Legal Statement

- The purpose of the information in this presentation is to guide ICA programs and provide members with information to make independent business decisions.
Antitrust Guidelines for Copper Industry Trade Association Meetings

The following guidelines with respect to compliance with antitrust laws of the United States, Japan and European Community are intended to govern the conduct of participants in copper industry trade association meetings, both at the meeting itself and in informal discussions before or after the formal meeting.

Price: Competitors should not discuss future prices (including terms of sale) of their products. There is no blanket prohibition against the mention of or reference to current or past prices but limits must be observed. Such references or mentions should occur only when necessary in connection with the development of association programs. For example, reference to a particular price level in comparing the cost of a copper product to a competing product is permitted. Whenever possible, such references should be discussed in advance with legal counsel.

Competitive Information: Competitors should not discuss the market share of a particular copper producer or copper fabricator’s products. Furthermore, nothing should be said at a meeting which could be interpreted as suggesting prearranged market shares for such products or producer production levels. The overall market share of copper products may be discussed with regard to competition with non-copper products and general market acceptance.

New Products: Competitors should not encourage or discourage the introduction of a new product by another competitor or reveal a particular copper company’s plans to change the production rate of an existing product or to introduce a new product. No company should disclose to another company whether it is in a position to make or market a new product. New products may be discussed in a technical manner or from the standpoints of competition with non-copper products and general market acceptance. In addition, proposed methods for and results of field and laboratory testing can be considered.

The Role of Legal Counsel: Legal counsel attends association meetings to advise association staff and other meeting attendees regarding the antitrust laws and to see that none of the matters discussed or materials distributed raise even the appearance of antitrust improprieties. During the course of a meeting, if counsel believes that the discussion is turning to a sensitive or inappropriate subject, counsel will express that belief and request that the attendees return the discussion to a less sensitive area.

A paper entitled ‘Copper Industry Trade Associations and Antitrust Laws’ is available upon request.

10/92, 5/93, 10/10

1. Other foreign competition laws apply to International Copper Association, Ltd. (ICA)’s activities worldwide.
Copper Embedded In Overseas Trade FLOWS

Luis Tercero & Denis Stijepic
ICSG Spring Meeting  |  29 April 2021
Trade Flow Developments

Previous work
- 2015-2016 first attempt at understanding trade flows, referencing data up to 2014
  - Presented and well-received at ICSG (2016)
  - Published in the peer-reviewed scientific literature (2016)
- Revealed different market behaviors across regions

This work
- Update to latest available data (2018)
- Addition of financial aspect clarifies tonnage/weight versus monetary value of trade flows
- Increased detail in the view of copper markets and different behaviors across regions
What information is available and how this work fits in

In the ICSG World Copper Factbook

- Ores & Concentrates
- Blister & Anode
- Refined copper

Mining → Metallurgy

Recycling

Collection

Use

Semis

Manufacturing

IWCC World Trade Database

- ~ 10 HS codes
- ~ 30 HS codes
- ~ 300 HS codes

2 HS codes not available elsewhere

~ 300 HS codes not available elsewhere
Workflow

Snapshot of UN comtrade database comtrade.un.org

In-house DB including relevant trade codes and Cu content

Graphical check: trends, order of magnitude, US$ value

Define correction factors

Generate visuals
Methodology

- UN comtrade as unified data source
- National statistical offices report data to the UN Statistics Division
- Common classification of goods (here Harmonised System in its original version, H0)
- Regions vs. Rest of the World
  - Corresponds to the logic of the regional models
  - Simpler to track, visualize and cleanse
- Data editing where necessary

**Graph: Latin America imports (HS 854280)**

- Reported value 100,000x larger than expected from trend and $-value

Raw data from UN comtrade (2020)
A more complex data editing example: CHL exports of Cu concentrate (HS 260300)

Raw data from UN comtrade (2020)
China
China (contained copper, 2018): Significant imports of concentrate and metal, mostly exports of finished products
China: Largest increase in imports of concentrate, decrease in scrap imports

Raw data from UN comtrade (2020)
China (2018): Import value vs. net weight vs. copper content

Monetary value

Concentrate: US$ 39 bn
Finished: US$ 564 bn

Gross weight

Concentrate: 20,700 kt
Metal: 3,700 kt
Finished: 6,200 kt
Scrap: 2,200 kt

Contained copper

Concentrate: 6,800 kt Cu
Metal: 3,700 kt Cu
Scrap: 950 kt Cu

Raw data from UN comtrade (2020)
China finished products in detail (2018): Import value vs. net weight vs. copper content

- Consumer & other: US$ 463 bn
- Industrial: 800 kt
- Consumer & other: 1,300 kt
- Buildings: 50 kt Cu
- Industrial: 50 kt Cu
- Consumer & other: 250 kt Cu
- Transport: US$ 57 bn
- Transport: 3,800 kt
- Transport: 50 kt Cu

Raw data from UN comtrade (2020)
China (2018): Import value vs. net weight vs. copper content for individual commodity codes

Monetary value

<table>
<thead>
<tr>
<th>Code</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>870323</td>
<td>US$ 36 bn</td>
</tr>
<tr>
<td>854211</td>
<td>US$ 387 bn</td>
</tr>
<tr>
<td>851790</td>
<td>US$ 34 bn</td>
</tr>
<tr>
<td>260300</td>
<td>US$ 33 bn</td>
</tr>
</tbody>
</table>

Gross weight

<table>
<thead>
<tr>
<th>Code</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>870323</td>
<td>2,700 kt</td>
</tr>
<tr>
<td>740400</td>
<td>2,200 kt</td>
</tr>
<tr>
<td>740311</td>
<td>3,600 kt</td>
</tr>
<tr>
<td>260300</td>
<td>19,700 kt</td>
</tr>
</tbody>
</table>

Contained copper

<table>
<thead>
<tr>
<th>Code</th>
<th>Copper</th>
</tr>
</thead>
<tbody>
<tr>
<td>740400</td>
<td>950 kt Cu</td>
</tr>
<tr>
<td>740311</td>
<td>3,600 kt Cu</td>
</tr>
<tr>
<td>740200</td>
<td>850 kt Cu</td>
</tr>
<tr>
<td>260300</td>
<td>5,900 kt Cu</td>
</tr>
</tbody>
</table>

Raw data from UN comtrade (2020)
China: Finished products dominate exports and largely determine growth; metal and semis have become significant.
China (2018): Export value vs. net weight vs. copper content

- Monetary value: US$ 730 bn
- Gross weight: 29,500 kt
- Contained copper: 300 kt Cu
- Semis: 400 kt Cu

Raw data from UN Comtrade (2020)
China finished products in detail (2018): Export value vs. net weight vs. copper content

Monetary value
Infrastructure: US$ 195 bn
Industrial: US$ 53 bn
Consumer & other: US$ 419 bn

Gross weight
Transport: 2,000 kt
Industrial: 4,200 kt
Consumer & other: 19,000 kt
Buildings: 3,500 kt

Contained copper
Industrial: 200 kt Cu
Consumer & other: 2,450 kt Cu
Buildings: 850 kt Cu

Raw data from UN comtrade (2020)
China in more detail (2018): Export value vs. net weight vs. copper content for individual commodity codes

- **854211**: US$ 63 bn
- **852520**: US$ 189 bn (Transmit-receive apparatus for radio, TV, ...)
- **851790**: US$ 43 bn
- **847193**: US$ 91 bn (Computer data storage units)

- **841510**: 1,900 kt

- **854449**: 300 kt Cu
- **854441**: 300 kt Cu
- **848180**: 400 kt Cu
- **830242**: 250 kt Cu
- **740311**: 300 kt Cu

**Monetary value**

**Gross weight**

**Contained copper**

Raw data from UN Comtrade (2020)
China over time: Net trade in contained copper

Raw data from UN comtrade (2020)
COPPER EMBEDDED IN OVERSEAS TRADE FLOWS

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ICSG Spring Meeting  |  29 April 2021