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Survey Structure

- ▶ Survey of 13 copper fabricators and suppliers to copper fabricators, including 3 cable and wire manufacturers, 2 transformer manufactures, 2 that make copper pipes, 1 copper sheet and strip make, 3 traders of copper anodes, 2 scrap traders (1 domestic, 1 international). The regional breakdown is: 5 companies in East China, 4 in South China, 3 in Central China, and 1 in North China. By ownership, 5 are SOEs, 5 Private and 3 Foreign. The total amount of copper consumed/traded by the survey group is 885,000 tons (approx. 10% of total copper consumed in China). Three of the companies trade/consume 690,000 tons and the other 10 companies typically consume around 10-30,000 tons.
- ▶ Repeat sources: None
- ▶ Interviews November 23 - 30

Objectives

- ▶ To understand the current demand and outlook for copper from different sectors and in total. We surveyed sales volume, price, inventory, financing terms, and industry environment to build a picture of demand and outlook.

Construction Decline Drags Down Copper Demand

- ▶ **Copper volume demand is down** 5% for the full year 2015 based on weighted estimates from our survey. Although estimates of next year's demands varied widely, the weighted average of the responses estimated a 4% decline
- ▶ **Construction and everything related to it**, such as industrial demand from the building materials sector, is down 15-20%. Power grid demand has been the standout performer, growing at 15-20%.
- ▶ **We estimate inventory of copper** in industry may have fallen by around 50%, going from an average of 10 days of production to five days, a decline of around 120,000 tons. This is a little over 1% of copper demand and a driver in the falling volume and price.
- ▶ **Industry consolidation of copper fabricators** has started, as poor demand and constrained financing push weaker companies in to merger or bankruptcy.

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Demand Estimates for Full Year 2015

Sector	2015 Demand YoY
Power Grid	Up 15-20%
Construction	Down 15-20%
White Goods	Down 10-15%
Auto	Flat
Industrial	Down 30-40%
Electronics	Down 5%
Total	Down 5%

Source: J Capital Research

Less Access to Financing

Financing has become more difficult for 70% of the companies surveyed and has remained the same for the 30% balance. SOEs and private companies faced similar financing difficulties, but SOEs had interest rates 20–30% cheaper than those for private companies.

75% of fabricators said receivable days had increased by 33–50%, or 30 to 90 days. Transformer manufacturers, which sell around 60% of their volume to industries like power, steel, and smelting, reported the highest increase in payables, up from 180 days to 360 days.

Industry Consolidation Has Started

Survey participants expect further consolidation of the copper smelting and fabrication market. With financing less liberally available, the poor demand and overcapacity are starting to bite.

Some examples of companies closing shop:

- ▶ Hu An Cable Holdings Ltd (KI3 SG), a Singapore-listed copper cable producer in Wuxi, has collapsed. Hu An claimed to be one of the top 10 cable producers in China supplying power producers and the grid, and yet we estimate it had 0.5% market share, demonstrating how fragmented the market is. Hu An like most copper cable companies had been suffering from overcapacity and falling demand before it was “requested” by the local government to “support” Jiangsu Tian-dilong Group.

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Jiangsu Tiandilong is a private company was building a USD 1.9 billion, 800,000-ton copper smelter--10% of total China copper smelting capacity--in Lianyungang, Jiangsu. Hu An was asked to make a prepayment of RMB 310 million, which amounts to payment for three times the amount of copper it had bought from Tiandilong in 2014. As soon as the prepayment had been made, Tiandilong went into bankruptcy.

After that, Hu An lost its “certified supplier” status to the State Grid and collapsed. The local government forced Hu An to sell its operations for USD 1 to Yixing Jinxiao Copper Industry Co. to avoid the liabilities of exit costs to employees and customers.

Jiangsu Tiandilong Group’s 800,000-ton copper smelter will unlikely ever be completed.

- ▶ One of the largest power transformer producers, Tianwei Group, is struggling to survive. It was the first centrally backed SOE to default on a bond earlier this year disastrous investment in solar and wind energy. The company is entering a bankruptcy process, and continued production of transformers is uncertain.
- ▶ Zhejiang Hailiang (002203 SHE), the second-largest copper pipe producer, is acquiring the largest copper pipe producer, Golden Dragon, for RMB 3.25 bln. Golden Dragon, which produces 500,000 tons of copper pipe, has high debt levels and an asset-to-liability ratio of 92%, while utilization is at around 70% and declining. The company had unsuccessfully attempted an IPO. As a listed company Zhejiang Hailiang, with production capacity of 276,000 tons, has better access to capital and better capacity utilization, at 80%. The combined companies are now the largest copper pipe manufacturers in the world.

Price Sentiment for 2016: Finding a Bottom

The surveyed panel was split, with 54% expecting prices to rise next year and 46% thinking they will fall further. All thought prices would fluctuate within a band of 5% up or down.

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Notable Quotes

“Falling prices have reduced the supply of recycled copper by around 10%.” Trader – Imported Scrap Copper

“ A large number of foreign-invested electronics manufacturers in Dongguan [a manufacturing center in Guangdong] have gone out of business, and the wave of bankruptcies does not appear to have finished” Trader – Domestic Scrap Copper

“ We are now watching who we will supply, as some of the SMEs will not survive” Trader – Domestic Scrap Copper

“Demand from power producers is down 70%. Demand from thermal power producers is down and nuclear and hydropower is increasing.” Copper Pipe Central China

“Inventory of white goods is a large drag on the market. The current inventory can not be consumed in one year.” Copper Pipe Central China

“Payments are taking three to six months longer than normal. The State Grid pays on time but the other 80% of customers are all paying later now.” Transformer Manufacturer – North China

Copper Demand 2015 and Outlook for 2016

Company	Supplies	Type/Region	Sales Vol 2015 YoY	Demand Drivers	2016 YoY Estimate	Demand Outlook
Cable and Wire	10,000 tons to Autos, White goods	Foreign/South China	Flat	Demand is falling as economy slows, demand from consumer electronics, mobile phones and computers is down	Up 50%	Plan to grow exports
Cable and Wire	20,000 tons to construction industry and grid	Foreign/East China	Up 9%	Expanding customer base in the construction industry Construction up 9% Grid demand up 20-30%, Auto and electronics down.	Flat	Cable and wire market is growing at 15% but mainly grid demand. So will focus on the grid. Aluminium alloy cables are a threat

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Cable and Wire	7,000 tons to power and communications industry, control systems	Private/ East China	Down 10%	Controlling risk, stopped supplying smaller customers	Down,	We continue to lose smaller clients
Transformer Manufacturer	140,000 tons of High voltage transformers to grid (30%), auto, chemicals, coal, rail, metallurgy	SOE/ North China	-17%	Industry, smelting and steel industry projects all slowed cannot get loans, Grid up 12%, all the rest down	Up 10%	
Transformer Manufacturer	3,000 tons to grid, power plants, industrial and rail	Private/ central China	5%	This year power plant orders up. Last year it was more rail orders, Grid down on last year, and more competition. Industrial clients up	Down	Few winning tenders for power plants, expecting grid up, power plants are a bigger part of sales at 25%,
Copper Pipe	10,000 tons to power plants, auto, bathroom plumbing, electronics	SOE/ Central China	Down 30%	Demand from power producers down 70%, thermal power producers demand down as nuclear and hydropower increases. High end electronics demand increased sharply.	flat	They will not increase capacity. There will be industry consolidation
Copper Pipe	400,000 tons to 80% White goods, 20% construction	Private/ Central China	Down 20%	Economy is down, refrigeration industry has excess inventory, air-conditioning production is down sharply.	Flat to down 10%	Inventory of white goods is a large drag on the market. The current inventory can not be consumed in one year
Copper Sheets and Strip	15,000 tons to electronics Sector	SOE/ East China	Up 5%	We sell well as we are recognized for good quality	Up 5%	Focus on selling to key accounts
Trader – Copper Anode	150,000 tons, White goods, processors, traders	Private/East China	Up 50%	Trading volumes up.	Up 20%	Trade increase

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Trader – Copper Anode	50,000 ton to grid, white goods	SOE/South China	Commenced ecommerce platform in January	Demand from grid suppliers up 10–15% and white goods manufactures focused on exports are up 10% (Gree, Haier and Midea)	Up 100%	Disintermediated traders and have long term contracts in place, growing regionally
Trader – Copper Anode	20,000 tons to construction, auto and trading	SOE/ South China	Down 30%	Falling prices, credit controls, trading volumes down	Flat	
Scrap Trader - Imported	40,000 tons to Scrap processors, refineries, brass processors	Foreign/East China	down 25 – 30%	Falling prices have reduced the supply of recycled copper. Demand decline from cables, copper alloy for electronic circuitry and plumbing valves	Down 10-15%	General economic decline is reducing demand
Scrap Trader - Domestic	20,000 tons to White goods, clothing	Private/ South China	Down 1%	Demand is poor, overall demand down 30%, demand from white goods and clothing sector is poor.	Flat to down	Declining GDP growth leading to weak domestic demand, weak exports, no catalyst for improving demand

Copper Inventory in Industry

Company	Supplies	Inventory YoY	Reason	Outlook for 2016	Customer Inventory Levels	Why	Outlook for 2016
Cable and Wire	10,000 tons to Autos, White goods	Flat	Sales are flat	Increasing	Low	Sales are poor so controlling inventory	Expect Q1 to be higher to prepare for production post CNY
Cable and Wire	20,000 tons to construction industry and grid	Almost no inventory	Holding just enough for rushed orders	Flat	Normal		Flat Falling prices do not want to hold inventory

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Cable and Wire	7,000 tons to power and communications industry, warehouse automation, control systems, cable harness factories	Slightly higher	Increased a new product line and so inventory up slightly	Flat	Normal to low	End users are normal, traders are holding less	Down as traders to construction sector will reduce inventory
Transformer Manufacturer	140,000 tons of High voltage transformers to grid (30%), auto, chemicals, coal, rail, metallurgy	Down 50%	Poor demand so conserving cash flow, purchasing to meet orders	Up 50% as market will improve	Low	Grid not holding inventory, others holding low levels	Expecting market to improve and inventories to rise
Transformer Manufacturer	3,000 tons to grid, power plants, industrial and rail	Flat	Zero inventory	Flat,	None	All are ordered for specific use	No change
Copper Pipe	10,000 tons to power plants, auto, bathroom plumbing, electronics	-30%	We provided credit terms to some large customers and this led to inventory decline	Down 20%	Low	Falling prices so hold less stock	Unless copper prices up inventory will go down further
Copper Pipe	400,000 tons to 80% White goods, 20% construction	Zero inventory	No change	No change	High	Poor sales	Expectation of new government subsidy for white goods will push inventory down
Copper Sheets and Strip	15,000 tons to electronics Sector	-30%	Controlling costs and chash	Flat	Low	Falling prices, low sales,	Down 10%
Trader – Copper Anode	150,000 tons, White goods, processors, traders	Flat	Holding sufficient for flat sales volume	Flat	Low Holding enough for 3-5 days of production	Falling commodities prices has seen inventory at clients fall 40%	Flat, as cannot go lower and maintain production.

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Trader – Copper Anode	50,000 ton to grid, white goods	Increase 20%	Competition from another trading platform and the risks of the forward market	Flat	Low	Holding low stocks unless prices are perceived to be low	Flat, purchase only to produce
Trader – Copper Anode	20,000 tons to construction, auto and trading	Zero inventory		Flat	Low	Overcapacity and falling copper prices. Fabricators are making less profit	May increase if prices bottom out
Scrap Trader - Imported	40,000 tons to Scrap processors, refineries, brass processors	-50%	Falling prices and uncertain demand makes us watch what the level of stock purchase and outgoing orders.	Flat	Low	Everyone is holding just enough stock to meet orders.	Low
Scrap Trader - Domestic	20,000 tons to White goods, clothing	Flat	No Inventory model	Flat	high	Poor sales has led to build up of inventory in clothing manufacturers, AC inventories also rising	Should reduce

Finance

Company	Type/Region	Financing	Rates	AR
Cable and Wire	Foreign/South China	Increasingly difficult, cost increasing, channels less	BAN 5–6%	AR were 60 days and now are 90 days ² defaults in electronics and mobile phones. Cash flow problems
Cable and Wire	Foreign/East China	Banks have tightened lending to copper industry	BAN cash discount rate is 6%	AR have gone from 1 month to 2 months.

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Cable and Wire	Private/ East China	Most cable companies are private and finance is normal	Rely on bank loans, also use BAN,	Payments have not changed. Defaults have gone up and are now 10 – 20% of sales, mainly to traders and SMEs that have gone out of business. The root cause is poor payments from property sector
Transformer Manufacturer	SOE/ North China	Finance is difficult		Payments are taking 3 to 6 months longer than normal. State Grid pays on time but the other 80% of customers are all paying later now.
Transformer Manufacturer	Private/ central China	No Problem		Except for State Grid all other customers are paying six to 12 months later than contract terms.
Copper Pipe	SOE/ Central China	Loan costs increasing	Bank loans are 20% above standard rates. Shadow bank loans are 24%	Payments were 30 days and now 60 to 90 days. Have taken legal action against some clients. Sales staff now get severely penalized for late payments.
Copper Pipe	Private/ Central China	Banks have been tightening credit for two years.		A few small clients are paying late but no big problem
Copper Sheets and Strip	SOE/ East China	Increasingly restricted	Financing from group	Payments have gone from 10 days to 15 days.
Trader – Copper Anode	Private/East China	Banks have restricted lending to copper traders, much harder than in the past	1 Year Bank BAN discount to cash is 3.2% Shadow bank rates are 16-18%, They do not use shadow banks or bank loans	In the past payment before delivery. Now some large clients can have 1 – 2 days. We control credit closely and fine overdue payments

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<p>Trader – Copper Anode</p>	<p>SOE/South China</p>	<p>Large SOE's have no trouble getting finance. Bank LOC to SME and collateral requirements have increased significantly. Better than last year</p>	<p>BAN 180 days has a rate of 3.4%, shadow banks are 10–15% (For SOEs)</p>	<p>No change in payments.</p>
<p>Trader – Copper Anode</p>	<p>SOE/ South China</p>	<p>Banks finance to copper companies is increasingly restricted. Particularly for international trade.</p>	<p>Bank rates 6%, BAN 4%, Shadow bank 11-12%</p>	
<p>Scrap Trader - Imported</p>	<p>Foreign/East China</p>	<p>Banks will not lend to us. Banks have out copper traders in the same high risk category as steel traders. Only large SOEs can get loans. As a result a lot of small traders have gone out of business.</p>	<p>LOC rates are 8–10%, Shadow bank loans are 20% and they do not use BAN.</p>	<p>Customers are paying more slowly. AR days have increased from 15 to 30 days. We have some customers that look like they may default and more heading in that direction, both processing and refining companies have these problems.</p>
<p>Scrap Trader - Domestic</p>	<p>Private/South China</p>	<p>Finance hard, banks will not make loans, Reducing production or stopping production is due to finance problems.</p>	<p>LOC domestically are not common, Shadow bank loans hard, lots of people have abandoned loans, We rely on group for borrowing</p>	<p>The period of AR has increased from 3–7 days to 10-15 days. No defaults yet as we control total credit to customers.</p>

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