Macroeconomic Trends and the Role of Funds
Globally and in East/SouthEast Asia,
and Implications on NonFerrous Metals

ICSG/ILZSG/INSG/Antaike/CNIA*Seminar
(*China Non-Ferrous Metals Industry Association)
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### Global Metals Consumption

**Geographic Market Shares, 2016**

<table>
<thead>
<tr>
<th>Metal</th>
<th>US</th>
<th>Europe</th>
<th>SE Asia excl China and Japan</th>
<th>World</th>
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<tbody>
<tr>
<td>Copper</td>
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<td>6%</td>
<td>15%</td>
<td>9%</td>
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<td>Zinc</td>
<td>10%</td>
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<td>Lead</td>
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<td>Tungsten</td>
<td>12%</td>
<td>18%</td>
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<tr>
<td>Molybdenum</td>
<td>12%</td>
<td>18%</td>
<td>12%</td>
<td>13%</td>
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**% of South East Asia**

<table>
<thead>
<tr>
<th>Region</th>
<th>China</th>
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<th>Others</th>
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**% of World**

<table>
<thead>
<tr>
<th>Region</th>
<th>China</th>
<th>Japan</th>
<th>Others</th>
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</thead>
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<td>China</td>
<td>77%</td>
<td>7%</td>
<td>5%</td>
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<tr>
<td>Japan</td>
<td>7%</td>
<td>6%</td>
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<tr>
<td>Others</td>
<td>16%</td>
<td>17%</td>
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</table>

SE Asia dominates (63%) global metals consumption led by China @ 48%, Japan @ 5%, and South Korea @ 4%. Taiwan, Thailand, Vietnam, Indonesia, and Malaysia also important.

China accounts for 10% of global consumption, and exceeds US at 9%.

Sources: WBMS, ILZSG, ICSG, INSG

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### Share of Global Consumption (1994 vs 2016)

**China Up:** 8% to 49%; **US, Europe, & Japan Down:** 61% to 28%

1994

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<thead>
<tr>
<th>Metal</th>
<th>China</th>
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<tr>
<td>Molybdenum</td>
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2016

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Source: World Bureau of Metal Statistics, ICSG/ILZSG/ICSG
China, GDP Growth: **Up**

GDP Growth is “Accelerating”

**Fixed Investment** “Slows” but Firm

**Retail Sales** Steady

**Exports/Imports**

Slow but Up from Year Ago

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China, IP and PMI, **Firm**

**PMIs show Strength**
- External Demand Firm
- Domestic Demand Slows
- Construction Slowing
- Govt Efforts to Rein in Credit Growth (notably in Property)

**IP Steadies at 6.8%**
- Construction and Real Estate Slow but Firm
- Investment Growth Slows But Firm at 8%
- Private Investment Up

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Sources: Bloomberg.
China, Sector Growth, Steady

- Underlying Strength in Most Metals-Using Sectors from Mid ’15
- BUT Some Recent Softening
  - Credit Tightening Slows Construction
  - Autos Hurt by Higher Taxes but Resilient

Sources: Bloomberg.

China, Some Inflation Concerns

Inflation Accelerates end ’16

But Some Recent Tapering...
- Steady Commodity Prices, Housing Slowdown, and Credit Tightening

Sources: Bloomberg.
China, Concern w Credit “Bubble”

China Rating Downgrades but still Investment Grade
- Concern:
  - Debt Growth
  - Government Stimulus

Officials Focused on Financial Risks and Maintaining Demand
- Focus: Slow Credit Growth
- Tighter Monetary Policy
- Restrictions on Residential Home Purchases
- Regulatory Crackdown on Shadow Credit
- Regulators Slows IPOs

Japan Growth: Up

Debt/GDP Ratio High, Housing Slows, some Inflation Concerns (Labor), and North Korea Tensions, but...
- GDP & IP Firm

Manufacturing Sectors Improve
- PMI, Exports, Autos, Labor, & Business, Investment Up,
  Biz/Consumer Sentiment Up,
  Inflation Low

IR to Remain Low
- BoJ to Buy Assets w No Tightening til ‘18

Sources: Bloomberg,
**Other SE Asia (PMI): generally >50, and improving**

**Other SE Asia (Industrial Production): generally firming**
SE Asia (China, Japan, Others) Summary

China
• National Congress Concerns: High Debt, Retaining Growth, Structural Reforms
• No Major Changes, Supply Side Reform, Continue on Ongoing Econ Plans and Anti-Corruption, Xi Elevated to Mao Zedong Status, Highlighted Decisive Role of Market
• Economic Expansion Firm, but Evidence of Property/Export Slowdown
• Late ‘16/Early ‘17 Fiscal Stimulus Bolsters 2017 – Strength in Construction & Fixed Investment (Power Grid, Railway)
• Shift from Infrastructure to Consumer Economy & Structural Reforms – Address Credit Risk/Property Bubble, Reign in Credit
• Reduce Pollution, Cut Excess Capacity, Control Outbound Capital, Retain BRI – RMB (PBOC looks to hold Steady)

• Japan: – Inflation Low, Firm Labor, PMI/IP/GDP Expanding, Sentiment Improving
• Other S/E Asia; – Expanding Economy, Exports, PMI, IP Firm but Domestic Demand Slows – BRI Supportive despite China Clampdown on Outbound Capital – But: Growing China Dependence (Infrastructure, Commodities, Goods)

United States Growth: Up

Growth Trends Up
Economy is "Resilient"

Core Strength:
• Unemployment Low,
• AND Inflation Low

Growth Firm:
• PMI, ISM, Orders, Consumers, Investment,
• IP Up (aftr weak Q1)

Weaknesses:
• Autos, Housing, &
• Temp Hurricane Setback
• North Korea Debacle
Money Policy (IR Up)
• Fed to Shrink Balance Sheet (October)

Trump Factor?
• Less Optimism for Change
• Political Headwinds for: Infrastructure Spending, Regulation, Trade, Tax Cuts, Health Care

Sources: Bloomberg
**Eurozone Growth: Up**

- GDP
- Vehicle Registrations
- Gross Private Fixed Investment
- PMI Index
- Industrial Production

**Econ Growth Firming**
- Labor Improving and Inflation Low albeit Uptick
- GDP, IP, PMI, Business Invest Up
- Private Consumption & Orders, Biz/Cons Sentiment Good
- Autos Up

**Subsiding Anti-EU**
- IR to Stay Low:
  - Less Pressure to Cut Int Rates but QE Scaleback
- Some UK Weakness
  - Brexit, Growth Slows

**Sources:** Bloomberg.

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**FX, Equities, Bonds ($ Steady, IR Up, Equities Up)**

- USD/Euro
- S&P 500
- USD Index
- US 10Y Treasury

**FX Sideways Range in '15-16**
- Fed Inclined to Raise Rates,
- Inflation Low
- IR to Remain Low in Europe
- Less Europe Political Uncertainty
- Trump, Less Optimism

**Dollar Steady**
- IR Up
- Stock Market Up

**Sources:** Bloomberg.
Commodities, bottoming out?

- Commodity prices low ...but evidence of a bottom or turnaround?
- Gold weakens with dollar strength, low inflation
- Disappointment to respond with turmoil
- Commodity Cycle in a Basing Period?

Sources: Bloomberg,

Global IP/Economic Outlook

Global Economy: IP* Forecast: +5.0% in ’17/+4.6% in ’18 vs +3.8% ‘16
- Inflation Low, Economies Expanding, No Weak Spots, Expectations Improving

China (Concern is Debt and Retaining Growth)
- Good Momentum, Managed Slowdown, IP: 6.5% in ’17 & +6.1% in ’18 vs +6.0% in ’16
- Other SE Asia, Economies Expanding but China Dependent

Japan (Healthier Growth)
- GDP, Inv, Autos, IP, & PMI up (Housing Dn); IP: +4.2% in ’17, +1.9% in ’18 vs -0.7% in ’16

United States (Economy Resilient, Employment Up AND Inflation Low);
- GNP, PMI/IP, Investment, Confidence Up, Trump Fading, Tighter Money Policy
- IP: +1.8% ’17 & +2.3% ’18 vs -1.5% in 2016

Eurozone (Improving Momentum), Anti-Euro Sentiment is Waning
- Labor & Confidence Up, Steady Money Policy, PMI/IP/GNP/Invest/Autos Up
- IP: +2.2% in ’17 & +1.8% in ’18 vs +1.3% in 2016

* China Weighted
**IP (‘16/’17/’18): WW: +2.7/+2.0/+1.7% Global: +5.0/+4.6/+4.2%**

Labor Improving, Inflation Low, No Weak Spots, US/EUR/JP Firming, China Steadies

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**Role of Funds**
Funds/Spec Trading in the Industrial Metals

1. High Frequency Traders (HFTs)

2. “Speculators” (China Focus)
   • Retail, High Net Worth, Arbitrage Traders

3. Portfolio Diversification, Alternative Investments
   • Macro/Hedge Funds, CTAs, Commodity Indexes, ETFs
   • And Pricing Impact (Pre/Post 2004, Post ’14)

Current Trends/Exposures
   – $AUM, Commitment of Traders, Technical Considerations

1: HFT (Algos, Quants)

• High Frequency Traders
  – Systematic Day-Traders

• Strategy is to Exploit/Optimize Bid-Offer
  – “Legalized Front Running”
  – Platform Transparency, Speed Important
  – Creates “Liquidity” and Short Term Volatility
    • Can Have Domino Effect; Flash Crash(es)?
    – Regulatory Scrutiny...

• Longer Term Price Impact: Neutral?
2: “Retail & HNW Specs” (China Focused)

- **Retail... and China Retail**
  - SHFE CP
  - Volumes: 30/60k/day (150/300kt/day)
  - From Equities to/from Metals/Copper
  - **Herd, Directional, but Shorter Term**

- **High Net Worth (China)**
  - Chaos, Dunhe, Flowinvest, Yihui, Discovering, ...
  - Large Scale, Research Depts, Herd Impact
  - Buy LME, Buy Comex, Buy SHFE or Sell, Sell, Sell
  - Shift from Metal to Metal, from Metals to other Commodities, from Metals to Equities and back to Metals

  - **Large Directional & Longer Term Traders**

*Sources: SHFE, DHA estimates*

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2: “Specs” (& China Focus)

**Arbitrage Traders**

- Comex-LME, MCX-LME/Comex

- SHFE-LME; SHFE-Comex
  - Originally: Buy LME, Sell SHFE (China net importer)
  - Physical Traders > Phys “Investment Dept” > Specs
  - RMB>USD Issues, Capital Controls
  - QDII: Commodity/Futures Trading

- **Price Impact: ~Neutral**

*Sources: LME, CME, Bloomberg*
3: Portfolio Diversification

- **Alternative Investments**
  - Macro/Hedge Funds,
  - CTAs,
  - Commodity Indexes, and ETFs

- **And Impact on Pricing**
  - Pre 2004/Post 2004, Post 2011/Current

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**Global Assets, ~$250 trillion**

![Asset Portfolio Diagram]

- **Alternative Investments**
  - Private Equity
  - Real Estate
  - Infrastructure
  - Exotic

  - **Hedge Funds**
  - **Commodities**

*Sources: Bloomberg, HFR*
Equity/Bond Returns & Alternative Investments

Alternative Investment: Reduces Risk “Relative to Return”

Metals Volumes: Funds vs Trade, excludes broker crosses

“funds” account for 60+% of client volumes

Sources: BarclayHedge, Bloomberg, CFTC, LME, DHA est
Hedge/Macro Funds, $b AUM

Hedge Funds: “Hedge” Equity/Bond Exposures, Long or Short

Sources: BarclayHedge, Bloomberg, DHA est

CTA Assets, $b AUM

Commodity Trading Advisors: Registered, Trend Following, F&O

Sources: BarclayHedge, Bloomberg, DHA est
Index Funds, $b AUM

**Index of Commodities, Commodity Super Cycle, Diversification**

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<td>Average</td>
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<td>12%</td>
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</tr>
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</table>

Sources: BarclayHedge, Bloomberg, DHA est

Industrial Metals, Fund Allocation, $b

Sources: BarclayHedge, Bloomberg, DHA est
Copper Prices, Fundamental & Fund Impact

Copper Prices, Fundamental & Fund Impact

Sources: WBMS, LME, Bloomberg, DHA est
Copper Prices, Fundamental & Fund Impact

Copper prices, fund index ($AUM, metals) vs. copper stocks, weeks use

Sources: WBMS, LME, Bloomberg, DHA

Funds, AUM Trends $b

Sources: BarclayHedge, Bloomberg, CFTC, DHA estimates
Metals, Commitment of Traders (Aggregate LME)

**Sources:** LME, Bloomberg

### LME Commitment of Traders, **Money Manager vs Price**

**Money Manager** vs **3M CU** (copper)

**Money Manager** vs **3M PB** (lead)

**Money Manager** vs **3M ZN** (zinc)

**Money Manager** vs **3M NI** (nickel)

**Sources:** LME, Bloomberg
Summary: Economic and Speculative Factors

- **Global Economy (Metals Demand Side):** *Growing*
  - Employment Improving/inflation Low; No Notable Weak Spots!
  - China Steady despite Efforts to Slow Lending/Credit Bubble
  - **Unique Situation:** Steady Growth Expected over Foreseeable Future

- **Metals Supply Side:** *Reductions*
  - ‘15/16 Producer Cutbacks, Capacity Idled, Limited Mine Invest
  - Inventories: Stocks still High but Declining

- **Speculative Factors:** *Bullish Bias*
  - From ‘04/11 Super Cycle to Retracement to Bottoming Out/Rebound?
  - China Retail, HNW
  - $AUM Trends (Portfolio Diversification); Macro/Hedge, CTA, ETFs, Index
  - Money Managers, Commitment of Traders
  - Copper’s Technicals: Short Term, overbought? Longer Term

- **Summary:** Shifting from Bear to Sideways to Bull Market