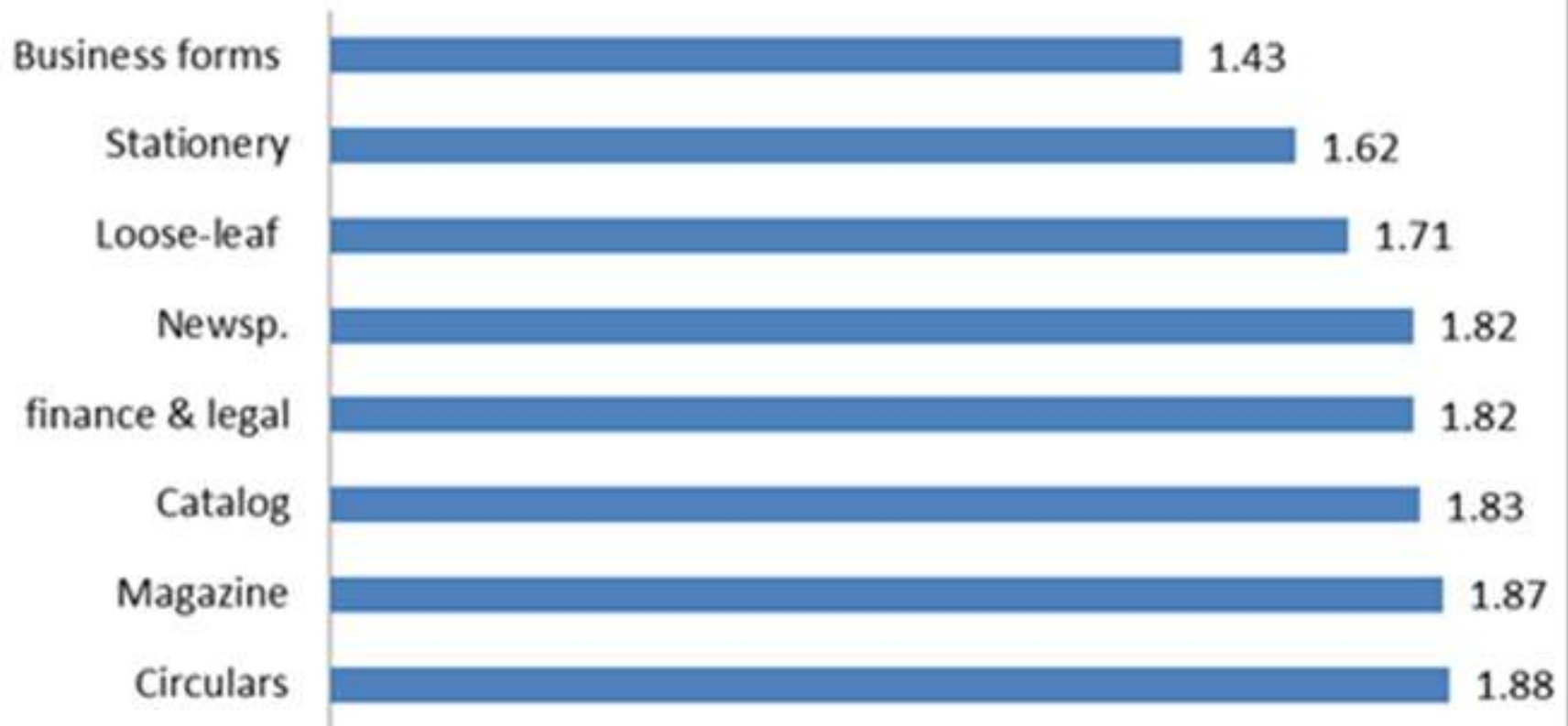
Center for Print Economics and Management Printing industries of America
Figures represent sales growth % for survey respondents

Warm Print Markets



Center for Print Economics and Management Printing industries of America
Figures represent sales growth % for survey respondents

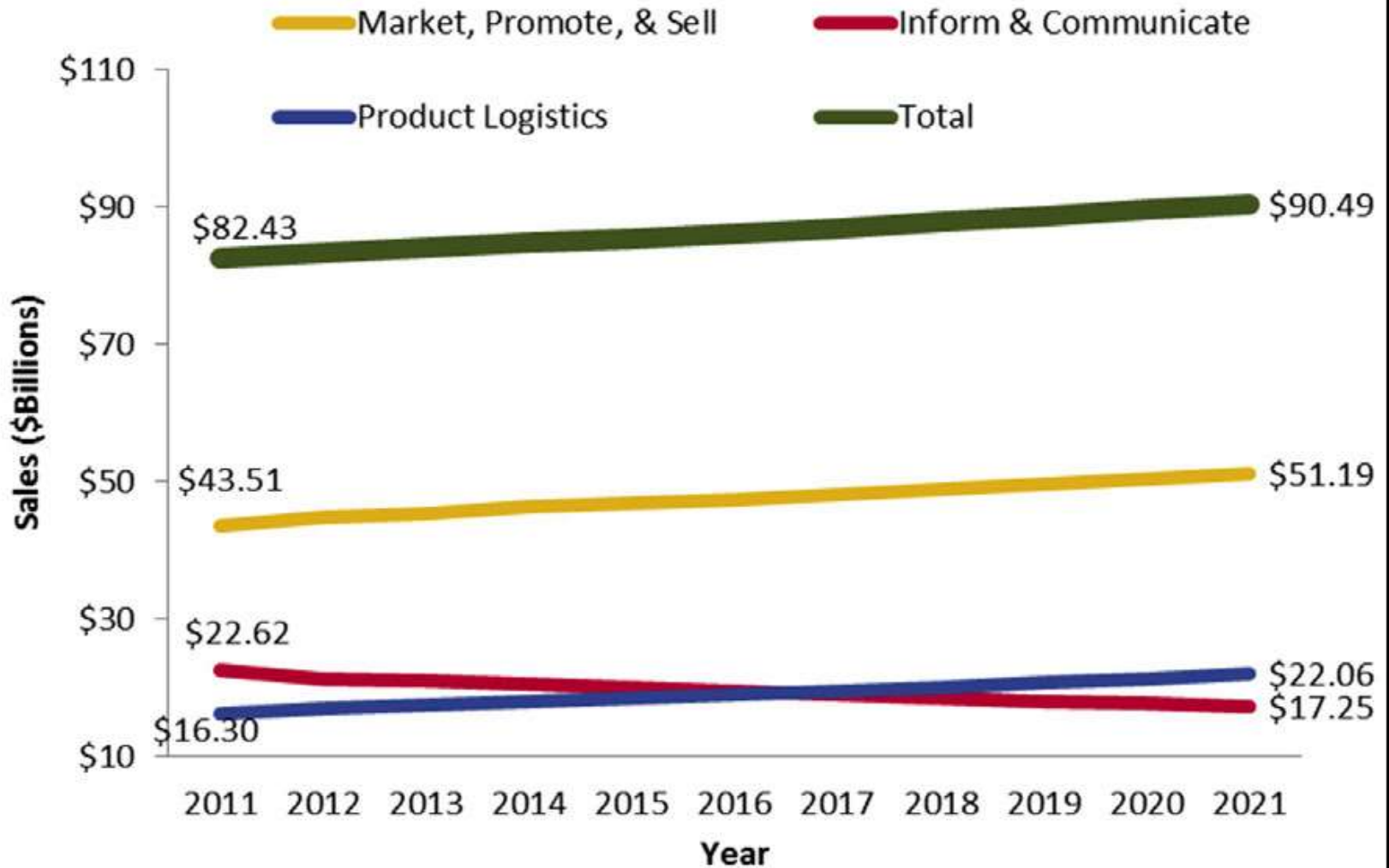
Print Market Laggards



***Center for Print Economics and Management Printing industries of America
Figures represent sales growth % for survey respondents***

Printing Industries of America's Long-term Print Forecast

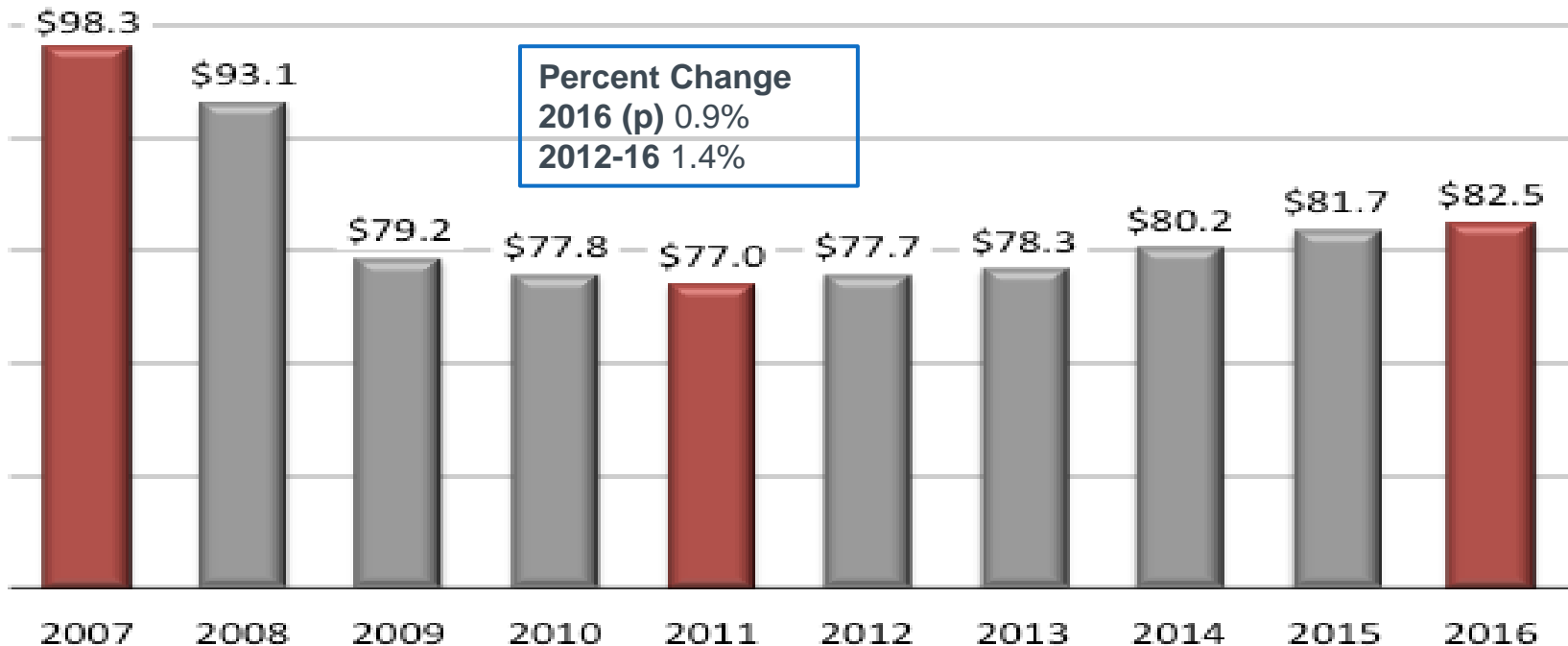
Commercial Printing & Related Support Activities (NAICS Code 323)



Commercial Printing Industry Sales*

Sales Summary

- Up 5 consecutive years, by average of 1.4% per year.
- Up 7.1% from 2011 low but down 16.1% from pre-Great Recession level.

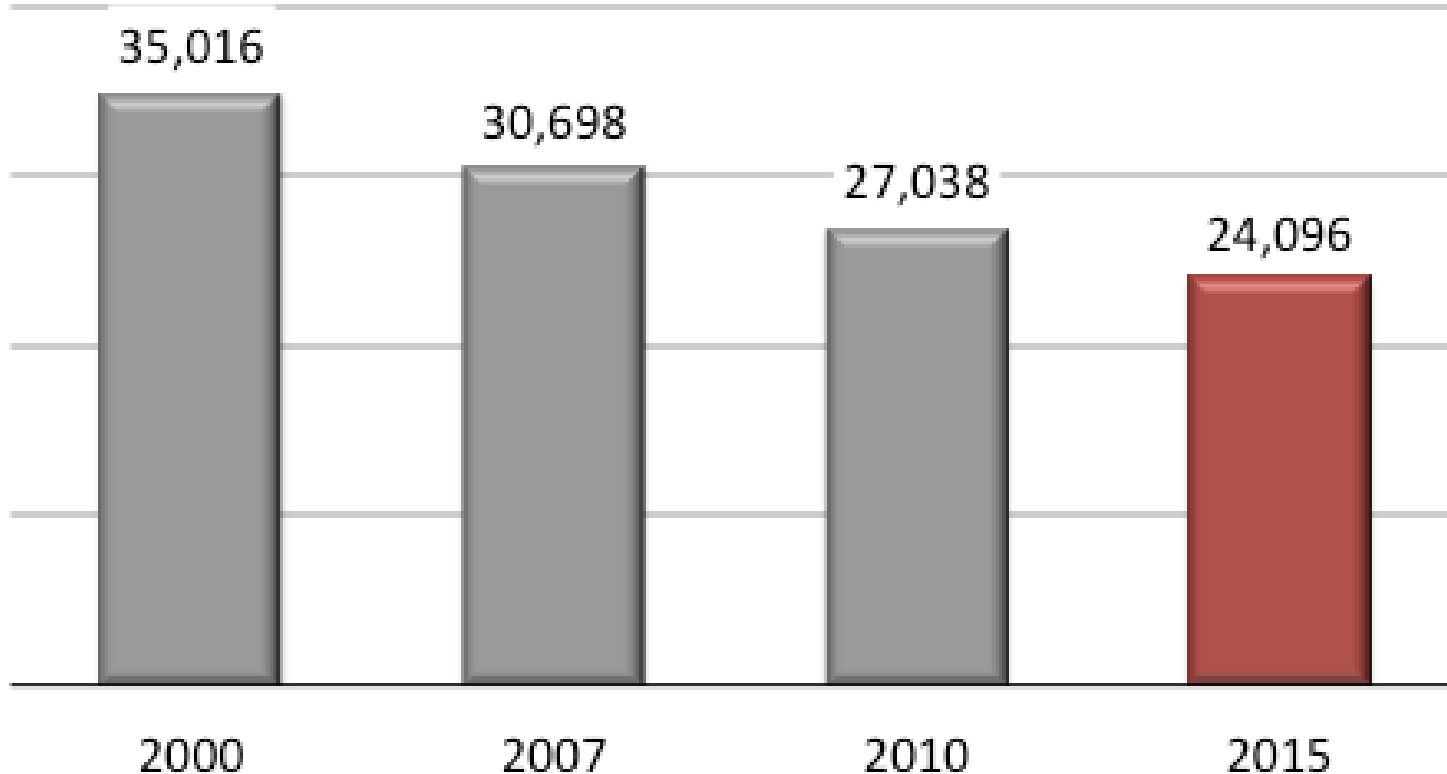


*Sales are from all sources and are Idealliance estimates. Preliminary for 2016

Shared Courtesy of Idealliance

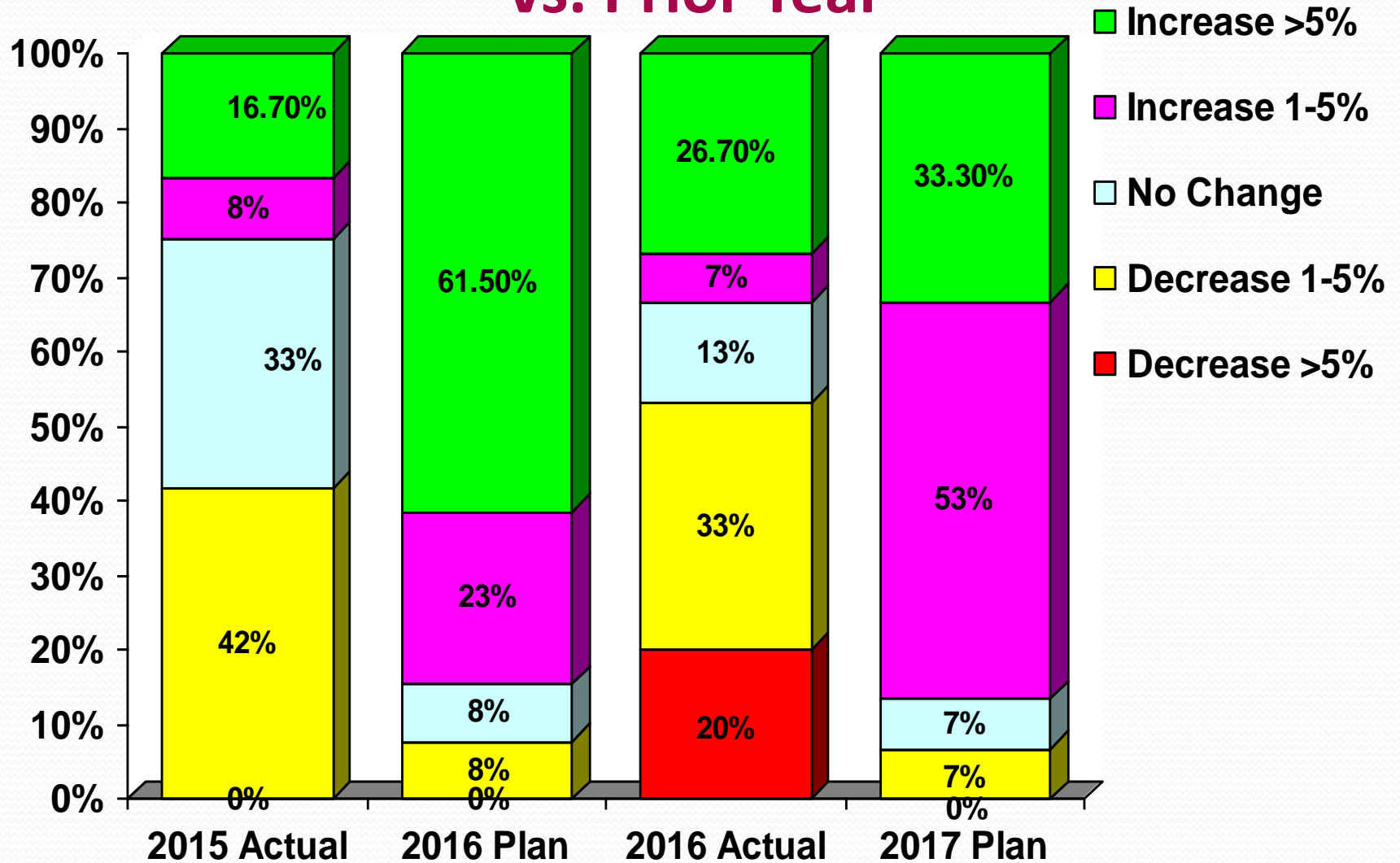
We Are Adjusting: Consolidation

The number of commercial printing establishments has declined by 6,600, or 21.5%, since 2007 and by nearly 11,000, or 31.2%, since 2000.



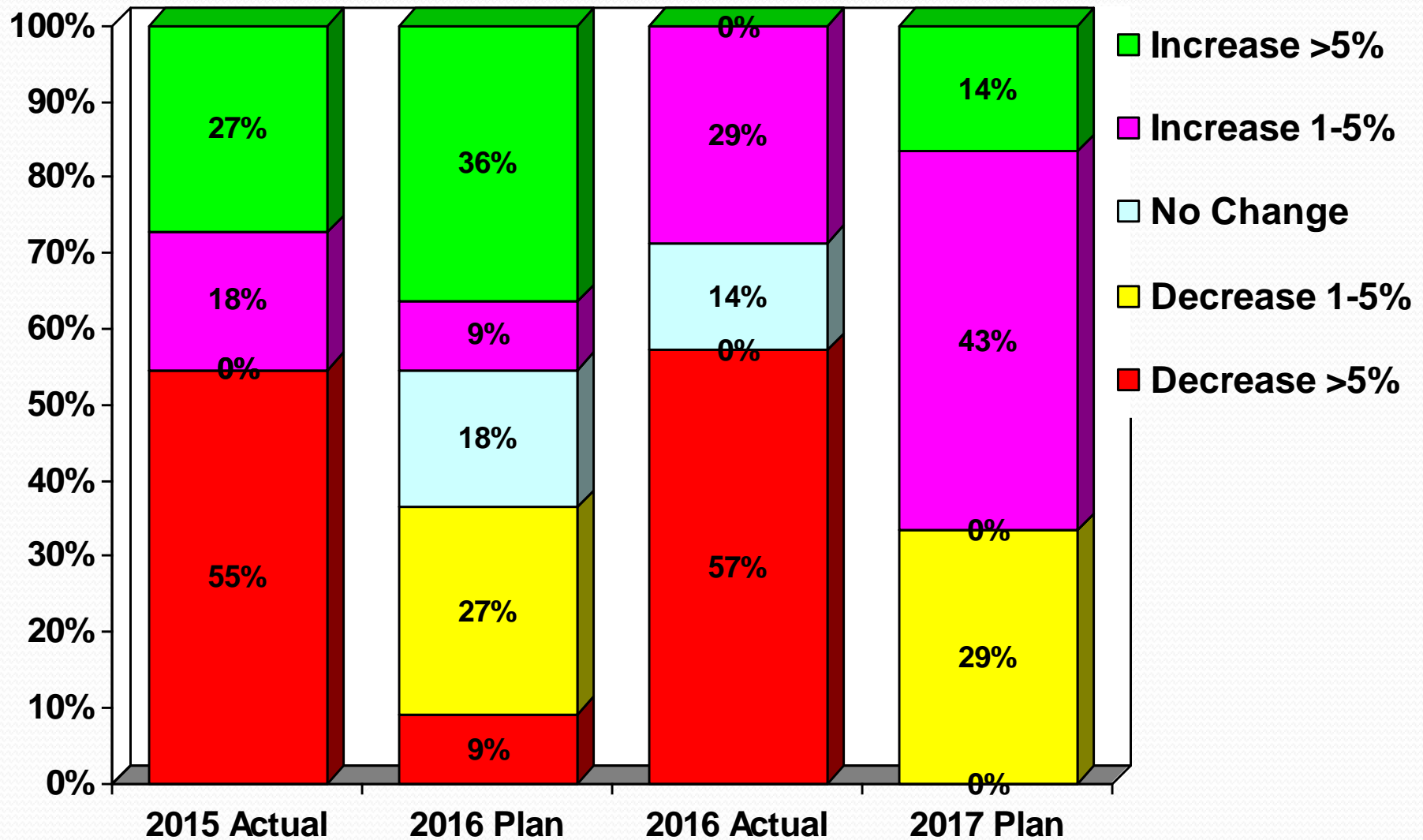
Shared Courtesy of Idealliance

Ink Companies' Sales Change vs. Prior Year



Source: NAPIM Outlook Survey

Suppliers' Sales Change vs. Prior Year

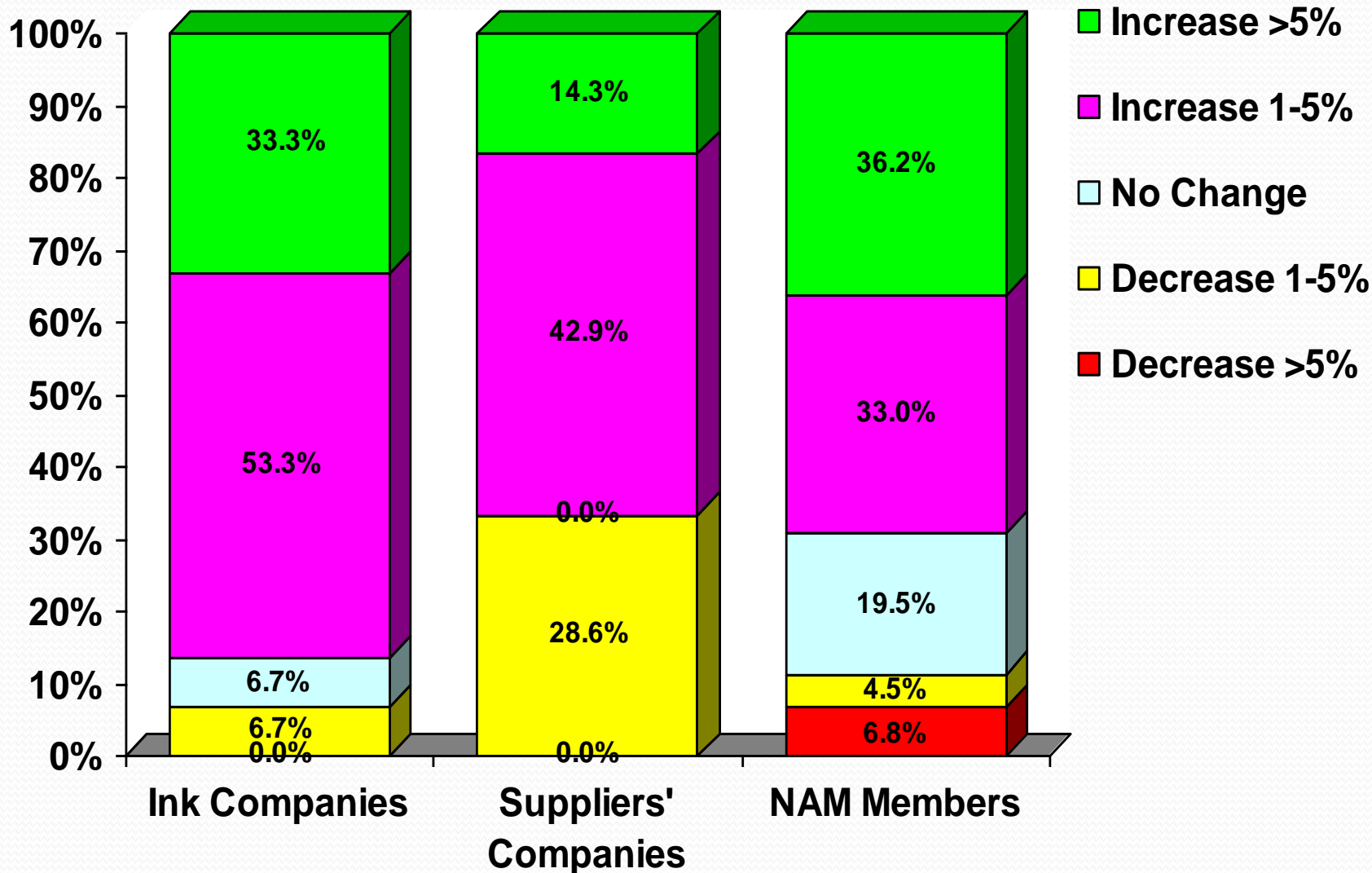


Source: NAPIM Outlook Survey

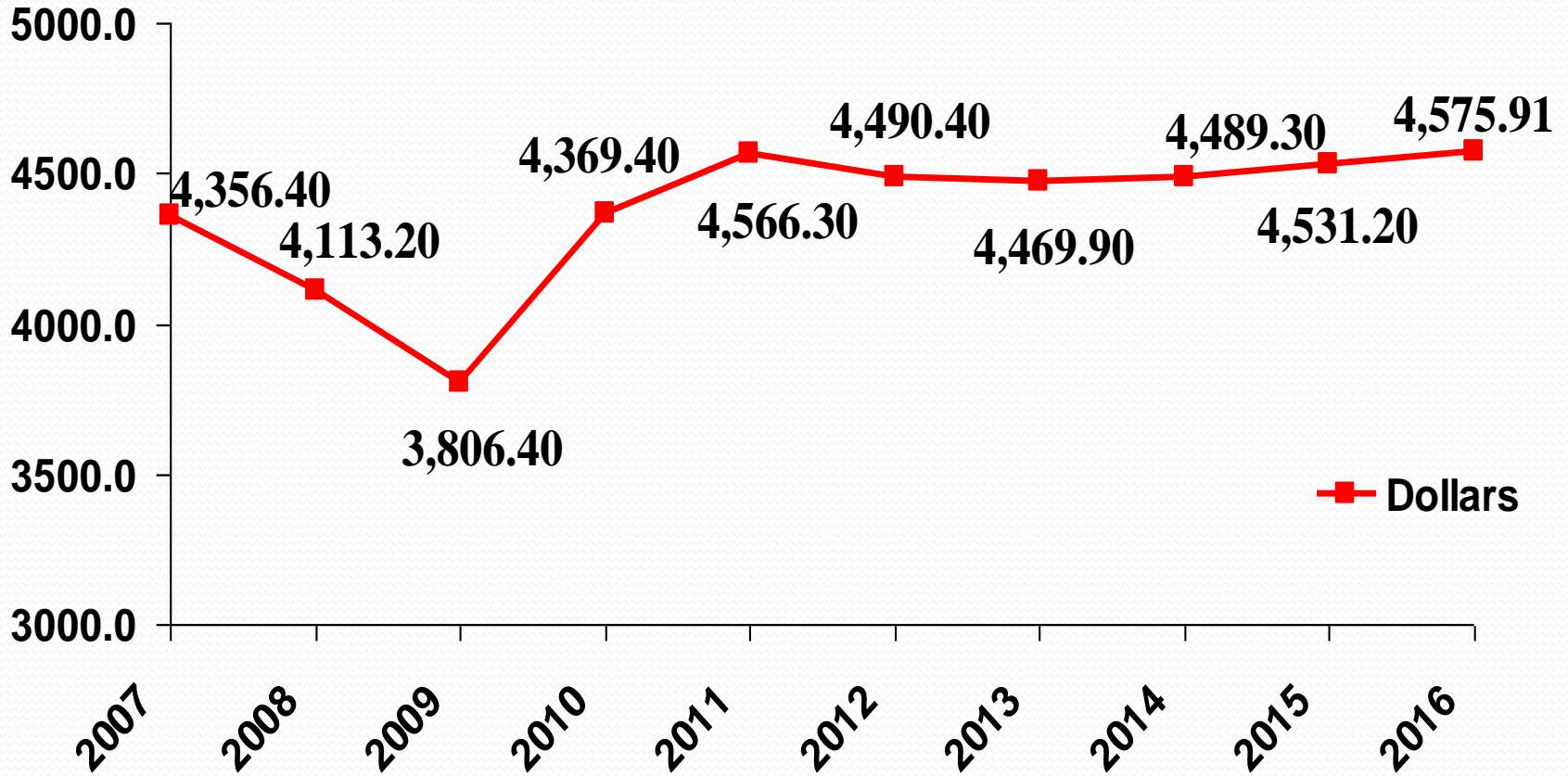


2017 Sales Expectations

Ink, Suppliers, Manufacturing Industry



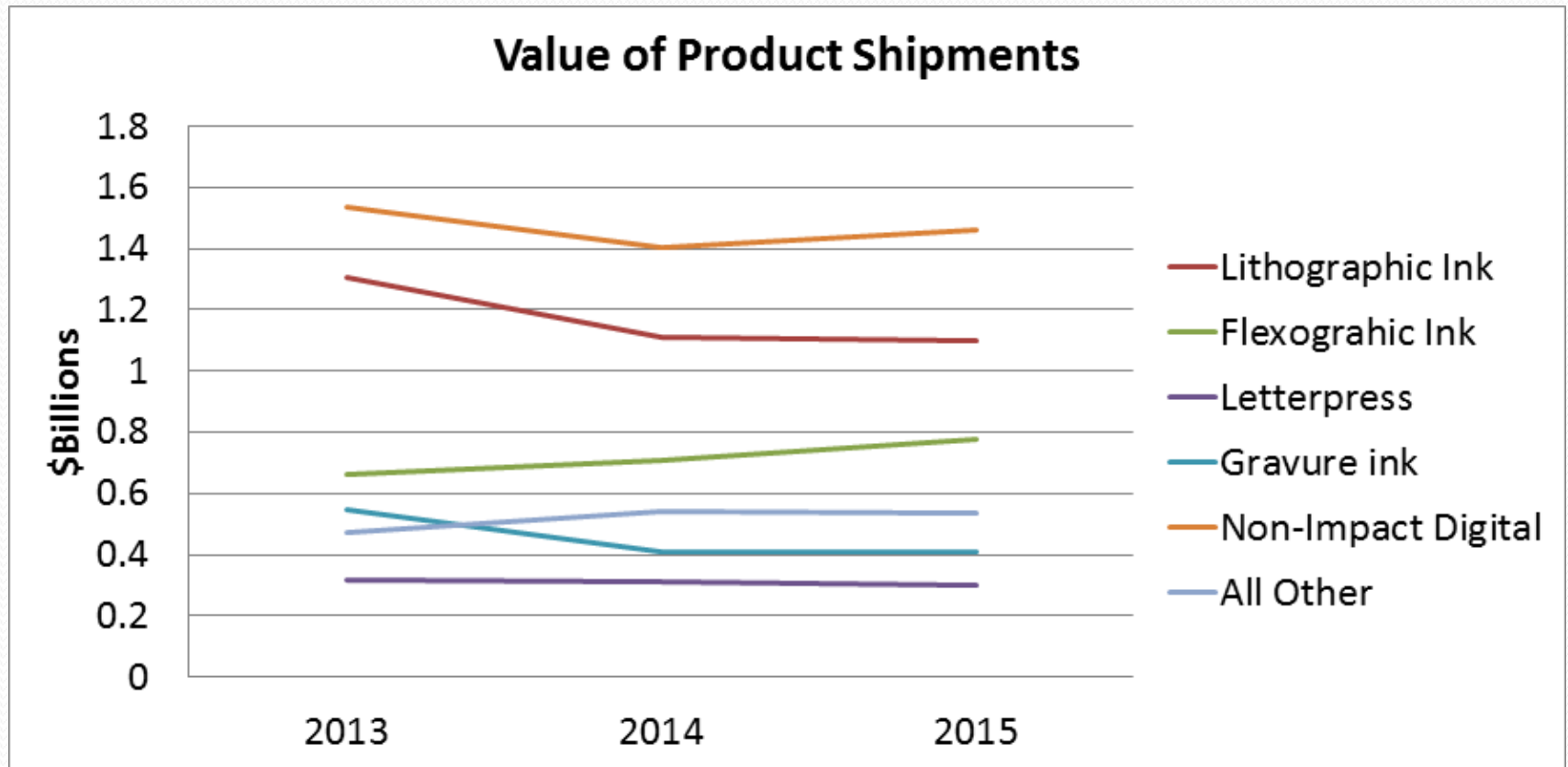
U.S. Printing Ink Sales*



* Includes screen, textile, digital, & non impact inks.
Source – US Census of Ink Manufacturers



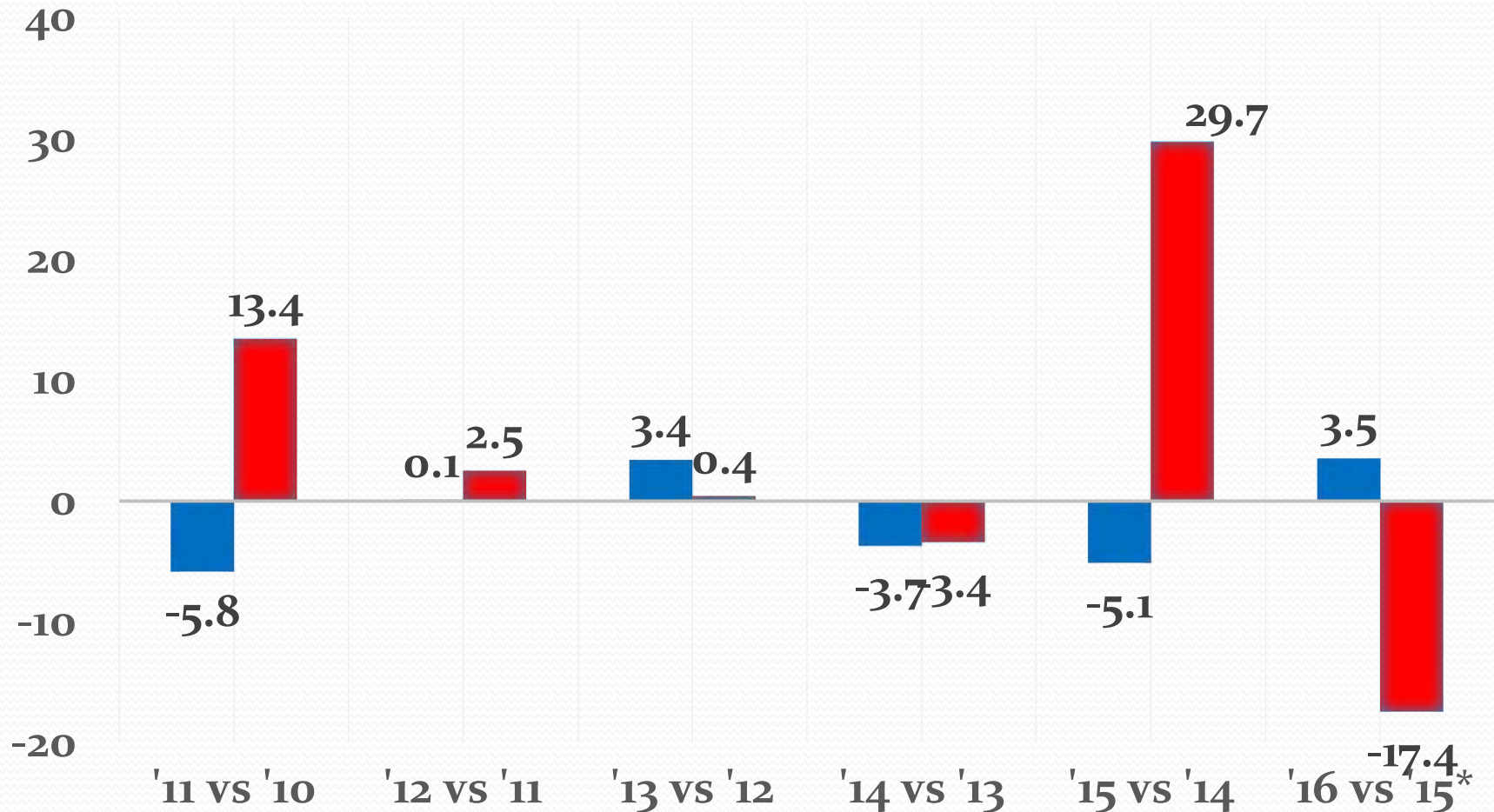
Annual Survey of Manufactures: Value of Product Shipments: NAICS 32591



Source: US Census Bureau – Annual Survey of Manufactures – 12/16

Litho Ink Segments Based on Lbs.

■ Litho Sheetfed ■ Litho EC

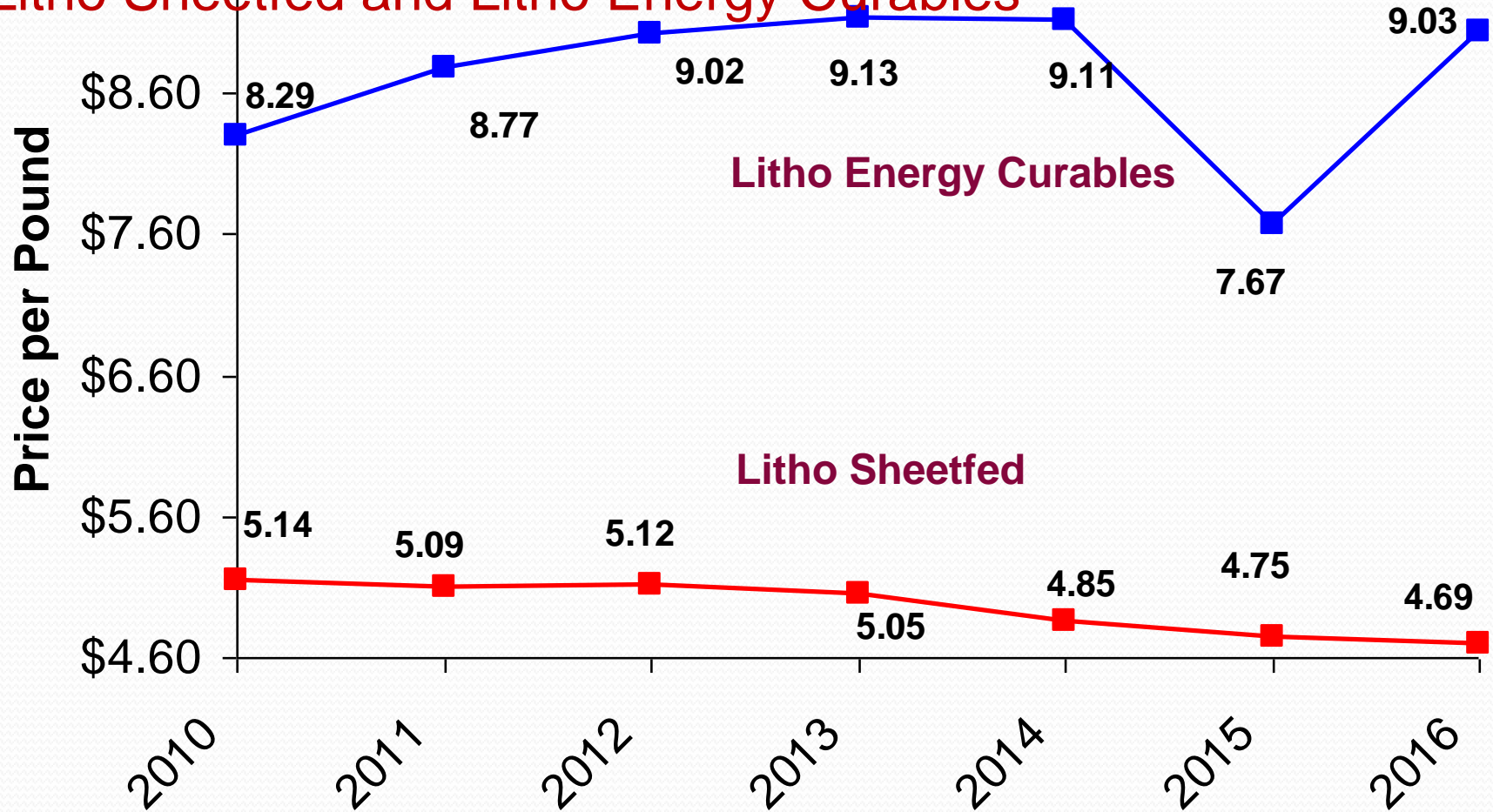


Source: NAPIM QSR; Publ HS and News not reported

*Figures for 2016 vs. 2015 are 1st half only

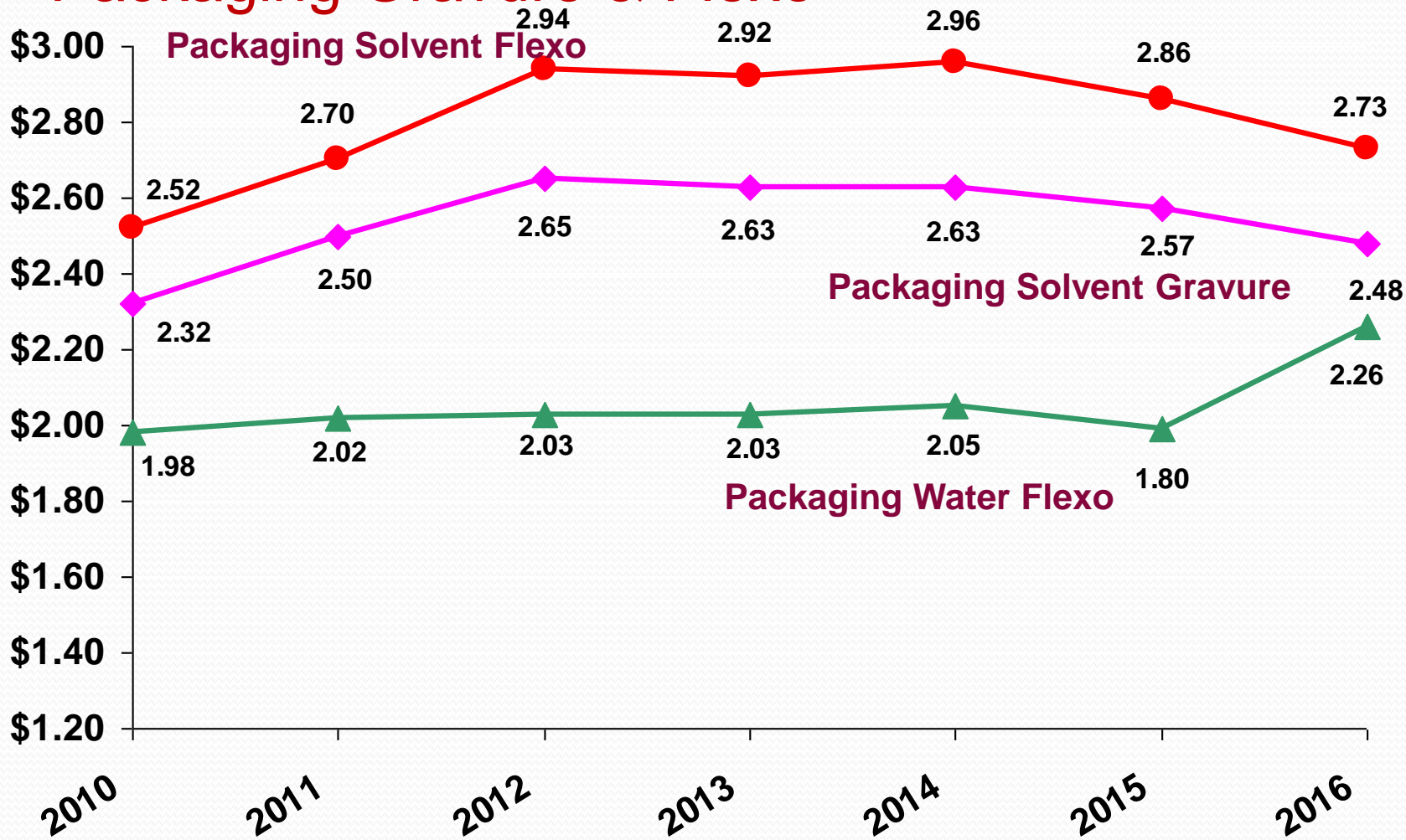
Average Selling Prices

Litho Sheetfed and Litho Energy Curables



*Based on NAPIM QSR Sample.

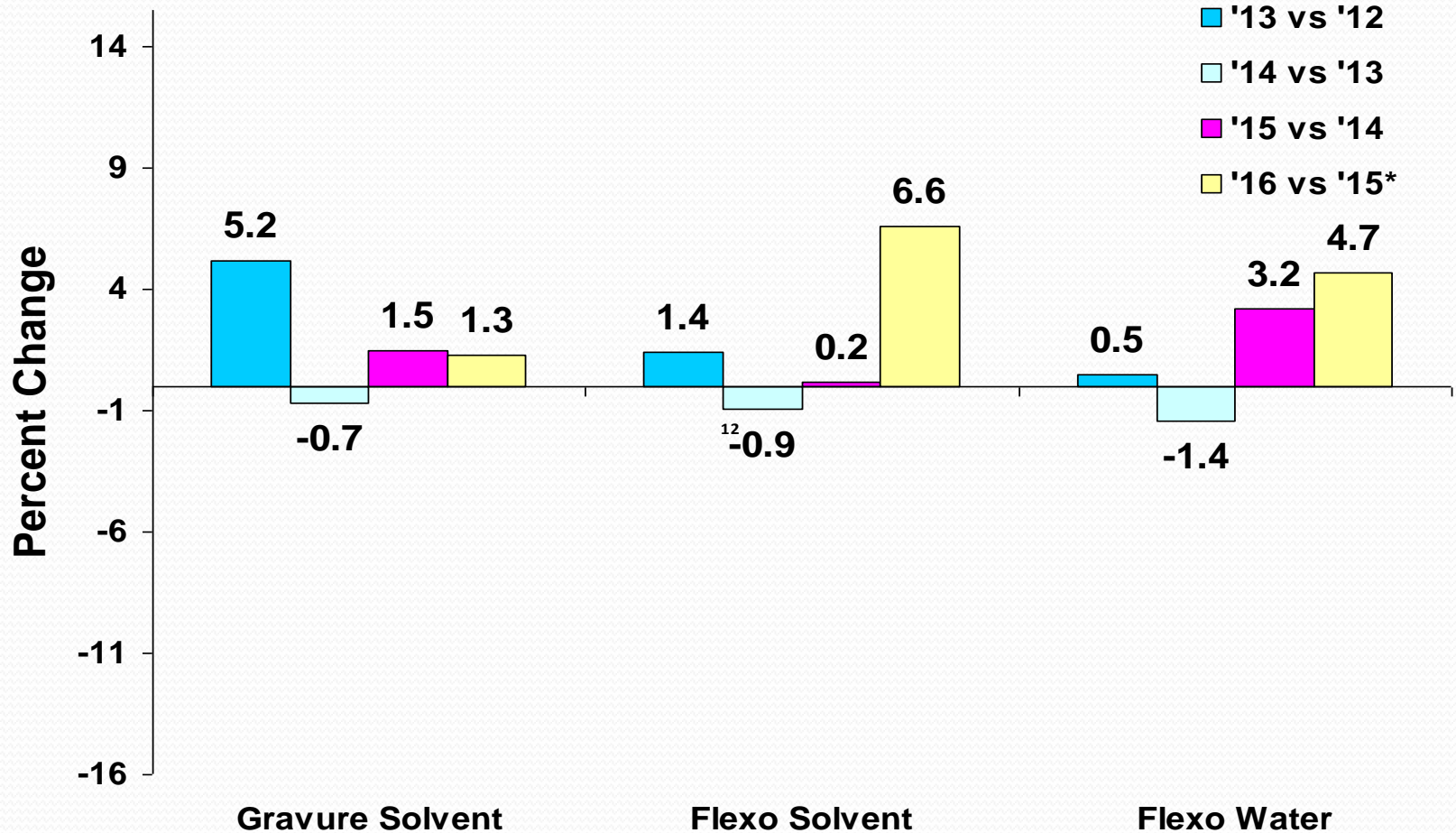
Average Selling Prices Packaging Gravure & Flexo



Source: NAPIM QSR

Packaging Ink Segments

Based on Lbs.



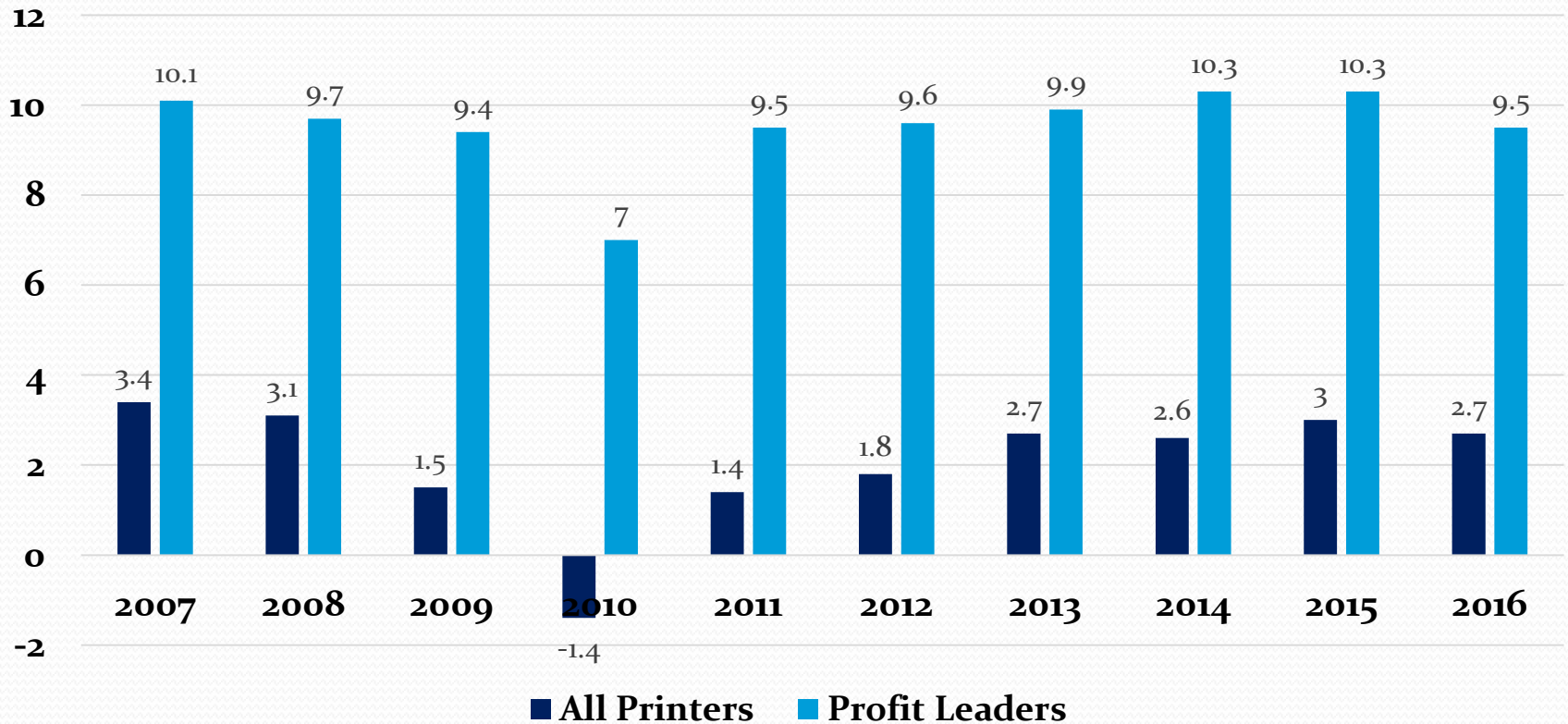
Source - NAPIM QSR

*Figures represent 1st half of 2016

Profitability

Printer Profit Trends: as % of Sales

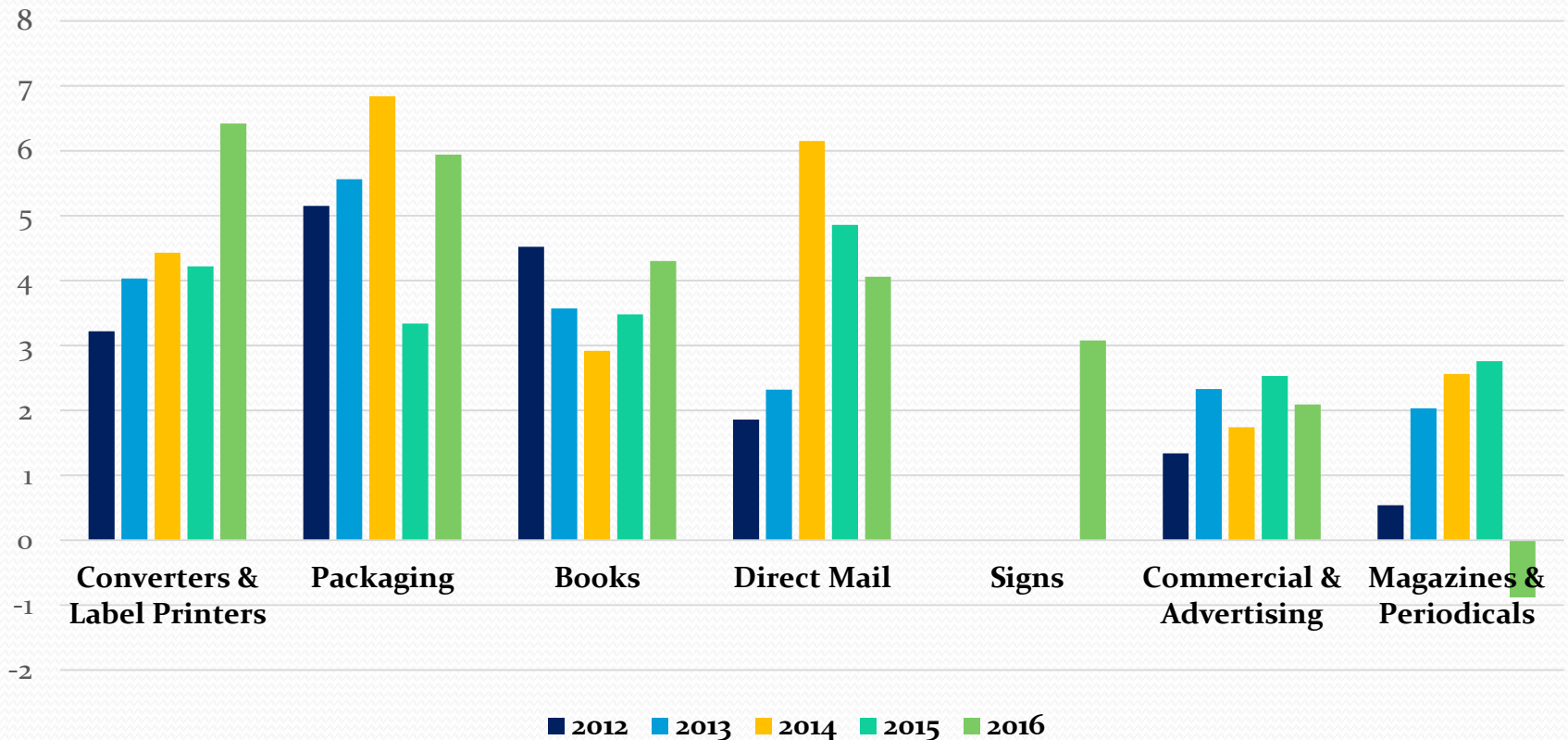
Profits as a % of Sales



Source: Center for Print Economics and Management, PIA Ratio Study

Printer Profit Trends: by Sector

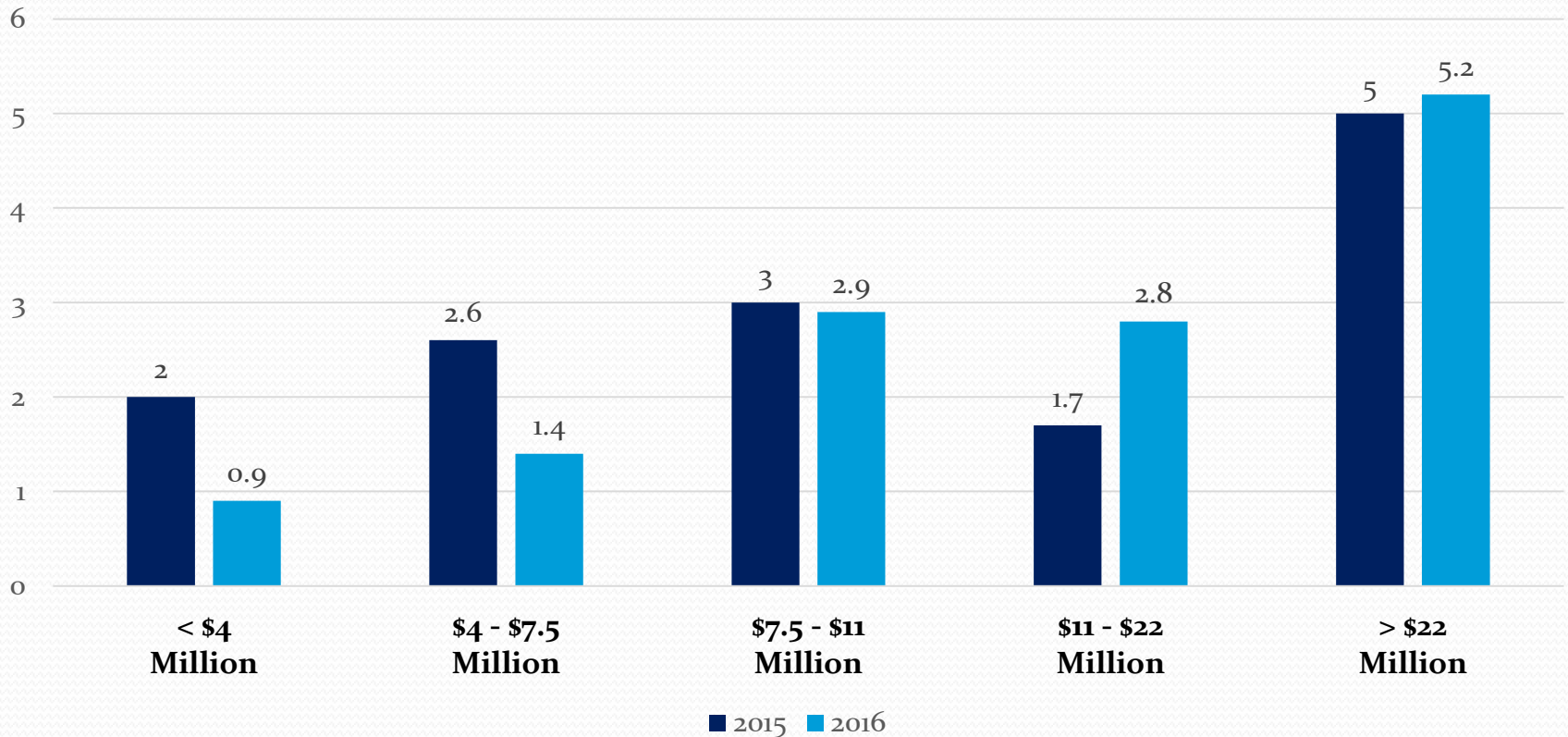
Profits By Sector



Source: Center for Print Economics and Management, PIA Ratio Study

Printer Profit Trends: by Size

Profits By Firm Size



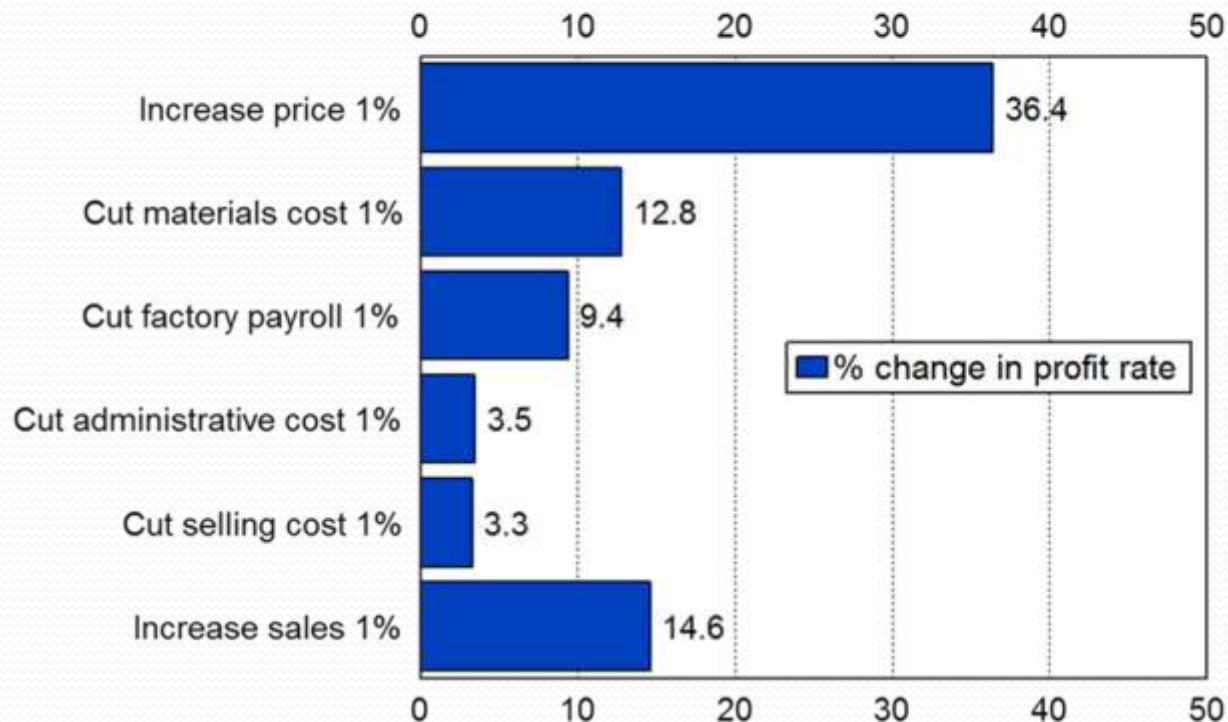
Source: Center for Print Economics and Management, PIA Ratio Study

Game Plan for Success

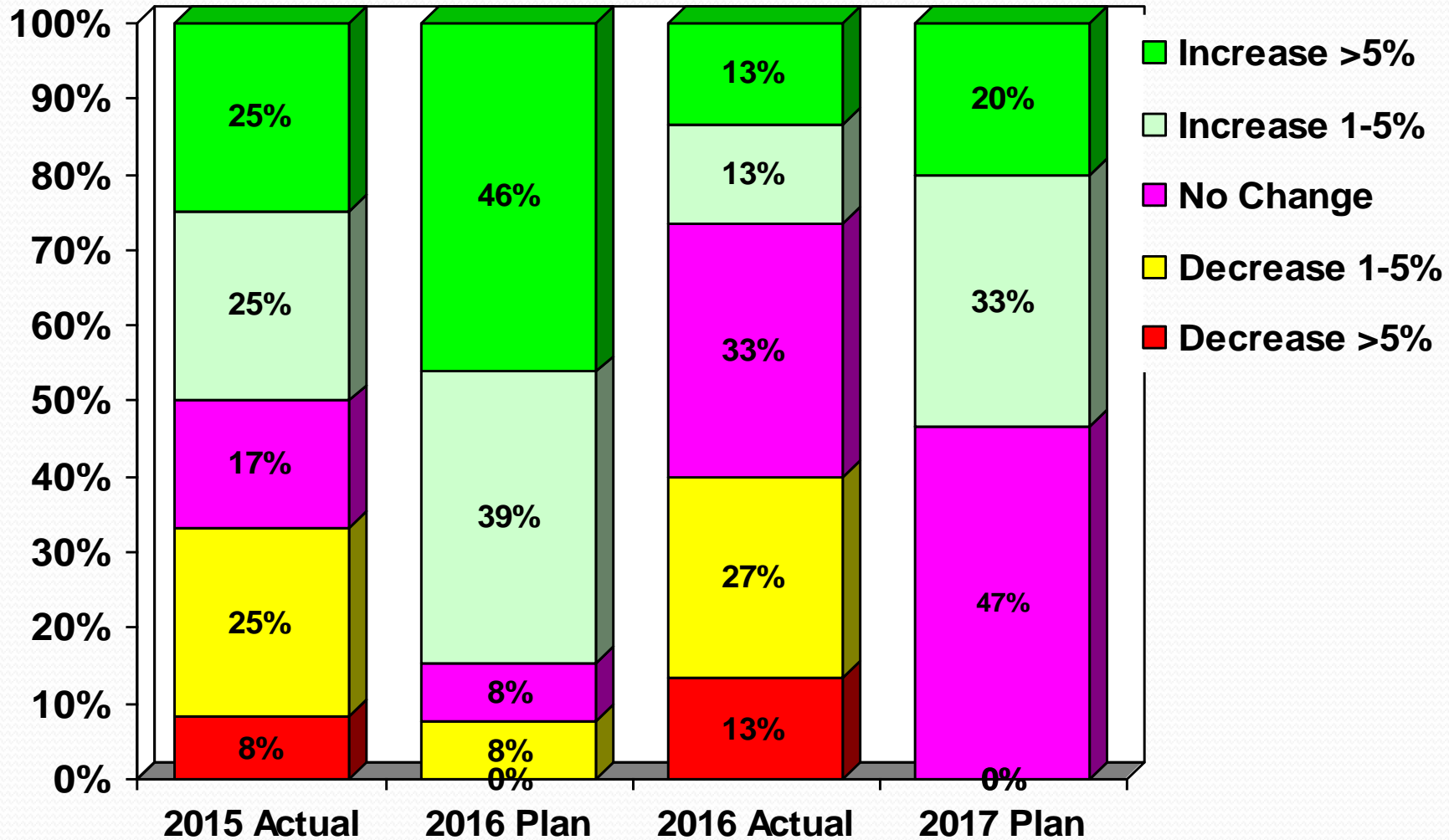
Example of a too low: A price hike can supercharge profits

Pricing Power

Compete for Price--not on Price

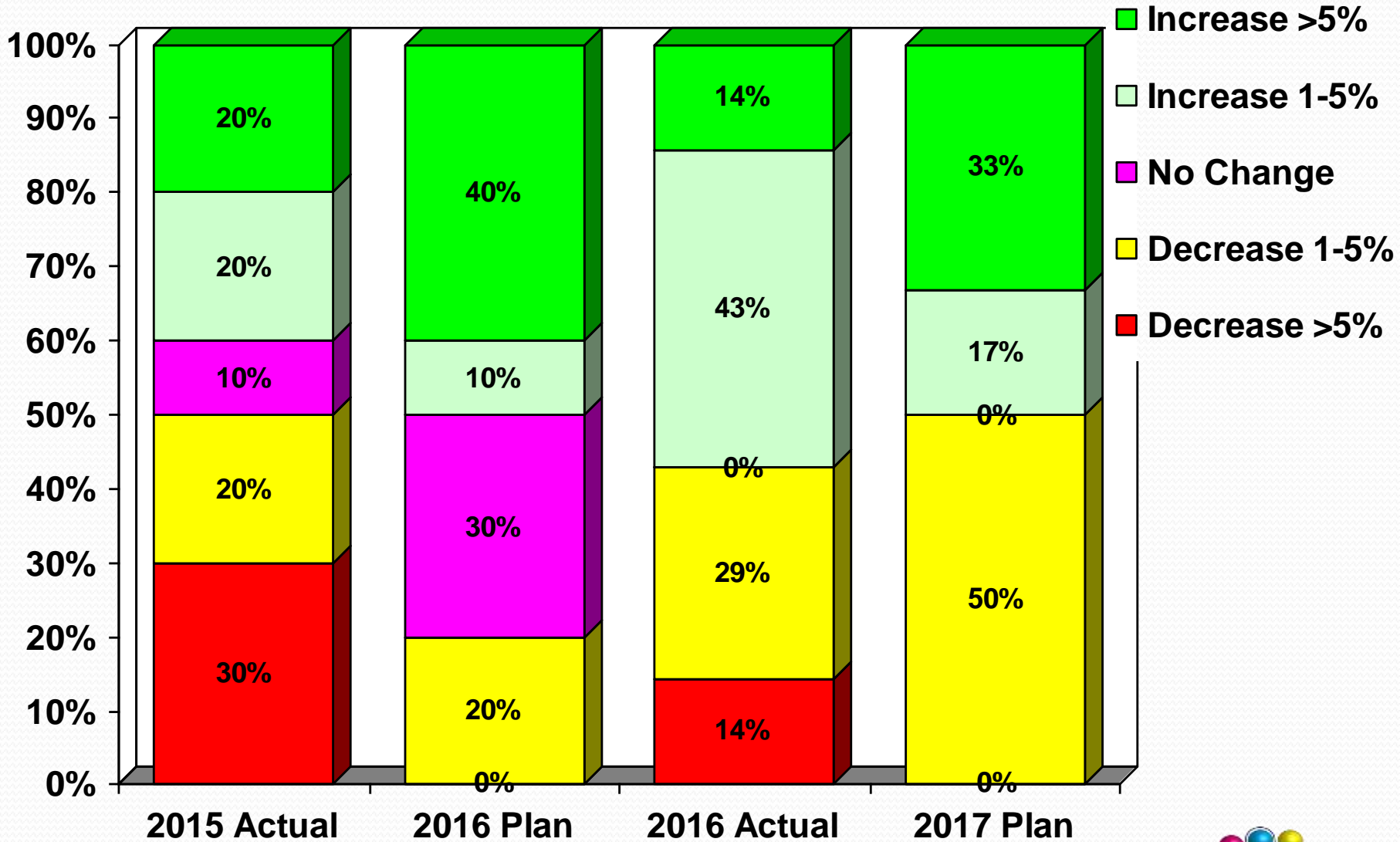


Ink Companies' Profit Change vs. Prior Year

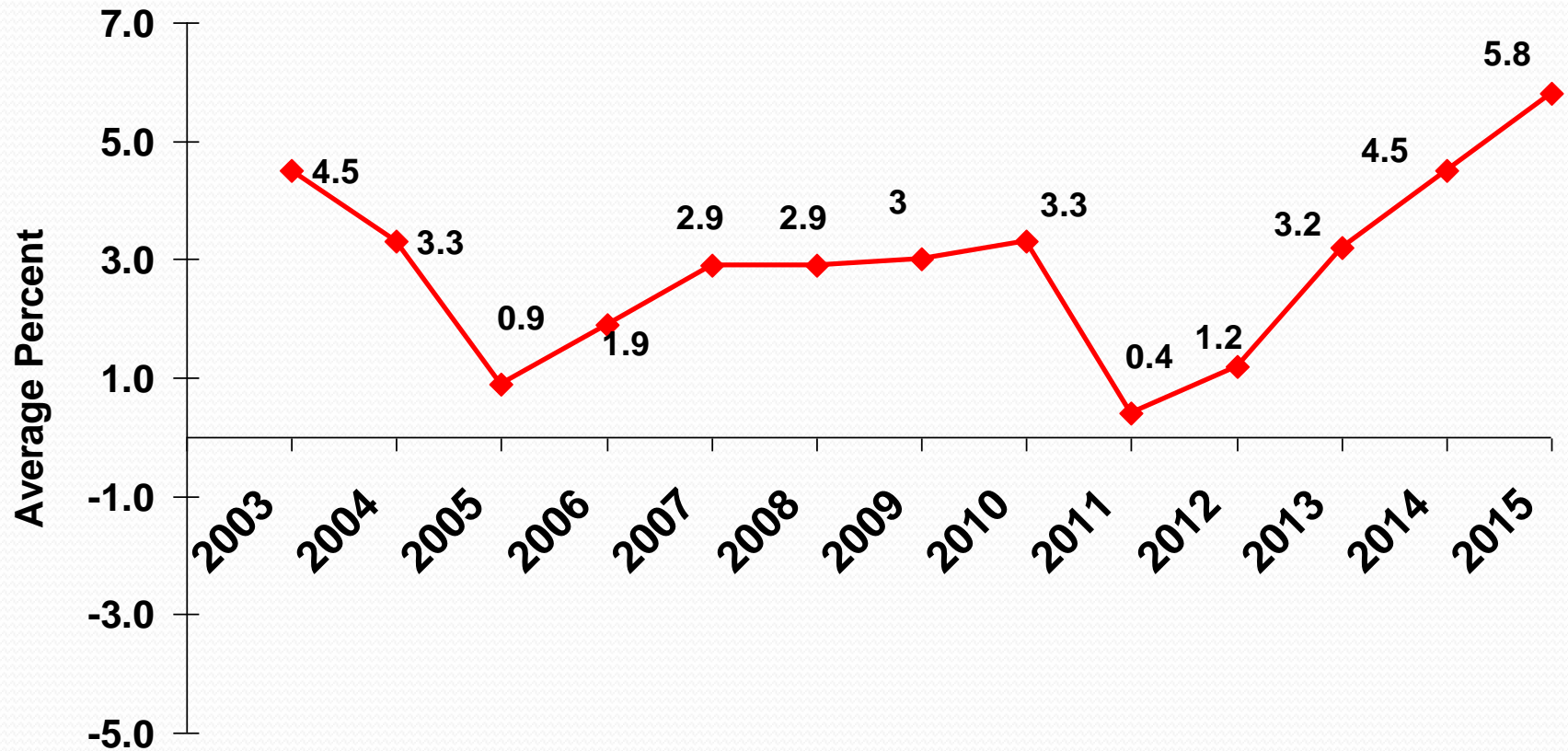


Source - NAPIM Outlook Survey

Suppliers' Profit Change vs. Prior Year

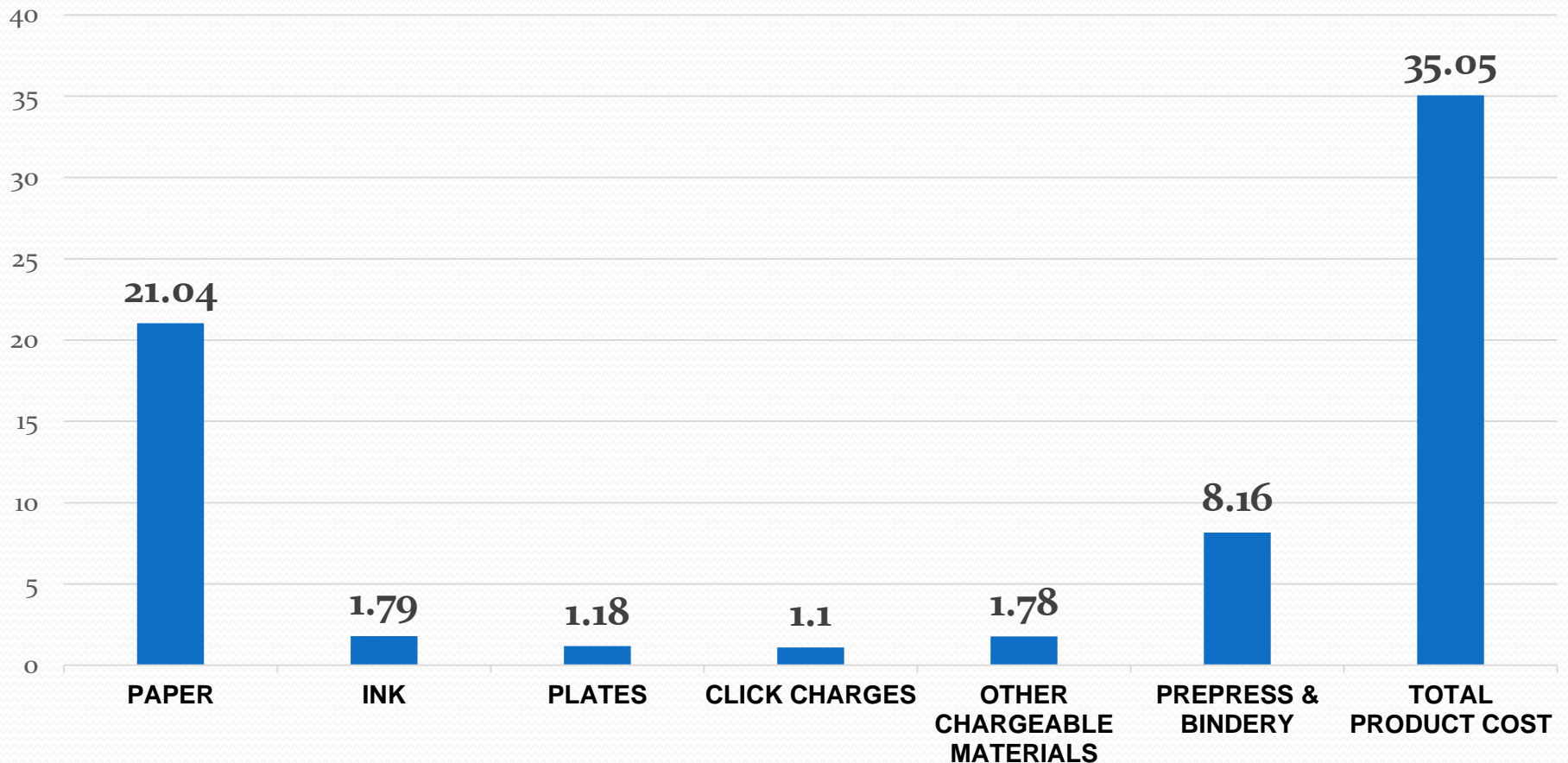


Ink Companies' Historical Earnings Before Interest & Taxes - ALL Ink

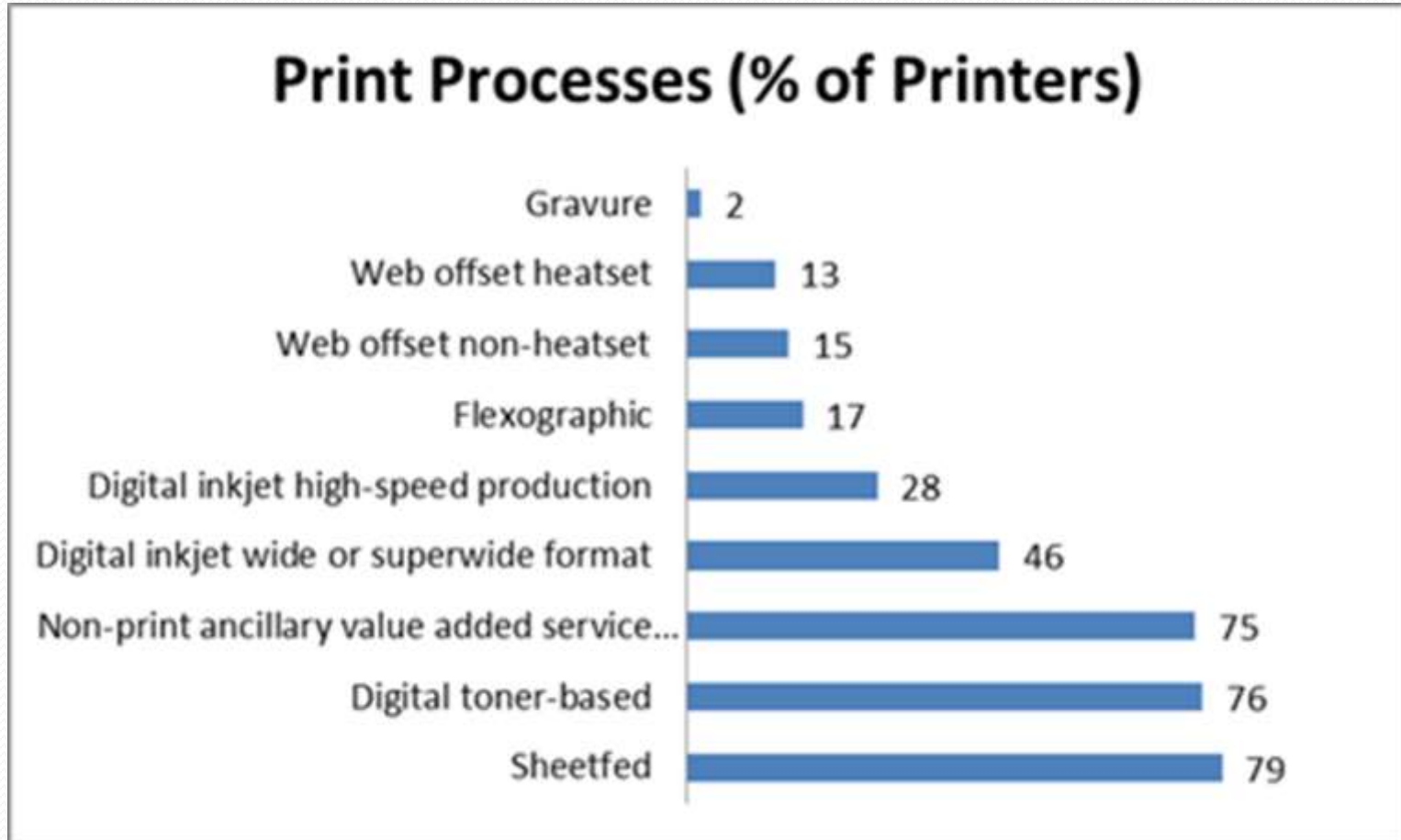


End Use Markets

Materials as % of Sales 2016



Print Business and Operating Models



**Center for Print Economics and Management Printing industries of America
PIA Survey of Members**

Print Business and Operating Models



World Flexible Packaging Market 2014 Total \$80 Billion



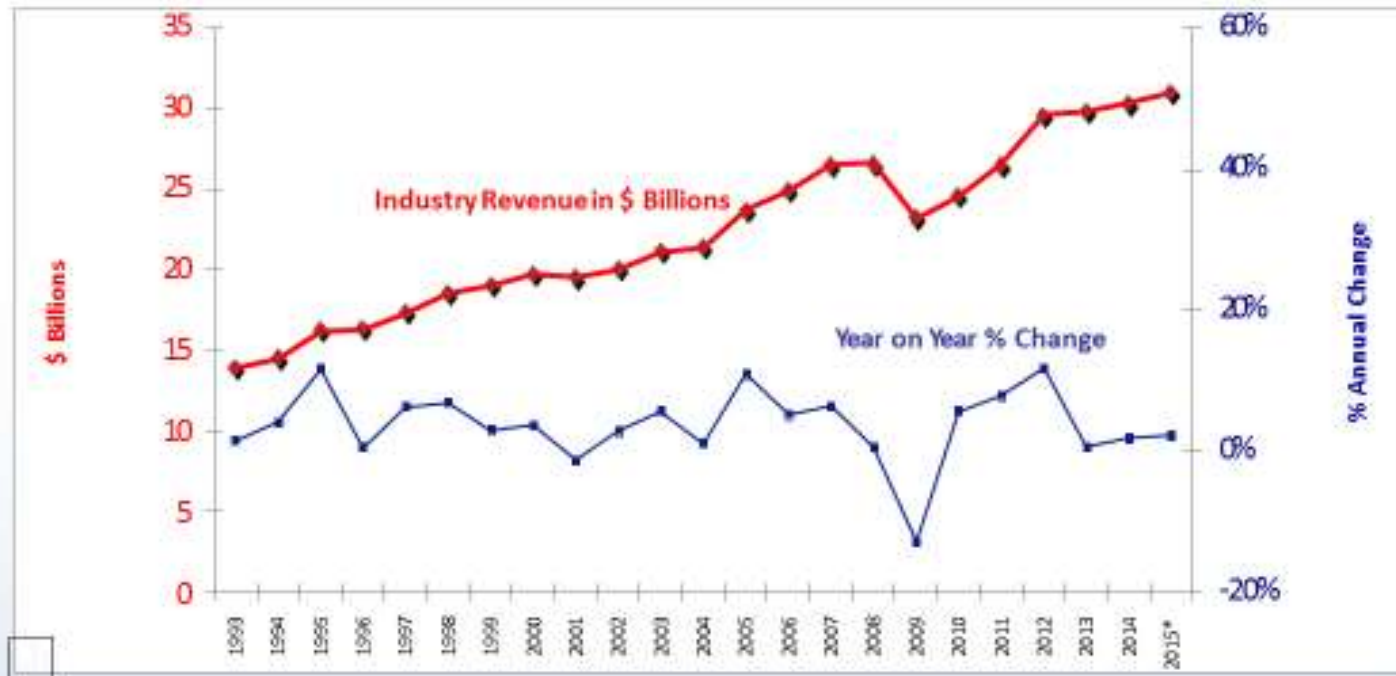
COUNTRY / REGION	% Flexible Packaging Market	Population in Millions	% World Population	Per Capita Consumption in US \$
Europe	21	742	10	23.77
N America	27	357	5	63.53
Total-Developed Countries	48	1099	15	36.69
C & S America	6	630	9	8.01
Asia Pacific	41	4436	60	7.76
Africa / Middle East	5	1171	16	3.59
Total-Developing Countries	52	6237	85	7.00

Source: PCI Films Consulting per Flexible Packaging Europe Presentation at 2016 FPA Annual Meeting, Population Reference Bureau and Flexible Packaging Association

3 | © 2016 Flexible Packaging Association. All rights reserved.
Please contact the Flexible Packaging Association to obtain permission to use this data.



FPA Industry Revenue



Source: U.S. Census Bureau and Flexible Packaging Association

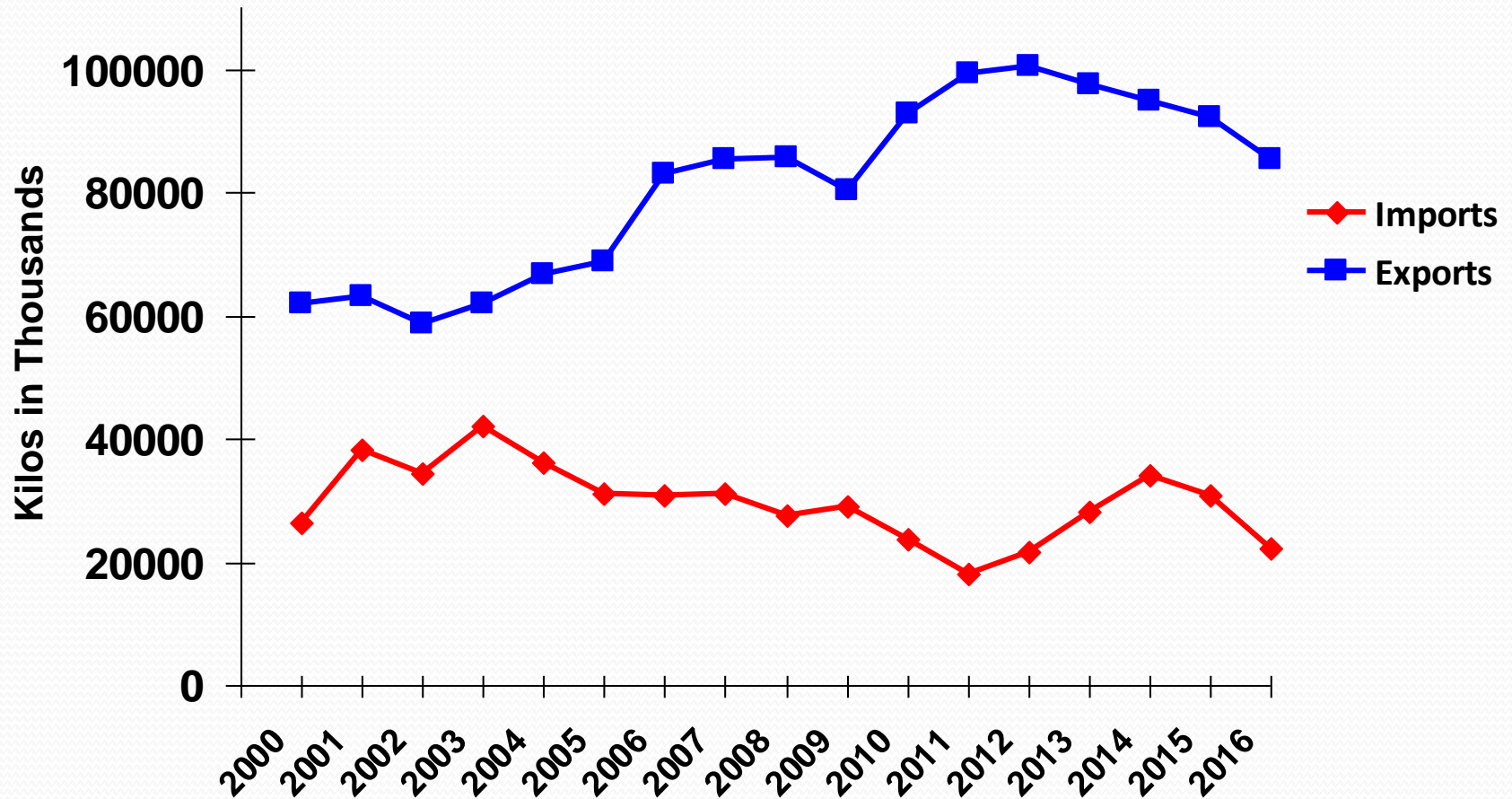
* FPA Estimate

7 | © 2016 Flexible Packaging Association. All rights reserved.
Please contact the Flexible Packaging Association to obtain permission to use this data.

Foreign Trade

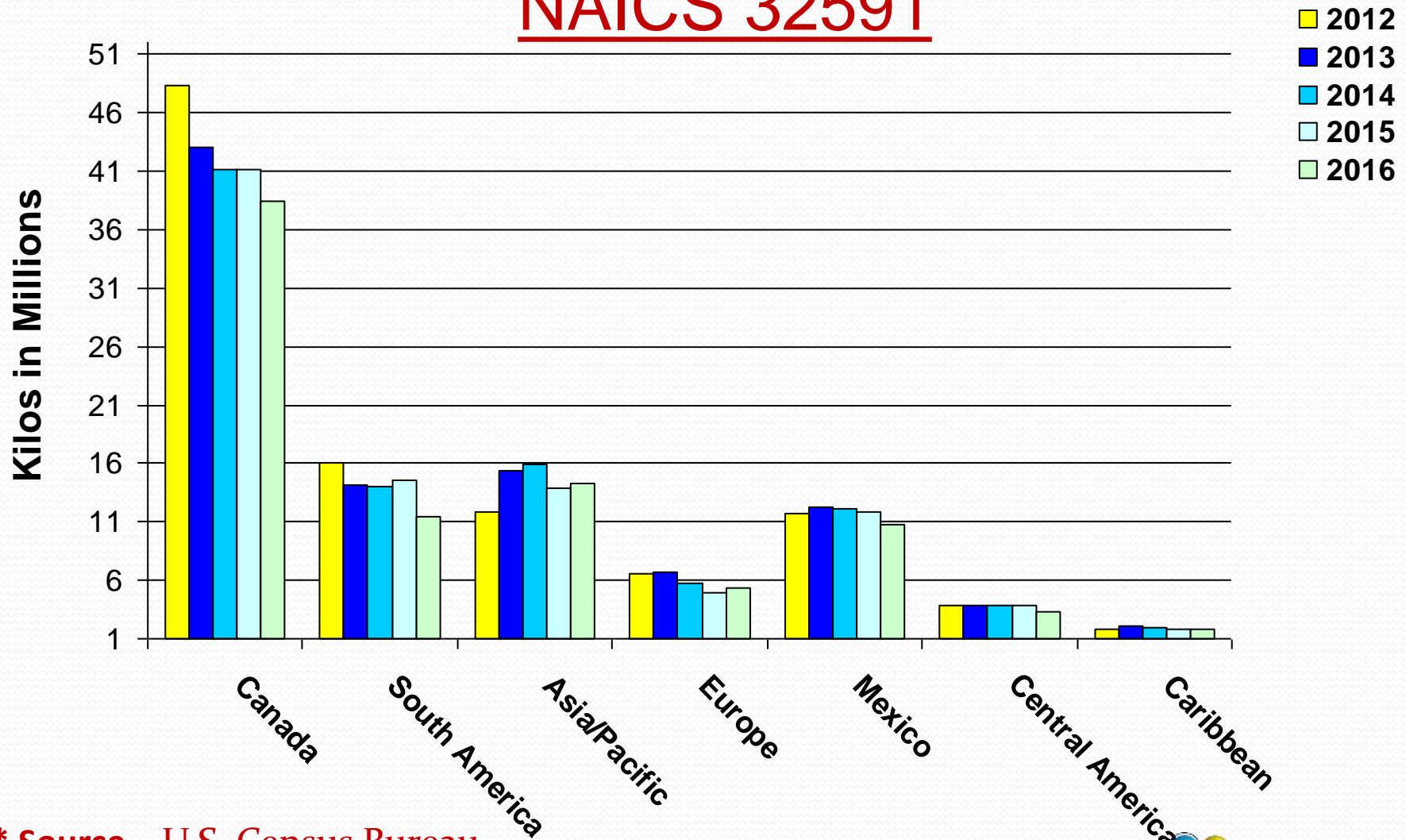
Foreign Trade

NAICS 32591



* Source – U.S. Census Bureau

Major Ink Exports NAICS 32591



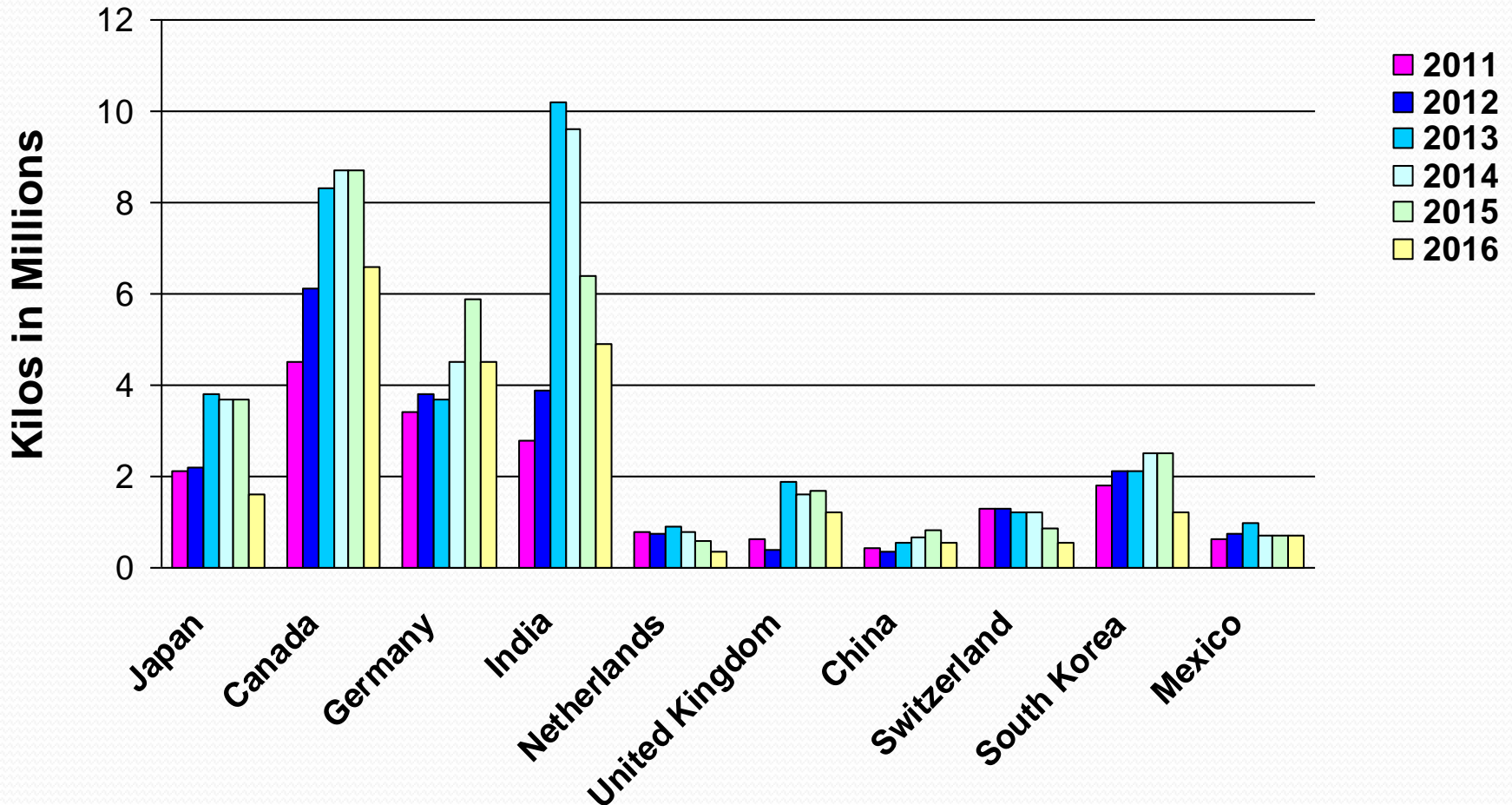
* Source – U.S. Census Bureau

As presented at the 2013 Convention April 7, 2013



Major Ink Imports

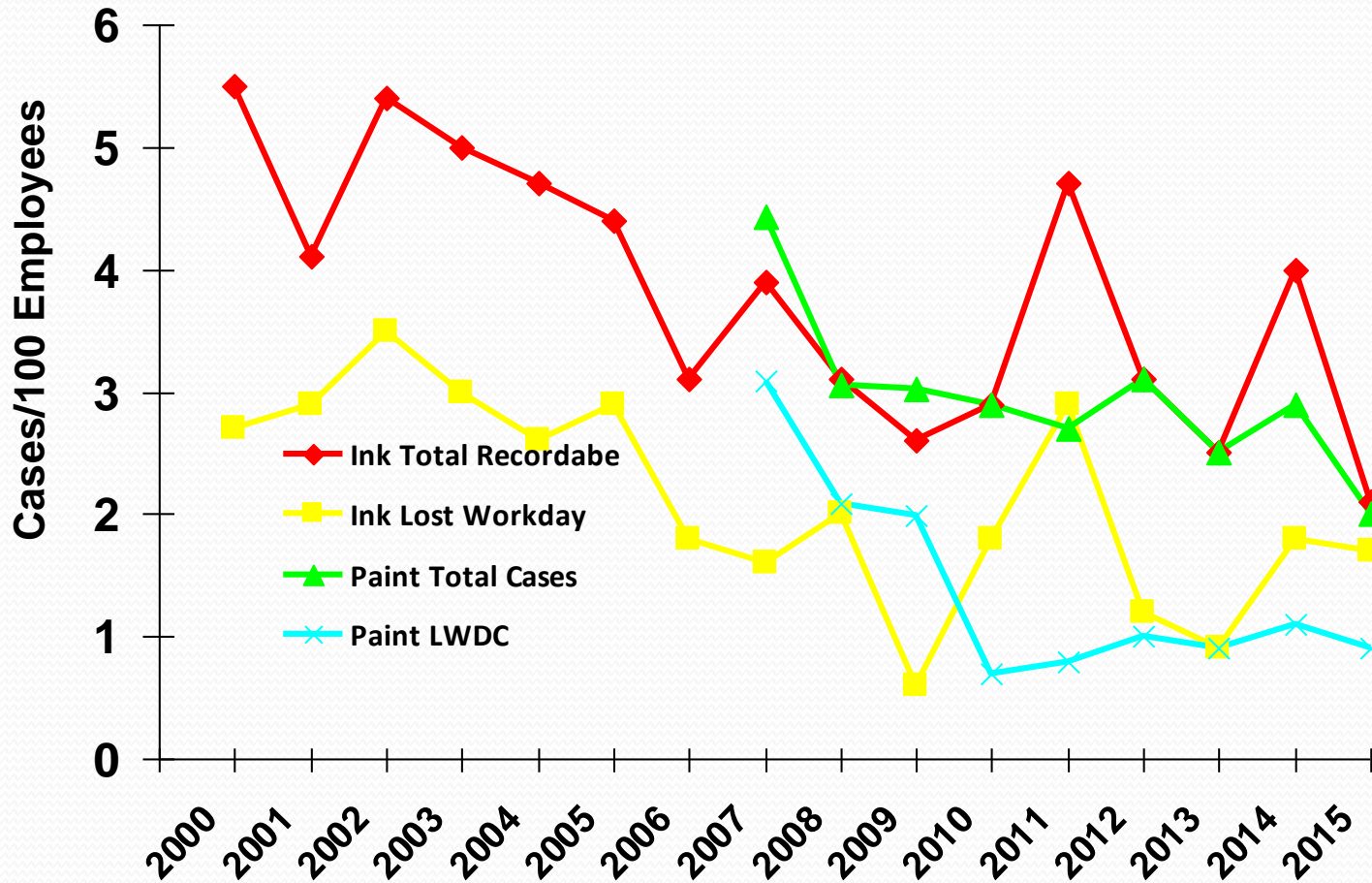
NAICS 32591



* Source – U.S. Census Bureau

Safety, Health and Environmental

Ink Industry Illness/Injury Annual Rate



EHS Issues

- **OSHA**
 - **GHS - Status/Impact**
- **Illness/Injury Recordkeeping**
 - **eReporting**
 - **Anti-Retaliation**
- **Food Packaging Committee**
 - **2017 Food Packaging Guidance**
 - **Exclusion Lists**
- **Environmental Issues**
 - **TSCA Modernization**



Questions or Comments?

Thank you