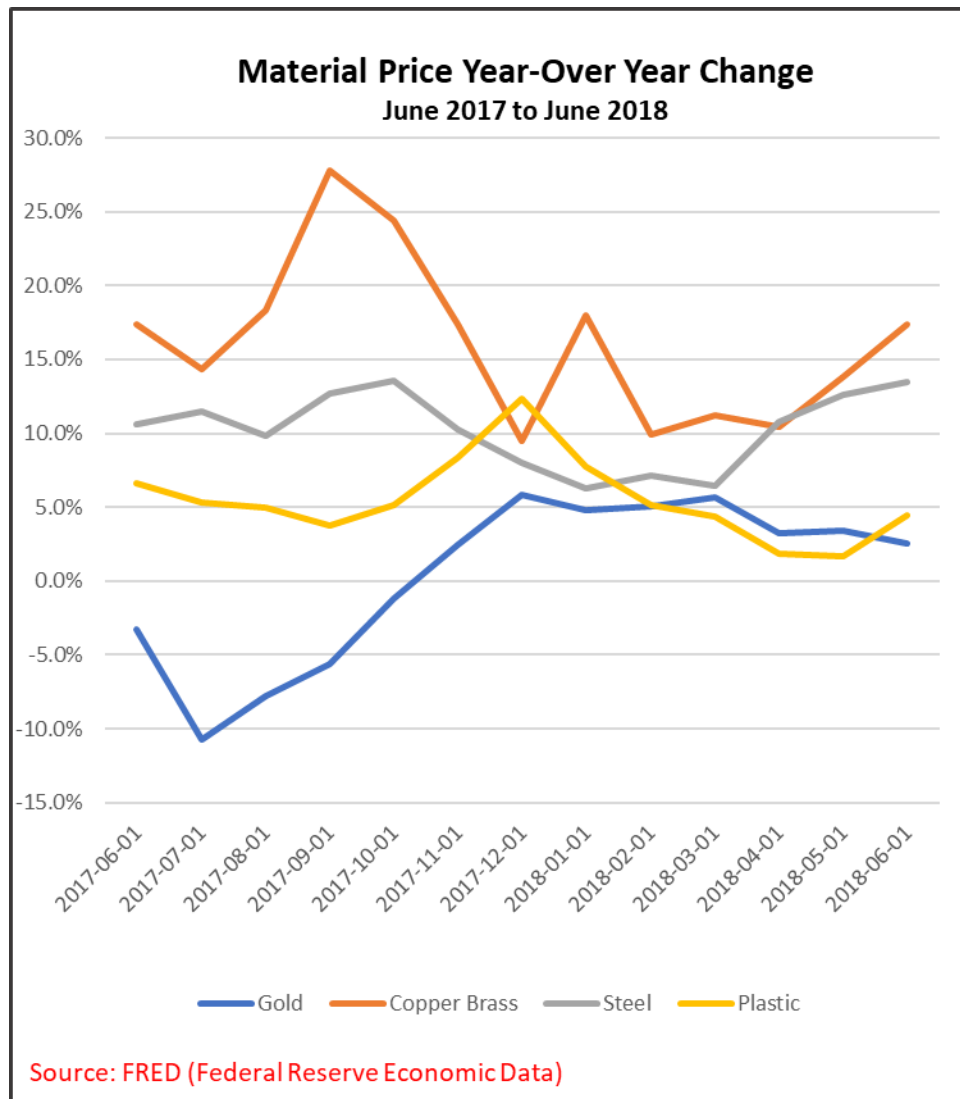


Material Costs Increase +8.9% YOY in First Half of 2018

Bishop & Associates tracks material costs for gold, copper/brass, steel and thermoplastics used in the manufacturing of connectors. These materials represent 75% of the material cost in a typical connector. Prices on these materials increased by 8.9% YOY in the first half of 2018. When weighed by usage in connectors, connector companies saw an increase in material costs of 10.0%, on the average.

The following graph shows the YOY change in the materials used in connector manufacturing.



The following table shows the YOY increase for these materials for the first half of 2018.

YOY Change by Material

Material	YOY Change
Gold	4.1%
Copper/Brass	13.4%
Steel	9.5%
Thermoplastics	4.1%
Total Change	8.9%

For these important connector materials, the overall cost increase was nearly 9%. When these materials are weighted by their use in connectors, the overall cost increase for the connector manufacturers increased 10.0%.

We calculated that copper and plastics make up approximately 80% of raw material usage in this analysis. It is important to understand that your increase in raw material costs will be different because your usage of these materials will vary from our assumed usage required to make your particular mix of connectors. Regardless, the trend on raw material costs is upward. Copper was especially expensive again in the first half of 2018 compared to 2017, increasing 13.4%.

Bishop Comments

- A raw material cost increase generally has a negative influence on profitability. However, demand has been very strong in 2018 and we suspect that lower unit costs (contribution to fixed costs) probably offset some of the raw material price increases.
- Connector price have begun trending up in 2018 due to supply and demand, which is also off-setting cost increases.
- Economic growth is on the rise worldwide, meaning the global demand for these materials will continue to increase, which is most likely to push raw material prices higher.
- The US trade tariffs will further affect these material costs.