

COPPER MARKET REPORT

H1 2009



Highlights

- Copper prices enjoyed sustained growth, driven mostly by robust Chinese demand. In addition to meeting demand from an expanding economy, China set out to replenish its scrap supply and rebuild both government and private inventories.
- In spite of these gains, the global economic and financial crisis resulted in average copper prices losing 31 percent over H2 2008.
- Refined copper demand in 2009 is expected to drop 1.4 percent, then rebound 3.5 percent in 2010. Demand in the U.S., the European Union and Japan is expected to drop 17.1 percent, worse than estimated in our previous report. However, in line with improved global expectations, we also forecast an 8.0 percent rebound in 2010. In addition, stronger apparent demand from China in H1 2009 warranted an upward revision to demand expectations for 2009 and 2010.
- Led by primary production, the refined copper supply should rebound 0.3 percent in 2009 and 3.2 percent in 2010. Chilean mine production should bounce back to 5.4 MMTF in 2009 and to an unprecedented 5.75 MMTF in 2010, making Chile the single-largest contributor to increased world production.
- As Chinese demand regains momentum and the global economy starts to rebound in 2010, markets in 2009 and 2010 should be tighter than expected in our previous report. These conditions should intensify in 2011, when the market is expected to post a shortfall. These new expectations have prompted an upward revision of average prices for 2009 and 2010 to about 195¢/lb. and 210¢/lb., respectively.

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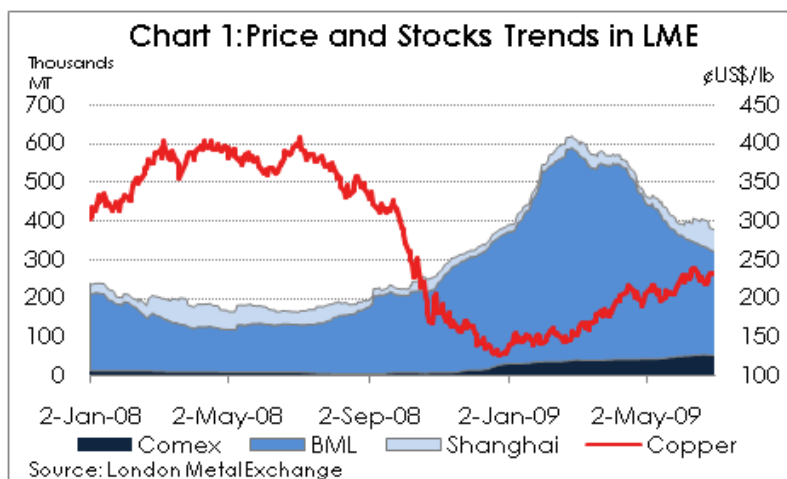
1. Market Outlook: H1 2009

Prices Bounced Back

In H1 2009, copper traded in the London Metal Exchange (LME) averaged 183.509 ¢/lb., down 50 percent over 2008 and 31 percent below H2 2008. However, the Q2 average (212.104 ¢/lb.) bested its Q1 counterpart by 36.1 percent.

Q1 was marked by uncertainty and volatility as one of the worst economic crises in recent memory continued to unfold.

Weak demand from industrialized economies was significantly offset by fresh demand from China. This quickly became a key market factor, helping prices start on an unexpected upward path. As supplies tightened, prices picked up and exchange inventories began to slide, especially after March (see Chart 1).



Price gains after the record low posted on 24 December lasted throughout H1 2009, especially Q2. On June 11, copper prices rebounded within 90 percent of the above December low (see Chart 1).

Strong price gains in Q2 were a direct result of both the China factor and a brighter global outlook. While uncertainty remained the prevailing sentiment, there were fresh signs that the global downturn was beginning to level off, clearing the way for a rebound.

Exchange Inventories Moved Past Year-End Levels But Dropped Off In Q1-Q2

Exchange inventories closed H1 at 376.3 kMT or 8 days' world demand, down 33.6 percent over Q1 and below the previous year-end level.

The second-quarter inventory drop was due to outflows from LME warehouses (234 kMT) partially offset by deliveries to the SHFE (31 kMT) and Comex (12 kMT). Across regions, most outflows (145 kMT, mostly headed for China) came from European warehouses, notably Rotterdam and Leghorn, Italy. LME warehouses in the U.S. posted a net 50 kMT outflow. These reports confirmed the overall weakness of industrialized country copper demand.

Table 1: Metal Exchange Inventories

	Q1 2009	Q2 2009	± Q1 - Q2 2009		± Q2 2008/09	
	kMT		kMT	Percent	kMT	Percent
LME	500	266	-234	-47	143	116
COMEX	42	54	12	29	44	440
SHFE (1)	25	56	31	124	24	75
Total	567	376	-190	-34	211	128

Source: Cochilco, based on Exchange reports.
N.B.: Inventories at the end of each term. (1) As of last Thursday of term.

Asian warehouses reported outflows of 37 kMT, leaving only 2 kMT in warehouses in South Korea and Singapore and confirming the region's role as a key contributor to copper demand in H2. While inventories in LME warehouses in Asia remain low, SHFE inventories rose in June, evidencing a temporary increase in availability over the past few weeks.

China Helped Check Falling Demand

China dominated the period by almost completely offsetting the drop in industrialized country demand. Strong demand from China, which has shown remarkable resilience to the crisis, is partly due to a vast fiscal stimulus package implemented last November.

The package succeeded in driving infrastructure spending and bank loans and helped substitute exports as copper demand drivers in key sectors, notably energy and automobiles (see Section 2).

Last September China's domestic fundamentals drove prices at the Shanghai Futures Exchange (SHFE) past LME prices, creating an arbitrage window that re-energized copper imports. In addition to rising domestic production, Chinese demand was fueled by an inventory buildup drive by domestic market players and China's State Reserve Bureau -which bought 235 kMT out of a planned 400 kMT through 2011- as well as by the need to offset the scrap shortage caused by plummeting industrial activity and low copper prices worldwide.

China's refined copper purchases stood at a record 374 kMT in June (most recent available report). The yearly total to May stood at 1,776 kMT, a 183 percent increase from a year earlier. Moreover, their average weight across imports (refined, concentrate and scrap) rose from 30 percent in 2006-2008 to 58 percent in H2 2009. Scrap imports have been up since March, reducing the role of substitution as an import driver.

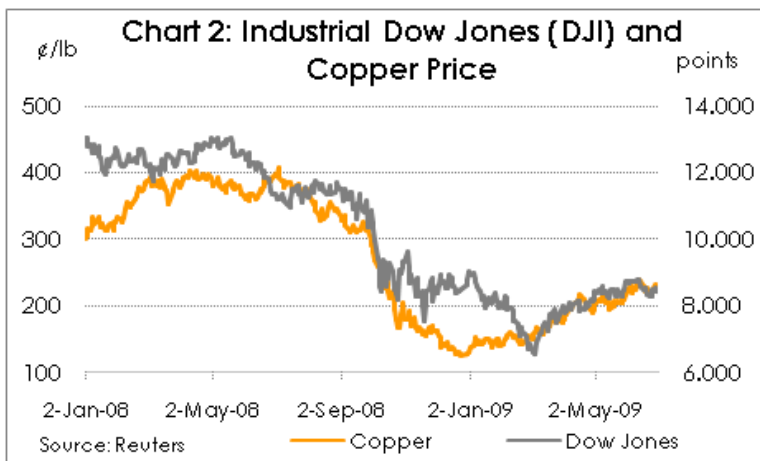
However, as demand weakened, SHFE copper prices started to lose ground, resulting in rising inventories.

Assumptions about a Chinese market glut have significantly narrowed the LME/SHFE price differential. This factor, plus the usual summer slowdown, leads observers to expect declining imports in the coming months.

Rising Stability in Industrialized Countries Also Helped Demand Pick Up

Financial markets responded well to signs of improvement in the global economy. As players lost some of their risk aversion, stock markets and copper prices rallied in Q2. This was evident in the close positive correlation between copper prices and key variable income indexes such as the Dow Jones Industrials (see Chart 2).

On the other hand, as opposed to the events of late 2008, the improved global outlook led players away from the U.S. dollar. As the greenback became volatile and lost value, copper prices gained ground amidst some volatility.



2. Copper Demand

2.1 World Economic Outlook

After two quarters (Q4 2008-Q1 2009) of shrinking indicators, the global economic outlook seems to be looking up. Market expectations are gradually recovering, leading to the growing perception that the slump will lose pace in Q2 and may eventually start to abate.

This perception is shared by most multilateral financial agencies, which revised their estimates in Q2. While the IMF and the World Bank agree on the importance of monetary and fiscal stimulus packages, they disagree on the balance of risk associated with the impact of financial turbulence on the real economy, the labor market, and eventual imbalances in economic corrections.

In early July the **IMF** revised its World Economic Outlook Report, emphasizing that financial prospects are up but the outlook remains uncertain. The Fund anticipates a 1.4 percent drop in world GDP for 2009 –one-tenth below its April projection- plus a slow recovery on the order of 2.5 percent for 2010 -0.6 percent above its previous estimation.

A detailed look at leading copper buyers (see Table 2) shows a mixed bag. China appears to play a key role in moderating risks associated with a slower recovery, especially in the Eurozone, which has yet to show clear signs of improvement. Both the United States and Japan appear to be recovering relatively faster. In the U.S., the

Table 2: GDP Growth Estimates to July 2009

	2009		2010	
	Current (%)	Since April 2009	Current (%)	Since April 2009
China	7,5	+1,0	8,5	+1,0
Eurozone	-4,8	-0,6	-0,3	+0,1
USA	-2,6	+0,2	+0,8	+0,8
Japan	-6,0	+0,2	+1,7	+1,2
World	-1,4	-0,1	2,5	+0,6

Source: IMF.

recovery will step on firmer ground only in mid-2010 after adjustments in key sectors, including the housing and labor markets.

The more cautious **World Bank** says that risks are still present and that the pace of recovery remains uncertain. In late June the Bank revised its global contraction estimate for 2009 from -1.8 to -2.9 percent, adding that it expects 2 percent growth in 2010, up from a -0.3 percent contraction estimated in March. The WB counts Europe and Central Asia among the hardest hit as a result of the significant imbalances some of those economies were facing prior to the onset of the crisis.

Analysts polled by Consensus Forecast in June (see Table 3) generally agreed with IMF and WB forecasts.

Table 3: GDP Growth Estimates According to Consensus Forecast (%)

	2008	2009			2010		
		January	March	July	January	March	July
China	9.0	7.4	7.0	7.7	8.4	8.3	8.7
USA	1.1	-1.8	-2.8	-2.6	2.3	1.7	2.1
Japan	-0.7	-1.7	-5.8	-6.2	1.1	0.7	1.4
Eurozone	0.6	-1.4	-2.6	-4.4	0.8	0.5	0.4
World	2.0	-0.2	-1.6	-2.6	2.0	2.1	2.1

Source: Consensus Forecast

Global industrial activity remains significantly behind in showing signs of recovery, resulting in weaker industrialized country growth forecasts for 2009 (see Table 4).

Table 4: Industrial Production According to Consensus Forecast (%)

	2008	2009			2010		
		January	March	July	January	March	July
China	12.9	8.5	8.5	8.9	11.0	11.3	11.5
USA	-2.2	-5.4	-9.0	-11.0	2.3	1.5	2.2
Japan	-3.4	-10.2	-26.5	-25.0	1.8	1.8	6.7
Eurozone	-1.8	-4.7	-8.4	-15.0	0.8	1.0	0.7

Source: Consensus Forecast

The U.S. Industrial Production Index for June shrunk 13.6 percent from a year earlier. In May, Eurozone industrial production contracted 17 percent over the year before, a much slower rate of recovery than other industrialized regions. Industrial production in Japan fell 29.5 percent in May over the year before, although as of April 2009 it had rebounded for the third consecutive month in response to export incentives and fresh demand from shrinking inventories.

Worsening conditions in industrialized countries have impacted leading copper users. In May, housing construction tended to stabilize in the U.S. and Japan while in April the Eurozone broke the trend (see Table 5). All three markets are strongly down and expected to face a slow recovery.

Table 5: Construction Indicators (2008-2009)

Percent Change From a Year Earlier	2008	2009				
	December	January	February	March	April	May
Housing starts (USA)	-44.4	-54.1	-48.1	-47.3	-54.8	-45.8
Construction Index (EU 15)	-11.0	-10.0	-13.1	-11.6	-5.2	-
Housing starts (Japan)	-5.8	-18.7	-24.9	-20.7	-32.4	-30.8

Source: Consensus Forecast

The auto market is in a severe slump. In the U.S., first-quarter sales dropped 35.1 percent over 2008. European new car registrations rose 2.4 percent in June over 2008, the first such gain in 14 months. In Japan, copper cable deliveries to the auto industry -a leading demand indicator- fell 51.4 percent in January-April 2009/2008.

In **China**, key sectors show significant declines over 2008, including air conditioning (17.7%), generating equipment (13.2%), electrical motors (12.9%) and power generation (5.4%). Some sectors did post increases, including cars (16.5 percent, largely from spending incentives) and computers (8.7%).

2.2. Refined Copper Demand

Projections for 2009 are based on financial and sector reports and actual demand to date. While China remains the mainstay, it won't offset lost industrialized country demand by itself. In 2010, however, China's performance and the onset of a rebound elsewhere should help significantly boost demand.

Demand growth in 2009-2010 should stand at 375 kMT, yet only in 2010. Among key consumers (Table 6), China should account for most increases (799 kMT), offset to a large extent by drops in the European Union (303 kMT), the U.S. (205 kMT) and Japan (181 kMT), to name a few. The United Arab Emirates, Egypt and Saudi Arabia (Rest of World below) should account for a 312 kMT demand increase in 2009 and 2010.

Table 6: Annual Refined Copper Demand (2007-2010)

kMT	2007 (I)		2008 (I)		2009 (E)		2010 (E)	
	Demand	± (%)	Demand	± (%)	Demand	± (%)	Demand	± (%)
China (1)	4,957	36.5	5,199	4.9	6,183	18.9	5,998	-3.0
European Union (1)	3,624	-6.2	3,435	-5.2	2,945	-14.3	3,132	6.3
United States	2,137	0.3	1,952	-8.7	1,650	-15.5	1,747	5.9
Japan	1,252	-2.3	1,184	-5.4	850	-28.2	1,003	18.0
South Korea	821	1.1	780	-5.0	760	-2.6	794	4.5
Russian Federation	671	-3.0	650	-3.1	610	-6.2	634	4.0
Chinese Taipei	603	-5.6	582	-3.5	521	-10.5	542	4.0
India	475	8.0	500	5.3	525	5.0	550	4.8
Turkey	358	18.5	360	0.6	360	0.0	375	4.2
Brazil	330	-2.7	386	17.0	350	-9.3	364	4.0
Leading Buyers	15,228	7.8	15,028	-1.3	14,754	-1.8	15,139	2.6
Rest of World	2,946	0.2	2,975	1.0	2,998	0.8	3,239	8.0
Other	18,174	6.5	18,003	-0.9	17,752	-1.4	18,378	3.5

Source: ICSG Copper Bulletin, Cochilco estimates based on ICSG, Consensus Forecast, Brook Hunt and CRU reports.

N.B.: (I) Interim, (E) Expected, (1) Apparent demand.

Relative to our previous report, our demand projection for industrialized countries is down based on low Q1 consumption and disappointing growth expectations for the European Union, Japan and the U.S. Although conditions in China have not improved significantly, lower scrap stocks and significant inventory buildup drove up apparent demand (Table 7).

Our projection for 2010 is moderately up relative to our previous report. We foresee the downward growth correction for industrialized countries largely offsetting increased apparent demand from China. As China is not expected to build its strategic inventories to the extent it did in 2009, the increase is not expected to be as significant (see Table 7).

Table 8 tracks sensitivity of demand based on continued risks to economic recovery and China's key role as a demand driver whose inventory cycle is extremely hard to anticipate.

The sensitivity exercise reviewed three possible scenarios. Resulting extreme cases are used in Section 4 to assess various refined balance alternatives. Overall, demand tends to decline in 2009 and recover in 2010. In other words, even under a pessimistic scenario, demand in 2010 is not expected to fall.

Table 7: Demand Since Previous Report

KMT	2009	2010
Up	China: 823	China: 383
Down	European Union: 100 Japan: 57 U.S.: 50 Chinese Taipei: 30 Brazil: 25	European Union: 125 Japan: 63 U.S.: 53 Chinese Taipei: 26 Brazil: 26
Total	525	47

Source: Cochilco, based on ICSG, Consensus Forecast, Brook Hunt and CRU reports.

Table 8: Sensitivity of Demand

Demand	2009	2010
Minimum ± %	17,668 -1.9	18,172 0.0
Baseline ± %	17,752 -1.4	18,378 3.5
Maximum ± %	18,374 2.1	18,682 4.5

Source: Cochilco.

3. Copper Supply

3.1. World Mine Production

The production database maintained by the Cochilco Market Analysis Unit recently underwent a periodic update. As a result, several projections in our previous report were revised, including a 107 kMTF downward correction in 2008 world mine production.

Projections for 2009-2010 were revised upward by some 200 kMTF. The projection for 2009 includes a 250 kMTF increase and revises expected production losses from 5 to 3.4 percent. Indeed, recent price gains have led some companies to revert decisions to slash production or shut down operations, thus reducing the risk of loss. While the revision results in slightly lower production (26 kMTF) in 2010, expected losses remain at 5 percent.

Mine production estimates after expected losses in 2009 stand at 15.78 MMTF, up 1.3 percent over 2008 (see Table 9). This estimate is based on startup of several major projects, recovering production at operations that had faced difficulty in meeting plans, and ramped up production at operations around the world. These gains ought to be partially offset by production cuts and shutdown of key facilities in the U.S. and Chile (see Table 10).

Table 9: World Mine Production

KMT	2007 (I)		2008 (I)		2009 (E)		2010 (E)	
	Production	±	Production	±	Production	±	Production	±
Chile	5,557	196	5,328	-229	5,407	79	5,750	343
United States	1,181	-37	1,322	141	1,150	-172	1,107	-43
Peru	1,175	137	1,249	74	1,242	-7	1,209	-33
China	946	55	1,023	77	1,069	46	1,085	16
Australia	858	-28	885	27	1,015	130	986	-28
Russian Federation	682	12	682	0	699	18	725	25
Canada	592	-8	616	25	629	13	681	52
Indonesia	789	-28	650	-138	890	240	985	95
Zambia	557	43	582	25	768	186	899	132
Kazakhstan	451	-6	461	9	456	-5	455	-1
Other	2,761	120	2791	30	3,010	219	3,322	312
Total	15,548	455	15,589	40	16,334	745	17,204	870
Expected Loss					-548		-867	
Total Available	15,548	455	15,589	40	15,786	197	16,337	551
Percent Change	3.0		0.3		1.3		3.5	

Source: ICSG Copper Bulletin and Cochilco estimates based on Brook Hunt, CRU and company reports.

N.B.: (I) Interim, (E) Expected (remainder of 2009 only.)

Table 10: Leading Changes in Production by Operation (Relative to Previous Year)

KMTF	Concentrate	kMTF	SX-EW	kMTF
2009				
Startup	Lumwana (Zambia)	162	Tenke Fugurume (Congo DR)	40
	Prominent Hill (Australia)	75	Las Cruces (Spain)	30
	Cerro Corona (Peru)	30	Ruashi Étoile (Congo DR)	20
Ramp-Up	Phu Kham (Laos)	40	-	-
Recovery	Grasberg (Indonesia)	164	Nchanga (Zambia)	22
	Batu Hijau (Indonesia)	76		
	Mount Isa (Australia)	48		
Losses	Morenci (U.S.)	-62	Morenci (U.S.)	-53
	Pinto Valley (U.S.)	-48		
	Ernest Henry (Australia)	-46		
	Chino (U.S.)	-44		
2010				
Startup	Cananea (Mexico)	60	Cananea (Mexico)	25
	Konkola Deep (Zambia)	35		
Ramp-Up	Kamoto (Congo DR)	33	Tenke Fugurume (Congo DR)	55
			Las Cruces (Spain)	40
Recovery	Grasberg (Indonesia)	80	Nchanga (Zambia)	25
	Mission (U.S.)	20		
Losses	Antamina (Peru)	-30	Morenci (U.S.)	-50
	Osborne (Australia)	-30	Safford (U.S.)	-15
	Mount Gordon (Australia)	-20	Tyrone (U.S.)	-15

Source: ICSG Copper Bulletin and Cochilco estimates based on Brook Hunt, CRU and company reports.

World mine production in 2010 should expand 3.5 percent over 2009 for a total of 16.33 MMTF. Concentrate should account for about 75 percent (see Table 10).

3.2. Chilean Mine Production

Chilean mine copper production in 2008 relative to our previous report is revised downwardly by 2 kMTF based on changes in Minera Gaby data. The revised production figure is 5.32 MMTF, down 4.1 percent (see Table 10).

Chilean production in 2009 is expected to stand at 5.4 MMTF, a 1.5 percent increase over 2008. Table 11 compares aggregate Chilean mine production in January-May 2009 and 2008. Production is down 4.3 percent, almost exclusively from losses reported by Escondida, partly offset by the Minera Gaby startup in May 2008.

The pattern is expected to hold throughout 2009. In H1 Escondida should post significant losses from operating issues revealed in H2 2008, then recover in H2. Production increases should come from capacity gains at Collahuasi (initial expansion stage and operating improvements), increased capacity at Minera Gaby (beginning expansion), increased production from Spence and Escondida's Sulfide Leach Project (about to reach design capacity) and recovering production across Codelco divisions.

Table 11: Chilean Mine Copper Production

kMT	2008		January-May		
	Total	±	2008	2009	±
Codelco Norte	755	-141	321	312	-9
Salvador	43	-21	20	25	5
Andina	220	2	85	91	6
El Teniente	381	-24	138	153	15
Minera Gaby	68	71	0	58	58
Codelco	1,466	-117	563	639	76
Escondida	1,254	-230	579	411	-168
Collahuasi	464	12	189	206	17
Los Pelambres	351	51	138	137	-1
Anglo American Sur	284	-18	121	108	-13
El Abra	166	0	67	66	-1
Candelaria	174	-7	62	59	-3
Anglo American Norte	149	-3	63	63	0
Spence	165	37	71	78	7
Other	855	46	354	344	-10
CHILE	5,328	-229	2,207	2,111	-96

Source: Cochilco, based on company reports.
N.B.: All figures rounded; "Other" includes operations under 149 kMTF in 2008.

Chilean mine copper production in 2010 is estimated to stand at 5.75 MMTF, up 6.3 percent over 2009 and better than the all-time high attained in 2007. Increased concentrate production should come from expanded capacity at Andina, El Teniente, Pelambres and Candelaria, an Escondida recovery, and startup of the Andacollo Sulfide Project. Increases in SX-EW copper should come from capacity production at Spence and the Escondida Sulfide Leach Project.

3.3. Refined Copper Supply

After a fall in secondary production in 2008, refined copper production should rebound in 2009-2010, led by primary production. Overall, primary production in 2008-2010 should make up for expected secondary losses brought about by lower prices and the global economic slump.

The increase will be gradual, beginning with 0.3 percent in 2009, then 3.2 percent in 2010 (see Table 12). It should come from increases in primary electro-refined and some electro-won production. These should help offset lower secondary copper production (i.e., scrap) in 2009. As industrial activity recovers in 2010, secondary production is expected to rebound for the first time in three years.

Table 12: Refined Copper Production

KMT	2007 (I)		2008 (E)		2009(E)		2010(E)	
	Production	±	Production	±	Production	±	Production	±
Electro-Refined	12,256	299	12,204	-52	12,298	94	12,684	386
Electro-Won	2,946	155	3,049	103	3,153	104	3,306	153
Primary Refined	15,203	454	15,253	50	15,451	198	15,991	540
Secondary Refined	2,752	171	2,623	-129	2,472	-151	2,511	39
Total Refined	17,954	624	17,876	-78	17,923	47	18,501	578
Percent Change	3.6		-0.4		0.3		3.2	

Source: Cochilco, based on ICSG, Brook Hunt, CRU and company reports.
N.B.: (I) Interim, (E) Expected.

4. Market Balance and Price Outlook

4.1. Market Balance

The refined copper market balance in Table 13 is based on the demand and supply data reviewed above. Based on revised supply data, the refined balance for 2008 estimated last May drops from equilibrium (slight 14 kMT surplus) to a 127-kMT shortfall. Year-end inventories remain at 3.4 demand weeks.

The 2009-2010 surplus estimated in our previous report drops from 541 kMT to 171 kMT, especially in 2009. As noted in Section 2, this is driven by stronger Chinese demand and leaves year-end inventories in 2009 at 3.4 demand weeks. For 2010 we expect the surplus to fall from 325 kMT to 171 kMT and year-end inventories of 3.3 demand weeks.

Table 13: Refined Copper Market: Projected World Balance

kMT	2007 (I)	2008 (E)	2009 (E)	2010 (E)
Primary Refined Production	15,203	15,253	15,451	15,991
Secondary Refined Production	2,752	2,623	2,472	2,511
TOTAL SUPPLY	17,954	17,876	17,923	18,501
Percent Change	3,6	-0,4	0,3	3,2
TOTAL DEMAND	18,174	18,003	17,752	18,378
Yearly Change	6,5	-0,9	-1,4	3,5
BALANCE	-220	-127	171	123
Inventories as Demand Weeks	2.9	3.4	3.4	3.3

Source: Cochilco, based on ICSG, Brook Hunt, CRU and company reports.
N.B.: (I) Interim, (E) Expected.

4.2. Price Outlook

Relative to our previous report, in 2009 we anticipate a tighter surplus and lower inventories. The change comes from higher apparent Chinese demand making up for lower industrialized country demand. While Chinese demand in 2010 is also revised upwards, the smaller surplus comes from a downward revision to the secondary supply.

The refined balance risks overestimating the actual surplus should the crisis deepen or drag on, leading to further cuts in industrialized country demand. The sharpest risk of a tighter surplus or even a shortfall may be higher apparent demand in H2 2009 and 2010 should China continue to build up its inventories. Also, as risk aversion ebbs and flows, an unpredictable U.S. dollar adds uncertainty to price projections.

Absent a clear trend, these risks were factored in by charting sensitivity of demand based on the scenarios in Section 2.2. Results show that the risk of a slower recovery increasing the surplus is greater in 2010, while the risk of higher Chinese demand cutting into the surplus or causing a shortfall is greater in 2009.

The above suggest 2009 year-end inventories of 3.4 demand weeks, less than the 3.7 and 4.1 weeks estimated in our two previous reports. In addition, we expect refined demand from China in H2 to ease as the need to substitute scrap and build inventories slackens. As such, our price forecast for 2009 is revised upward to about 195 ¢/lb.

For 2010, available data suggests that year-end inventories should drop to 3.3 demand weeks, below the 3.8 and 4.1 weeks estimated in our two previous reports. In addition, preliminary data for 2011 points to a severe shortfall and attendant price upswing in 2010. In that context, our price forecast for 2010 is revised upward to about 210 ¢/lb.

5. Unrefined Copper Market

5.1 World Smelter Production

Primary smelter production rose 0.2 percent in 2008 following minor gains everywhere save for the Americas, where production fell 82 kMTF (Table 14). This, plus capacity increases in Asia (mainly China, up 5.8%) led to Asia accounting for 47 percent of the world total. Chilean production stood at 1.37 MMTF, down about 150 kMTF over 2007.

Table 14: World Primary Copper Smelter Production

KMT	2007 (I)		2008 (I)		2009 (E)		2010 (E)	
	Production	±	Production	±	Production	±	Production	±
Africa	586	112	609	22	663	54	827	164
Americas	3.323	-228	3.240	-82	3.065	-176	3.314	249
Asia	5.949	392	5.966	17	5.951	-14	6.884	933
Europe	2.333	-123	2.374	41	2.293	-82	2.487	194
Oceania	386	-20	419	32	435	16	490	55
Total	12.578	132	12.608	31	12.408	-200	14.002	1.594
Smelter Adjustments (1)	0		0		598		930	
Total Available	12.578	132	12.608	31	11.810	-798	13.071	1.261
Percent Change	1.1		0.2		-6.3		10.7	

Source: Cochilco, based on ICSG, Brook Hunt, CRU and company reports. N.B.: (I) Interim, (E) Expected; (1) includes expected production losses and adjustments to smelter utilization rates.

World smelter output in 2009 should drop 6.3 percent due to several causes, including capacity cuts, extended maintenance, concentrate shortages, line shutdowns or slowdowns to avoid a sulfuric acid glut, shutdown of costly plants due to low sulfuric acid prices, operating issues caused by accidents, and energy and inputs supply issues.

Primary smelter output in 2010 should recover a hefty 11 percent. In the context of the concentrate production hikes discussed below, Asian smelters are expected to contribute about 58 percent of the world increase.

Relative to our previous report, projected production for 2008 and 2009 is revised downward to 20 and 207 kMTF, respectively. In 2009 production cuts will be the norm across the board except in Asia, which remains unchanged. Our production estimate for 2010 is revised upward to 109 kMT, accounted for exclusively by Asia.

5.2 World Concentrate Production

Concentrate production fell 0.5 percent in 2008, due mostly to lower production in Chile and Mexico. Producers in the Americas and Africa (see Table 15) should help revert the situation to 0.7 and 3.1 percent growth in 2009 and 2010, respectively.

Across regions, the Americas –led by Latin America– is the leading producer with a 51 percent share in 2008. With a 27 percent share in 2008, Chile remains the world's largest producer, followed by Peru (8.7%) and China (8%).

Table 15: World Copper Concentrate Production

kMTF	2007 (I)		2008 (I)		2009 (E)		2010 (E)	
	Production	±	Production	±	Production	±	Production	±
Africa	697	95	854	158	963	109	1,095	131
Americas	6,620	232	6,442	-178	6,293	-149	6,686	393
Asia	2,803	72	2,786	-17	3,155	369	3,228	73
Europe	1,483	-50	1,451	-32	1,529	78	1,582	54
Oceania	1,000	-48	1,007	7	1,145	138	1,150	6
Total	12,602	301	12,540	-62	13,084	544	13,741	657
Concentrate Losses	0		0		451		711	
Total Available	12,602	301	12,540	-62	12,633	93	13,030	397
Percent Change	2,4		-0,5		0,7		3,1	

Source: Cochilco, based on ICSG, Brook Hunt, CRU and company reports. (E) Expected, (I) Interim.

5.3 Concentrate Balance and Treatment and Refining Charges (TC/RC)

A review of expected smelter and concentrate production in 2008 shows the world concentrate market posting a 68 kMTF shortfall (see Table 16). The shortfall sharpened the decline in supply contract TC/RC fees, which stood at 45/4.5 in H1 and 42.5/4.25 in H2. While spot contract fees also tumbled in 2008 (falling as low as 8/0.8 in July), they recovered strongly at the end of the year (see Chart 3).

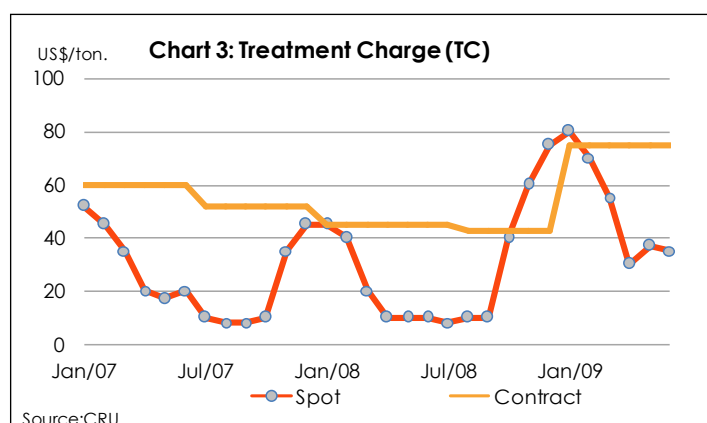
The market in 2009 should show a 823 kMTF surplus, mostly from major cuts in smelter output. Processing capacity has dropped significantly as smelters struggle to weather the global crisis by shutting down operations, rescheduling or lengthening maintenance, and cutting the number of production lines.

Table 16: World Copper Concentrate Surplus/Deficit

kMTF	2007 (I)	2008 (I)	2009 (E)	2010 (E)
Africa	110	246	300	268
Americas	3,297	3,202	3,228	3,372
Asia	-3,146	-3,180	-2,796	-3,656
Europe	-851	-923	-764	-905
Oceania	613	588	709	660
Subtotal	24	-68	677	-260
Concentrate Losses	0	0	451	711
Smelter Adjustments	0	0	598	930
Total	24	-68	823	-41

Source: Cochilco, based on ICSG, Brook Hunt, CRU and company reports.
(E) Expected, (I) Interim.

In January 2009 these adjustments propelled spot contract fees to 80/8, their highest level since April 2006. This impacted early-year negotiations and drove supply contract fees to 75/7.5, a 70 percent increase over 2008. Initially upbeat smelter expectations, which included a surplus in 2009 and a slight shortfall in 2010, waned gradually as the year wore on due to low spot market activity (few sellers, proximity of mid-year negotiations) and pushed TC/RC fees to as low as 30/3 in April. As a result, mid-year negotiations set supply contract fees for H2 at 48/4.8.

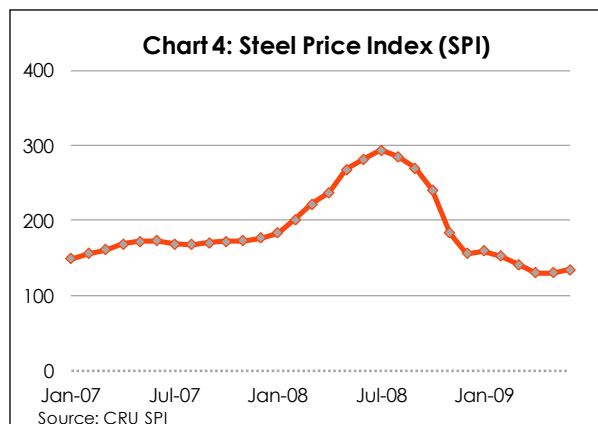


As in previous years, spot contract TC/RC fees for the rest of 2009 are expected to remain within 30/3 to 40/4, then rise at the end of the year. In 2010 the concentrate market is expected to swing between equilibrium and tightness, with a possible 41 kMTF shortfall and supply contract TC/RC fees in the vicinity of 50/5.

6. Other Relevant Metal Markets

6.1 Steel and Molybdenum

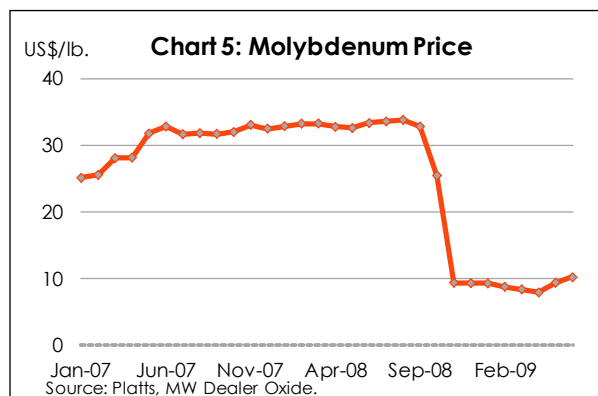
In H1 2009 the **Global Steel Price Index** averaged 141.16 points, down 41 percent from H2 2008 and 39 percent from H1 2008. This behavior was echoed by key industry inputs such as **molybdenum**, which fell strongly in Q4 2008, regained some ground in early 2009, then levelled off and showed signs of rebounding in mid-year (see Chart 4). However, the steel market is not expected to pick up again until industrialized countries begin to drive demand for final steel products.



Molybdenum prices averaged US\$9.1/lb. in H1 2009 (see Chart 5), down 63 percent from H2 2008 and 73 percent from H1 2008. As did steel, molybdenum prices fell strongly in Q4 2008. After levelling off under a slight downward trend in early 2009, they dropped to US\$8/lb. in April.

This behavior was caused by a drop in demand driven by downbeat global expectations for 2009 and 2010 (see Section 2.1.), consumer inventory cuts, and a market glut in 2008-2009.

Markets picked up again in mid-April as inventory cuts ended and the global outlook became brighter, leading prices to post gradual gains until hitting US\$10.3/lb. in June. Given recent developments, our price projection for H2 is revised upward to about US\$11-13/lb., which keeps 2009 prices within the previously estimated **US\$10/lb.**



6.2 Gold and Silver

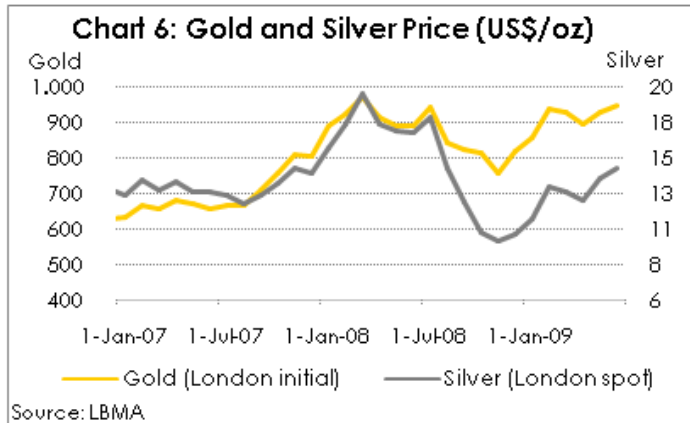
In H1 2009, gold (London Initial) averaged US\$915.13/oz. Prices gained 1.7 percent in Q2 over Q1, then closed H1 8.8 percent above the 2008 year-end price. Accounting for the rise were financial factors, notably gold's role as a safe haven. Still, uncertainty and risk throughout the period resulted in high volatility (see Chart 6) and caused Q1 and Q2 prices to fluctuate within 10 and 6 percent of the average, respectively.

Gold prices have been kept high by gold-backed exchange-traded funds (ETFs) and short-term investment flows. While ETFs accounted for a record 458 tons in Q1, vastly surpassing the 321 tons chalked up in 2008, they lost ground as the year wore on. Falling risk aversion as the global economic outlook became somewhat more upbeat set the stage for speculative short-term operations.

Demand for jewellery gold remains highly sensitive to prices and declines in global spending. Global demand fell 26 percent in Q1 while demand from large buyers such as India and Turkey fell a drastic 40 and 52 percent, respectively.

On the supply side, Q1 mine production drops in South Africa (6%) and Mexico (29%) were offset by increases in the U.S. (30%) and by significant increases in the supply of recycled gold, which rose 55 percent in the period.

In H1 the price of silver (London Spot) averaged US\$13.2/oz. (see Chart 6), closing Q2 9.2 percentage points above Q1. Demand for industrial applications remains weak but has been strongly offset by a sizable increase in silver-backed exchange-traded funds, which closed the period at fully 2,538 tons.



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