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Introduction to TSG
**Introduction to TSG**  
Senior Investment Bankers: Industrial Growth and Business Services

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- John co-founded TSG and has over 25 years of Investment Banking experience covering public and private Technology, Industrial Growth and Business Services companies.  
- Prior to TSG, John was a Managing Director and co-founder of the West Coast Corporate Finance Group of Banc of America Securities.  
- John also co-founded General Finance Corporation, a public rental services company, as Chief Operating Officer in 2005 and led 14 acquisitions totaling nearly $400 million.

### Industrial Growth

| OEM / Aftermarket / Performance  
| Metals / Fabricated Metal Products  
| Transportation & Logistics |
Macroeconomic Filter
Since the end of World War II, there have been four global recessions, all lasting a year, followed by expansion cycles that lasted 120 months, on average.

- The current cycle is 103 months long (since June 2009)
- We are currently in a period of harmonized global growth

Source: IMF
Macroeconomic Filter
Metal Prices, as of 2/16/2018

Aluminum
$0.98/LB

Copper
$3.22/LB

Nickel
$6.42/LB

Platinum
$1010.60/LB

Lead
$1.18/LB

Source: InfoMine
Macroeconomic Filter
World Price of Steel Index

Source: IBISWorld
For developing countries, exports are the main element of production.

Export volume and pricing are primarily determined by the following:

- Import dynamics in other countries: at what price and volume are neighboring countries receiving their imports (economic health and relative currencies).
- “Hindering Factors” - Trade barriers, transportation costs, cultural discrepancies.

Exports are ergative and not always in line with GDP cycles, as they are heavily dependent on other countries.

Source: Economic Web Institute, World Bank

World Exports as % of World GDP
The technical indicator of a recession is two consecutive quarters of decreasing GDP.

Since the end of World War II, U.S. business expansion cycles have lasted 58 months, on average.

The current business cycle is 103 months long (since June 2009).

A recent survey of people in the real estate industry conducted by PwC reported sentiment in the market is at its lowest value at 69%. The same survey reported an 84% positive sentiment six months ago.

Macroeconomic Filter
International Economic Development

- It is likely that the U.S. is at or near its economic peak, and demand is expected to decline
- The question is whether this decline will correlate with BRIC economies and/or European economies

Source: Federal Reserve Bank of St. Louis.
Macroeconomic Filter
Weakening U.S. Dollar

- The U.S. dollar has already decreased more than 1% in 2018, and it saw a 10% decrease in 2017
- The weakening of the U.S. dollar will lead to a rise in commodity prices, having a negative impact on wire producers
- As domestic rod prices go up, a margin compression for the wire producers/converters, especially the those that do not own their own rod mills
- This decrease is due to several factors, including higher wages, U.S. political uncertainty and higher economic growth in in the BRIC Countries and Europe, particularly Germany and France
- Estimates show that world GDP grew 3.75% in 2017
  - However, it is important to put this in perspective: developed economies are growing at a slower pace of 2%-2.5%

The BRIC economies experienced significant growth, fueled by the E.U.’s and the U.S.’s increased demand for BRIC’s manufactured goods.

From the years 2015 to 2017, Brazil, Russia, India, and China GDP experienced a compounded average annual growth rate of 7.5%, 3.7%, 8.0%, and 3.1%, respectively.

With China focusing on manufacturing (25%+ of country’s GDP) and India specializing in the service industry (61% of GDP), both countries’ middle classes are doing exceptionally well.

As of 2015, 8% of India’s population is middle class, an eight fold increase from 15 years ago.

Source: IBISWorld, Trading Economics
As of December 2017, construction employment increased in 75% of metro areas ("MSA’s") in the U.S.

- The largest increase occurred in Riverside-San Bernardino-Ontario, CA, which saw 14,300 added construction jobs (15% increase); the second largest was Las Vegas-Henderson-Paradise, which saw an increase of 10,800 construction jobs (18% increase)

- Construction employment hit an all time high in December 2017 for 38 MSA’s, and no MSA’s saw an all time low in employment; however, 89 MSA’s saw a decrease in construction employment

- Highway construction prices increased 4.2% from March to June 2017 and 3.4% from June to September 2017

- These are the largest quarterly increases since September 2014
Macroeconomic Filter
Historical Infrastructure Spending

U.S. State and Local Capital Spending as % of GDP

Source: Federal Highway Administration
Macroeconomic Filter
Historical Infrastructure Spending

Public Infrastructure Spending as a Share of GDP

Real Infrastructure Spending by Federal vs State & Local Governments
Macroeconomic Filter

Expected Growth Until 2020 of Top 50 MSAs by GMP

Expected Growth Until 2020 of Top 50 MSAs by GMP

Source: TSG Research, United States Conference of Mayors
Macroeconomic Filter
Top 50 MSAs by Expected GMP Growth Until 2020

Salt Lake City: 3.7%
Logan: 4.0%
Ogden-Clearfield: 3.9%
Grand Junction: 3.6%

Portland-Vancouver-Hillsboro: 4.0%
Sacramento-Arden Arcade-Roseville: 3.8%
Vallejo-Fairfield: 3.4%
Stockton: 3.5%
Modesto: 3.3%
San Jose-Sunnyvale-Santa Clara: 3.9%
Merced: 3.3%
Madera-Chowchilla: 3.6%
Visalia-Porterville: 3.7%
Bakersfield-Delano: 4.1%
Riverside-San Bernardino-Ontario: 4.2%
San Diego-Carlsbad-San Marcos: 3.5%

Las Vegas-Paradise: 3.8%
St. George: 4.4%
Prescott: 3.4%
Inyo-Mono-Owens Valley: 4.0%
Odessa: 3.4%
Midland: 3.8%
San Antonio-New Braunfels: 3.7%
Laredo: 4.3%

Las Cruces: 3.7%
El Paso: 3.6%
Panhandle: 3.9%

Dallas-Fort Worth-Arlington: 4.0%
Fort Worth: 3.9%
Arlington: 4.0%
Bakersfield-Delano: 4.1%

Portland-Vancouver-Hillsboro: 4.0%
San Francisco-Oakland-San Jose: 3.9%
San Jose-Sunnyvale-Santa Clara: 3.9%
San Francisco-Oakland-San Jose: 3.9%
San Jose-Sunnyvale-Santa Clara: 3.9%
San Diego-Carlsbad-San Marcos: 3.5%

Source: TSG Research, United States Conference of Mayors
The Rod & Wire industry performance is sensitive to industrial building construction in the U.S.

Revenue in the U.S. industrial building construction industry is expected to grow 4.2% to $41.2 billion at an annual compounding growth rate during the next five years. This is a substantial decrease of the five years to 2017 growth of 7.6%

- The Federal Reserve is expected to continue raising interest rates throughout 2018, making borrowing costs more expensive and limiting expansion of inflation rates.
- These forecasts never include a recession
The Rod & Wire industry performance is also impacted by the number of new vehicles produced and demand for automobile parts.

Global demand from the Car and Automobile Manufacturing industry is expected to increase at an annual compounding growth rate of 1.5% during the next five years to 2022; this is a $2.5 trillion industry.

U.S. demand from the Car and Automobile Manufacturing industry is expected to decline at an annual compounding growth rate of -0.3% during the next five years to 2022.

However, total U.S. transportation construction and related market activity, which includes investment in highways, bridges, public transit, rail, ports, waterways, airports, roads, and parking was expected to see 1.3% growth in 2017.
Implemented between 1994 and 2008, NAFTA eliminated tariffs on products traded in between Canada, Mexico, and the United States. Although there are many benefits to the agreement, the deal has become a point of discussion for many political candidates, including President Trump. President Trump has also threatened to completely withdraw from NAFTA, leading to serious consequences for the U.S., these include:
- 3.5% tariffs per WTO rules, a portion of which consumers will pay for
- Disruption of current North American supply chains that take advantage of differing costs and resources

In May 2017, NAFTA renegotiations started between the three countries. Although specific details have yet to be released, it has been said that the U.S. will focus on reducing the U.S. trade deficit, tightening rules-of-origin requirements, reforming the investor-state dispute resolution mechanism, and updating the pact for digital services and intellectual property.
President Trump is *possibly* moving with his pledge to protect domestic steelmakers against unfairly priced steel imports with Section 232.

Anti-China sentiment, which is currently the U.S.'s 11th largest source of steel imports, is thought to be a primary reason for the campaign pledge.

Because many countries could be affected by the blanket Section 232 ruling, European countries, particularly the U.K., worry supplies from their region will have to deal with duties that could hit their steelmakers disproportionately hard.

Canada and Mexico are both in the top five steel exporters to the U.S., along with Brazil, South Korea, and Turkey.

81% of U.S. imports come from ten countries.

**U.S. Steel Imports – Top Sources 2016**

- Canada 17%
- Brazil 13%
- South Korea 12%
- Mexico 9%
- Turkey 7%
- Japan 7%
- Russia 6%
- Germany 4%
- Taiwan 3%
- Vietnam 3%
- Rest of World 19%

*Source: New York Times*
Competitive Outlook
Competitive Outlook
U.S. Rod Market Volumes in units

US Rod Shipments  US Mini-Mill Consumption  Rod Imports  Rod Exports

2015: 3,707,980
2016: 3,352,801
2017*: 3,866,932

*2017 annualized based on January - October

Source: American Wire Producers Association
Competitive Outlook
Rod Mill Competitive Landscape – Upstream Producers

Locations of U.S. Carbon Rod Mills

Limited greenfield additions: volume increases through productivity expansion

Source: TSG Research
Note: Long carbon steel mills include ArcelorMittal, Cascade Steel, CMC, EVRAZ, Gerdau, Nucor and Timken.
Competitive Outlook
Intermediate Rod/Wire Processors

Representative Examples

- TSW
- Taubensee Steel & Wire Company
- Mid South Wire
- WireTech, Inc
- Artsons
Carbon Steel
Stainless Steel
Specialty Steel
Aluminum
Copper
Electrical
Other (Nickel, Titanium, Brass, etc.)

Source: TSG Research
Competitive Outlook
Wire Products – Finished Products/End Market

Leading Processors – by Wire Product Type (Green = generally higher margins)

Source: TSG Research, Green boxes indicate high margin categories.
Competitive Outlook
Wire Products - Finished Products/End Market

Leading Processors - by Wire Product Type (cont.) (Green = generally higher margins)

Source: TSG Research, Green boxes indicate high margin categories
Competitive Outlook
Two Different Growth Strategies

Vertical Integration

• >60% capacity from owned specialty fabricators located near rod-mills
• More reliable and projectable shipments and revenue
• Control over input prices

End Market Concentration

• Fabricators dispersed around the U.S. or near customers
• Obtain long term supply agreements with customers/mills
• Just-In-Time delivery, low shipping costs
Competitive Outlook
Growth Strategies Drivers - Currencies

- A weak dollar means U.S. currency purchases less of another country’s products or services
- This leads to an increase in import pricing
- A weak dollar could lead to more competitive export pricing for the U.S., which can create U.S. jobs, if capacity existed
- China, like many other government controlled economies, manages its currency, making its export products more attractive
- Currency conflicts can lead to trade wars and import tariffs, which are often counterproductive
Capital Markets
The financial system facilitates economic growth by providing four basic services:
- Facilitating trade;
- Facilitating risk management for various individuals and businesses;
- Mobilizing resources; and
- Obtaining information, evaluating businesses and individuals based on this information, and allocating capital

As businesses grow they can access both debt and equity financing, and the mix of these two, called the “capital structure” decision, is an important choice every business makes

A rich diversity of financing sources is provided by the U.S. financial system.
- This diversity helps U.S. consumers and businesses to better manage their risks and lowers their cost of capital, but is cyclical

The ability of businesses to access debt and equity financing is tied strongly to the economy
- During periods of economic growth, access to capital is readily available
- On the contrary, during recessions, finding capital investments is much more restricted
Mergers and acquisitions volume is driven by companies’ desire for continued growth (“Inorganic growth”)

Also, often large, well-established companies, as well as smaller companies, turn to M&A in need of long-term growth

M&A is often undertaken with the intention to expand customer base, geographic, scale/expansion, and vertical or horizontal integration (“investment themes”)

- Companies must simultaneously exploit existing profitable business models to run their core business and also explore new products, markets, and models to drive growth
- The intention, quite reasonably, is that the resulting combination of products, people and pipelines will grow ROIC/ROE
- Revenue synergies also alter the competitive balance of power and create opportunities to change market dynamics, sell more products, or raise prices

Source: Hinge Marketing
# Capital Markets

## Mergers & Acquisitions Driven by Need for Growth

### Internal M&A Drivers
- Customer base
- Geography
- Economies of scale
- Vertical integration
- Horizontal integration
- Product/service expansion
- Retail synergies

### External M&A Drivers
- Regulation
- Energy costs
- Environmental
- Labor
- Currency fluctuations
- Technology

### Pursue cost/scale synergies

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<th>Fall 2017</th>
<th>Fall 2016</th>
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<tbody>
<tr>
<td>5%</td>
<td>10%</td>
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### Expand customer base in existing geographic market

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### Enter new geographic markets

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### Expand products/services

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### Obtain bargain-priced assets

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### Talent acquisition

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### Technology acquisition

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### Digital strategy

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<tbody>
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<td>25%</td>
<td>30%</td>
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Source: Hinge Marketing
Capital Markets
Wilshire Total Market And U.S. GDP

[Graph showing U.S. GDP ($ in billions) and S&P Annual Return from 2007 to 2017. The graph illustrates the fluctuations in U.S. GDP and the annual return on the S&P stock market over the specified period.]
Lower interest rates encourage investment spending, boosting the economy in times of slow growth.

The Federal Reserve Board sets the interest rates to increase and decrease demand for services.

Recently the U.S. has been periodically increasing the interest rate, and that trend is expected to continue.

During the 2008, the Fed lowered rates to 0.25% and it remained there until the end of 2015, when it was raised to 0.5%.

The Federal Reserve is expected to increase the rate to 2% in 2018, 2.5% in 2019, and 3% in 2020.
Capital Markets
Metals and Mining M&A Summary

Source: Pitchbook.
Consolidation
Consolidation
Industry Historical ROI

Source: CapitalIQ
Consolidation
Trends and Opportunities – Rod and Wire

- Rod and wire investing themes are cyclical, as the industry is heavily influenced by commodity prices, the health of the U.S. and global economy, government policy, and foreign exchange rates.

- Moving forward, product price improvements will help increase capital flows, as will the shift of demographics in age as well as movement to the Sun Belt.

- The wire market should experience increased consolidation, particularly in the U.S., in order to improve margins, reduce excess capacity and diversify product mix, but only after baby-boomer ownership looks to retire and seek liquidity.
  - Organic growth in upstream/intermediate is very difficult as the market is over capacitated with swing imports (limited Greenfields).
  - The current trade environment and weakening U.S. Dollar will lead to consolidation.
  - Energy, wage and regulatory costs make it harder for domestic wire manufacturers to remain profitable.
  - Companies will need to scale to effectively leverage the rod market at various price points.

<table>
<thead>
<tr>
<th>U.S. and Canada Metal and Mining Companies</th>
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<tbody>
<tr>
<td>Ownership</td>
<td># Enterprises</td>
</tr>
<tr>
<td>Public</td>
<td>2,466</td>
</tr>
<tr>
<td>Sponsor-Backed</td>
<td>814</td>
</tr>
<tr>
<td>Independent</td>
<td>18,933</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22,213</strong></td>
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</tbody>
</table>

Source: Market Research, IBISWorld and TSG Research.
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