The Bishop Report NEWS BRIEF
A Service Provided to Subscribers of the Bishop Report

News Brief No. 38-17
August 31, 2017

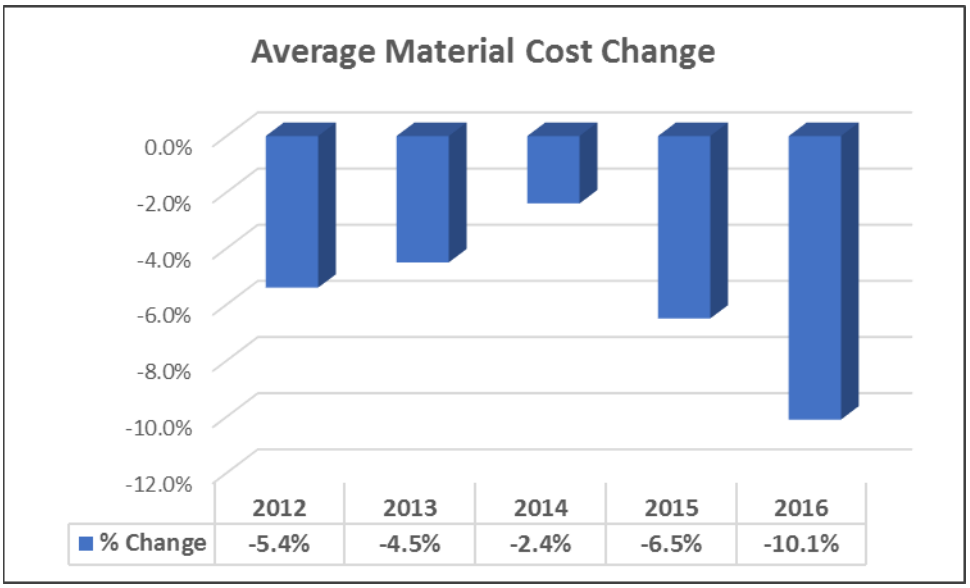
Five Years of Declining Raw Material Costs Ended

For the past five years, 2012-2016, the connector industry achieved net income of 10.4% of sales. Stable connector prices and lower raw material costs have been a major factor as to why the industry is achieving double-digit profitability. Consider the following:

In 2010 and 2011, raw material costs increased 22.4% and 18.5%, respectively. The large increase in raw material costs was a major justification for raising connector prices, bucking the historical trend of ongoing connector price erosion. Since the end of 2011, the implemented higher connector prices have remained stable. In effect, there has been no, or only minimal, price erosion during that period.

In 2012, raw material prices stabilize and then started to decline. In effect, the industry benefitted from higher connector prices that stabilized and five consecutive years of lower raw material costs. The combination, higher connector prices and lower raw material costs, contributed greatly to higher profitability, i.e. a five-year net income average of 10.4%.

The following chart shows the percentage decline in raw material costs between the years 2012 to 2016:



However, in the second half of 2016, raw material costs started to creep back up. Between 2Q16 and 2Q17, raw material prices have increased 12.1%, ending five years of declining raw material costs.

The following tables provide our analysis of changes in raw material costs. The source of these numbers is from the Federal Reserve Bank of St. Louis, Economic Research. Most of the numbers are indexed to mid-1982. The data samples were taken from the second quarter of each year.

Change in Raw Material Costs
2009 to 2017

	2Q17	2Q16	Change	2Q15	Change	2Q14	Change	2Q13	Change
Gold	313.4	308.4	1.6%	293.1	5.2%	319.6	-8.3%	364.6	-12.3%
Copper/Brass	373.0	320.1	16.5%	379.0	-15.5%	391.6	-3.2%	406.3	-3.6%
Steel/Iron	213.2	190.2	12.1%	199.8	-4.8%	233.6	-14.5%	224.5	4.1%
Thermoplastic	237.8	218.0	9.1%	232.6	-6.3%	261.6	-11.1%	248.6	5.2%
Total	1137.4	1036.7	9.7%	1104.5	-6.1%	1206.4	-8.4%	1244.0	-3.0%
Wgt Cost/Quarter	309.3	275.8	12.1%	306.8	-10.1%	328.1	-6.5%	336.1	-2.4%

	2Q12	Change	2Q11	Change	2Q10	Change	2Q09	Change
Gold	404.2	-9.8%	378.8	6.7%	287.3	31.8%	222.6	29.1%
Copper/Brass	431.1	-5.8%	481.3	-10.4%	402.9	19.5%	332	21.4%
Steel/Iron	247.3	-9.2%	256.8	-3.7%	233.7	9.9%	169.7	37.7%
Thermoplastic	241.1	3.1%	239.8	0.5%	216.5	10.8%	182.2	18.8%
Total	1323.7	-6.0%	1356.7	-2.4%	1140.4	19.0%	906.5	25.8%
Wgt Cost/Quarter	351.9	-4.5%	372.2	-5.4%	314.1	18.5%	256.7	22.4%

About This Analysis

We selected the four most important raw materials for the manufacture of connectors to track – Gold, Copper/Brass, Steel/Iron and Thermoplastic. We estimate that approximately 75% of raw material costs in connectors are represented by these four materials. We then weighed the Federal Reserve indices for each as follows:

Gold	**10%**
Copper/Brass	**35%**
Steel/Iron	**5%**
Thermoplastic	**25%**
Total Weight	**75%**

Note that each connector company's usage of these four raw materials will vary depending on the type of products manufactured and the required raw materials. Our goal is to provide an industry average and the general trend of raw material prices.

Other important raw materials used in the manufacturing of connectors include – aluminum, zinc, nickel, tin, lead, silver, palladium and other materials. We estimate these to represent about 25% of the raw material costs.

Conclusions

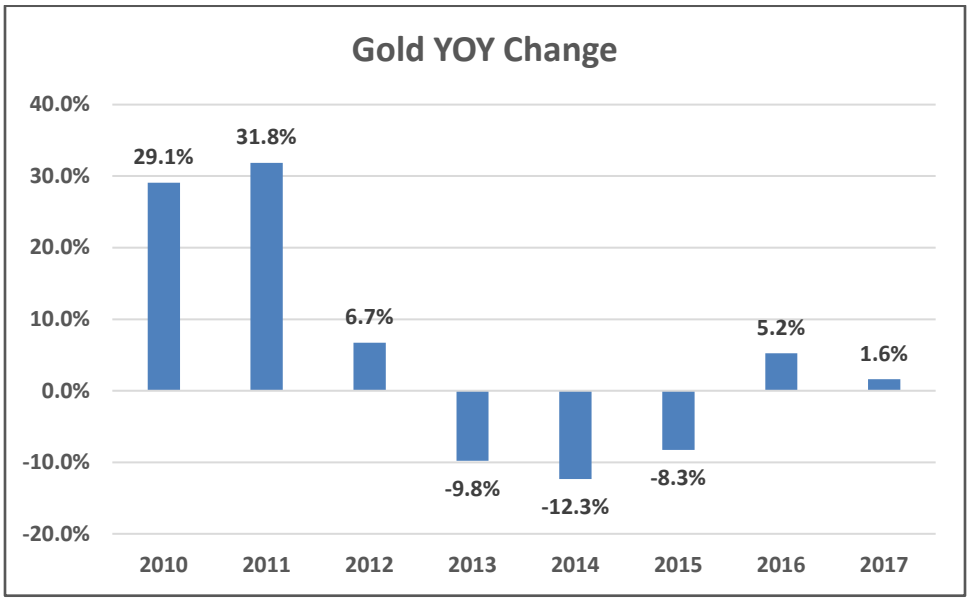
Raw Material costs, using the Federal reserve indices and Bishop weighted averages, decreased between 2012 and 2016. Since the second half of 2016, raw material costs have again started to rise.

Change in Weighted Raw Material Costs
2009 to 2017

Time Frame	Weighted Index	Change in Prices
2Q09	256.7	-
2Q10	314.1	22.4%
2Q11	372.2	18.5%
2Q12	351.9	-5.5%
2Q13	336.1	-4.5%
2Q14	328.1	-2.4%
2Q15	306.8	-6.5%
2Q16	275.8	-10.1%
2Q17	309.3	12.1%

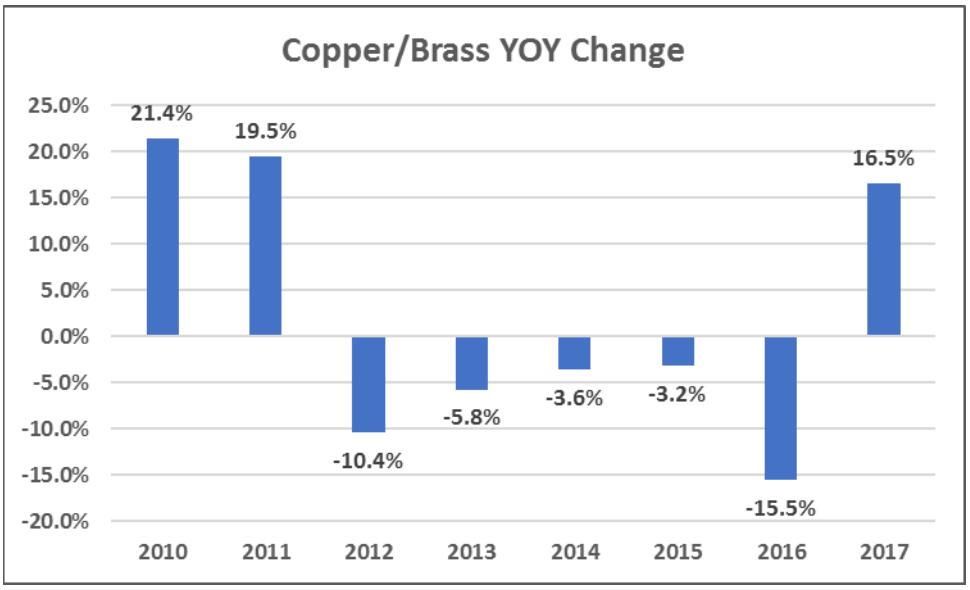
Gold – 10% of the Raw Material Cost

After dramatic increases in 2010 and 2011, gold has declined in price in three of the last five years.



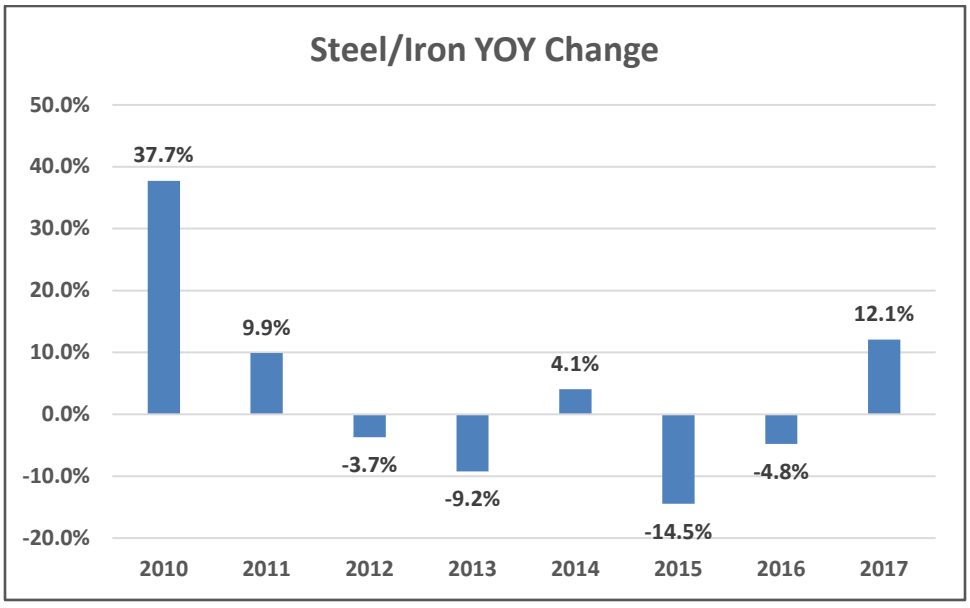
Copper/Brass – 35% of the Raw Material Cost

Copper and Brass experienced five years of price decreases before 2017.



Steel/Iron - 5% of the Raw Material Cost

Steel/Iron had price decreases in three of the last five years.



Thermoplastic - 25% of the Raw Material Cost

Thermoplastic costs vary with the price of oil which was down in 2015 and 2016.