


Metals Deals

Forging Ahead 2009 Annual Review

Mergers and acquisitions activity in the
metals industry



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Methodology

Metals Deals 2009 is based on published transactions from the SDC Platinum (Thomson Reuters) database, January 2010. Analysis encompasses only those deals which are completed in the calendar year. Deal values are the consideration value announced or reported including any assumption of debt and liabilities. Figures relate to actual stake purchased and are not extrapolated to 100%. The geographical split of the deals refers to the location of the target company or assets. Deals located in the territory of the Russian Federation are included in the totals for central and eastern Europe. The analysis relates to the supply chain for metals and basic metal products, including recycling. The sector and subsectors analysed include base metal mining (e.g. iron ore, aluminium), metal extraction, processing, the production of basic metal products (e.g. strip, tube), metals service centers and metal recycling. Comparative data for prior years may differ to that appearing in previous editions of our annual analysis or other current year deals publications. This is a result of the use of a different data source, methodological differences or refinements in methodology and consequent restatement of the input database. The figure 3 analysis counts deals with a value of over US\$50 million, based on when they are announced but is not conditional on them completing. In this way, deals which were announced late in 2009, but have not completed, are included to provide a clearer view of quarterly trends without a bias for deals that have not completed yet due to timing. This is in contrast to the remainder of the analysis in this publication which is contingent on deals completing. A full list of transactions throughout 2009 is available by visiting the Metals Deals website at www.pwc.com/metalsdeals.



The steep fall in metals deal value, which gathered momentum in 2008, continued into 2009 with total value charting a course which took it back to below levels last seen in 2003. A distinguishing characteristic of this recession, however, has been that the sector has come through it without

major bankruptcies. Companies moved swiftly to conserve cash and protect margins. Partly in consequence, the number of M&A deals in 2009 remained high but for much, much smaller sizes.

Metals Deals 2009 reviews deal activity in the metals industry. The report is the latest annual review edition in our *Forging Ahead* series on deal-making in the sector. It sits alongside our quarterly *Forging Ahead* reports and is one of a range of deals publications from PricewaterhouseCoopers, covering sectors including mining, aerospace & defence, renewable energy, power, and oil & gas. Together the family of deals reports provides a comprehensive analysis of M&A activity across industries world-wide.

We examine both the rationale behind the overall deal trends and look at the key individual deals. We analyse the year under review in the context of the preceding three years, and look ahead to

the future direction of deal-making in the sector. We also highlight, in a series of deal dialogues throughout the report, some of the critical issues for companies engaging in deal activity within the sector. Drawing on our global experience as an adviser to metals industry M&A players, our commentary addresses all key markets in the sector.

Looking ahead, the outlook for deal activity is mixed. There is likely to be a continuing contrast between activity in the fast growing economies such as India, China and Brazil and that in North America and Europe where companies will want to be more certain that any upturn is sustainable. Also in the mix is balance sheet health within the sector and this may spur some early upturn M&A moves as companies pursue the logic of consolidation in what remains a fragmented industry.

A handwritten signature in black ink, appearing to read 'Jim Forbes', with a large, stylized flourish at the end.

Jim Forbes

Global Metals Leader

02 Report highlights

Treading carefully in a period of caution

Cost control and cash conservation dominated company agendas in 2009 as they steered their way through the downturn. M&A took a back seat with the focus on margins and balance sheet health. Deal activity, as measured by the number of deals, stayed high but deal values plummeted. Total deal value, at US\$15.1bn, was down 75% year on year and was barely a tenth of the record high reached in 2007. However, not yet reflected in the deal totals, the year was notable for moves by Rio Tinto to reduce its debt levels, first with an aborted US\$19.5bn deal with Chinalco and then, instead, with the proposed joint iron ore venture with BHP Billiton which is subject to regulatory clearance before it can be completed.

Small deals on the home front dominate

Against a backdrop of a significant decline in selling prices, companies concentrated their restricted M&A sights largely on smaller bite-sized deals that were close to home and more easily managed and integrated into their operations. Average 2009 deal value, based on deals with disclosed values, was just US\$56.2 million compared to US\$274.2 million in 2008. Incremental stake-building was a common play with a number of deals involving the acquisition of minority interests or building on existing interests. Nearly three quarters (71%) of the deal value occurred in domestic deals rather than cross-border deals, unlike in the previous two years when the pattern was almost the opposite with around two thirds of deal value conducted cross-border.

China and Brazil deal values wane but North America and Europe wither

Metals deal values plummeted around the world but it was in North America and Europe where they dwindled to negligible levels. The North American metals deals total was just US\$1.6bn in 2009, down from US\$76.7bn in 2007 and US\$17.2bn in 2008. Europe and the Russian Federation followed a similar pattern with a total deal value of just US\$1.0bn. Instead it was deals in Asia Pacific and South America, led by China and Brazil, that delivered the majority of 2009 metals deal value with the two regions together accounting for 83% of worldwide value. Nonetheless, total deal value in these two regions was still less than half its 2008 levels.

M&A strides remain uncertain

Steps rather than strides are expected to characterise metals M&A activity in the year ahead as companies look for more certainty that an upturn can be sustained. China, Brazil, India and Africa are likely to be key to the M&A geography in the medium term period ahead. But it will be the firmness and direction of economic indicators in the first half of 2010 that will determine whether 2010 will be a year of relatively flat, sideways deal movement or whether we will see modest but clear upward momentum.

04 Deal totals

2009 deal-making never recovered from the abrupt and dramatic fall-off that occurred following the Autumn 2008 financial meltdown. The US\$15.1bn total metals deal value for the whole of 2009 was little more than a tenth of the record 2007 total of US\$144.7bn level and a quarter of the 2008 total. As we predicted in last year's Metals Deals publication, total deal value for the year fell back to a level last seen in 2003 and, indeed, was marginally below that low level (figure 1).

The watchword was caution as companies focused on conserving cash. Deal-making was largely restricted, with some exceptions, to relatively conservative minority and incremental stake-building in targets on the growth side and divestment of non-core assets to manage the balance sheet. Constrained financing and high levels of existing debt led to a large degree of M&A caution. Credit remained available but the banking crisis restricted the range and raised the cost of financing. Moves to reach down the supply chain to secure raw materials resources, and thereby ease reliance on the annual pricing cycle, continue to be an important feature of the metals deals landscape. This is particularly true amongst Chinese companies, but deals of this kind were not as common as in previous years.

The cautious deal environment translated into a big rise in the proportion of domestic deals as companies preferred to focus on targets close to home rather than international targets. The number of domestic deals rose by nearly 60% and, in total, three quarters (75%) of metals deals in 2009 were in acquirers' home countries, up from 62% the previous year (figure 2). In value terms, the contrast between 2009 and 2008 was even starker. The value of cross-border deals in 2009 shrank to just 12% of its 2008 level. At just 29% of the total deal value, cross-border deals fell a long way from the 68% and 62% contribution to deal value they made in 2007 and 2008 respectively. Nonetheless, deal numbers stayed high and, indeed, rose by nearly a third (31%) year on year. As such,

more deals were completed in 2009 than any other year in our reporting series. Part of this was balance sheet housekeeping spurred by the steep recession and fall-off in metals prices. Restructuring in the Russian metals sector was also a factor in the high number of deals. Fifty seven Russian deals were among the 521 deals listed, all but one of them with no disclosed value. Another key influence behind deal activity was the fact that no significant bankruptcies took place. Record high pricing in the boom period of 2005-8 meant that a lot of companies went into the sudden downturn strong enough to survive and stayed in the business of deal-making, albeit at subdued levels.

This strength was protected by rapid and well rehearsed moves to reduce capacity, manage costs and protect margins as the full impact of the banking crisis became apparent. There were fewer acute distress deals than there might have been. It was a long, long way from business as usual, but it enabled companies to continue a cautious level of M&A where they saw opportunities to either divest non-core or grow core asset or supply chain portfolios. At the same time, however, a lot of companies went into the downturn with high debt levels, having been active acquirers during the pre-downturn period of high commodity prices. Many companies are still working this debt off and this has been and will continue to be both a driver and a constraint on M&A activity.

As the year progressed, the turnaround remained uncertain but companies gained confidence that the bottom of the slump had likely been reached. The freefall in metals prices in the second half of 2008 from highs of well over US\$1,000 per tonne for North American hot band steel eased into a slower slide in the first half of 2009, reaching a low around US\$400 in June 2009. Prices made a slow but largely sustained recovery to US\$600 plus in January 2010 (data from Steel Business Briefing). It is widely contested whether stimulus packages played a significant part.

Globally, a key factor in creating a cautiously more optimistic outlook has been the resilience of Asian demand which, while slower than in the boom years, continued in very positive territory. The shift in the centre of gravity to Asia, particularly China, was also a key factor in the high number of M&A deals. The Asia Pacific region accounted for just over half (51%) of all metals deals in 2009. Asian demand helped counter demand slumps in the west and has been a key distinguishing feature of this recession.

Deal values fell to very low levels compared with historic values. The average value of deals (with disclosed values) completed in 2009 was just US\$56.2 million compared to US\$274.2 million in 2008. It should be noted that nearly half (48%) the deals in the 2009 list are transactions where the deal value remained undisclosed (figure 4). While these are not counted in our calculation of averages, these undisclosed value deals are likely to be for relatively small values, further highlighting the small deals theme.

When analysis is extended to all newly announced deals, the results indicate higher average levels (see figure 3). The totals for the second quarter of 2009 are heavily skewed by the announcement of BHP Billiton and Rio Tinto's iron ore joint venture which, because it is not completed, does not appear in our main statistical analysis. While figure 3 shows that totals remain low, the last quarter announcements for deals worth US\$50 million or more did include a pick-up from the very low general level of 2009, both in terms of the number of deals announced and their total value.

Figure 1: Total metals deals, 2003-2009

	Number	Cross border number as % of total number	Value (US\$bn)	Cross border value as % of total number
2009	521	25%	15.1	29%
2008	397	38%	60.6	62%
2007	411	35%	144.7	68%
2006	385	29%	86.4	73%
2005	250	40%	34.8	49%
2004	166	40%	37.0	31%
2003	164	30%	16.1	60%

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review, using data from SDC Platinum (Thomson Reuters).

Figure 2: Cross border and domestic metals deals, 2008-2009

	Number of deals		
	2008	2009	% change
Cross border	150	129	-14.0%
Domestic	247	392	+58.7%
Total	397	521	+31.2%

	Deal value (US\$bn)		
	2008	2009	% change
Cross border	37.7	4.4	-88.3%
Domestic	22.8	10.7	-53.1%
Total	60.6	15.1	-75.1%

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review.

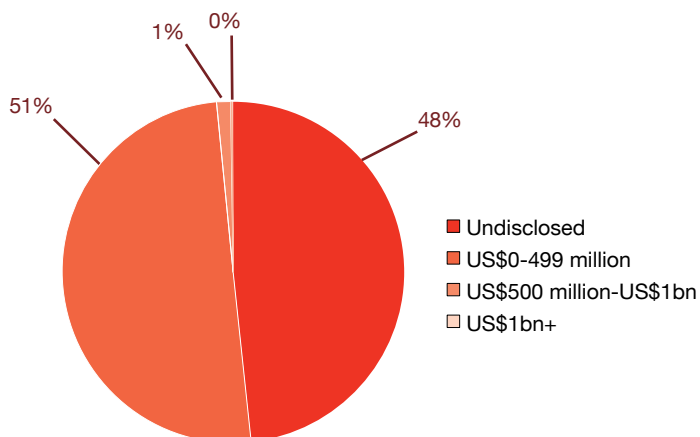
Figure 3: Quarterly metals deal activity (all deals announced in each quarter)
Measured by number and value of deals worth US\$50 million or more

	2007				2008				2009			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Number of Deals	38	32	28	43	38	45	34	25	17	17	21	32
Total Deal Value (US\$bn)	22.2	51.2	53.5	24.2	29.3	18.5	21.9	11.5	11.7	63.0	3.7	4.9
Average Deal Value (US\$bn)	0.6	1.6	1.9	0.6	0.8	0.4	0.6	0.5	0.7	3.7	0.2	0.2

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review.

Figure 3 analysis counts deals based on when they are announced but is not conditional on them completing. In this way, deals which were announced late in 2009, but have not yet completed, are included to provide a clearer view of quarterly trends without a bias for deals that have not completed yet due to timing. This is in contrast to the remainder of the analysis in this publication which is contingent on deals completing.

Figure 4: Deals by amount of deal value 2009



Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review

The dominance of smaller deals and the absence of large deals are highlighted by the top 10 deals of 2009. Only two deals topped the US\$1bn mark (figure 5). In the previous year all of the top 10 deals were above this level and eight out of these 10 were larger than the biggest deal in 2009. Long gone were the mega deals that led the M&A boom of 2007 when the Rio Tinto/Alcan and RUSAL/SUAL & Glencore International deals added \$US38bn and \$US30bn respectively to that year's record total.

The 10 ten list and total deal value, however, would have looked very different if Chinalco had concluded its US\$19.5bn stake-building in Rio Tinto. Instead, shareholder and regulatory discussions combined with a changing market environment to move Rio Tinto towards a joint venture with fellow miner BHP Billiton which, if completed, will have a big impact on 2010 deal totals. The Chinalco stake-building stirred shareholder and regulatory controversy while the BHP Billiton deal has prompted concerns among iron ore customers who fear an impact on pricing. Steel makers point to the possibility of the joint venture partners benefiting from an improved knowledge of overall volume and demand trends for iron ore. In response, the two mining companies stress that the tie-up is a 'production-only joint venture' that will bring together overlapping operations, while keeping marketing separate. At the time of writing, the deal is still subject to regulatory clearance.

Just how far the top 10 bracket has fallen can be seen by comparing 2009's tenth largest deal with previous years. Instead of being in tenth position, Sesa Goa's US\$370 iron ore purchase in India would have been 40th in 2007 and 37th in 2008. Nationalisation rather than market dynamics led to the largest 2009 deal – the payment of US\$1.97bn by the government of Venezuela to Ternium. Ternium, an Argentine-based steel plant consolidator with a portfolio of plants in Argentina, Mexico, Guatemala and the United States, had a 60% stake in Sidor, one of Latin America's largest steel plants.

The plant was nationalised in April 2008 by Hugo Chávez's government and this move was followed by a period of protracted negotiations on the compensation payment. Soon after the nationalisation, basic industries and mining minister Rodolfo Sanz said the government had reached preliminary estimates that the plant was worth US\$800 million but the eventual deal came closer to Ternium's valuation. The steel nationalisation was one of a series of state seizures of assets in Venezuela which included assets in the energy, telecommunications, cement and food sectors. The payment reinforces Ternium's strong balance sheet and leaves it poised for future portfolio acquisitions in its goal of regional sector leadership in a consolidating sector.

Latin America was also the location of the only other US\$1bn plus deal in 2009 – Brazilian miner Vale's agreement with Germany's ThyssenKrupp Steel to increase its stake in steelmaker Siderurgica do Atlantico (CSA) to nearly 27% from 10% for around US\$1.4bn. CSA is building an integrated steel slab plant with nominal capacity of five million metric tons of slab per year in the state of Rio de Janeiro. The plant is expected to start-up in the first half of 2010 with Vale, as a strategic partner of ThyssenKrupp, being the sole and exclusive supplier of iron ore to CSA. A backdrop to the deal was the Brazilian government's concern to see greater investment to boost steel sector employment in a pre-election period. In announcing its additional capital contribution, Vale stressed its commitment to the largest industrial investment under construction in Brazil in the last ten years and the first large steel mill to be built in the country since the mid-eighties. It has an ambition to expand Corumbá's capacity up to 15.0 million metric tons per year, which will require an estimated capital expenditure of more than US\$ 2bn.

Figure 5: Top 10 metals deals 2009

Rank	Completion Date	Target	Bidder	Target Nation	Buyer Nation	Value (US\$m)	Sector
1	7 May 09	Ternium Sidor	Corporacion Venezolana de Guayana	Venezuela	Venezuela	1,970	Steel
2	21 Sep 09	ThyssenKrupp CSA Siderurgica do Atlantico Ltda	Vale SA	Brazil	Brazil	1,371	Steel
3	28-May-09	Pangang Group Sichuan Changcheng Special Steel Co Ltd	Panzhuhua New Steel & Vanadium Co Ltd	China	China	962	Steel
4	18 Sep 09	Rio Tinto PLC-Iron Assets	Cia Vale do Rio Doce SA	Brazil	Brazil	750	Iron ore
5	22 Jan 09	American Molygold Corp	Undisclosed Acquiror	United States	Unknown	620	Other metal
6	2 Jan 09	Australian Bulk Minerals Pty Ltd	Grange Resources Ltd	Australia	Australia	599	Iron ore
7	3-Feb-09	NS Group Inc	OAO Trubnaya Metalurgicheskaya Kompanya {TMK	United States	Russian Fed	500	Steel
8	24 Feb 09	Fortescue Metals Group Ltd	Hunan Hualing Iron & Steel Group Co Ltd	Australia	China	409	Iron ore
9	29 Apr 09	Fortescue Metals Group Ltd	Hunan Hualing Iron & Steel Group Co Ltd	Australia	China	407	Iron ore
10	11 Jun 09	VS Dempo & Co Pvt Ltd-Goa Mining Assets	Sesa Goa Ltd	India	India	370	Iron ore

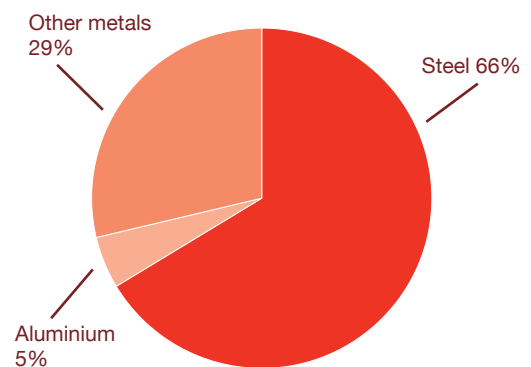
Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review

Vale was also a buyer in the fourth largest deal of the year with the US\$750 million all-cash acquisition of the Corumbá iron ore mining operations in Brazil from Rio Tinto. The sale was one of a number of divestments by Rio Tinto as it continued to reduce debt following its 2007 US\$43bn purchase of Alcan. The year began with the sale of its interest in the Ningxia aluminium smelter in China for US\$125 million in January and ended with a December 2009 announcement that it had accepted a US\$2bn offer from Amcor for the Alcan Packaging global pharmaceuticals, global tobacco, food Europe and food Asia divisions. Completion of the deal is subject to US regulatory clearance, hence its non-appearance yet in the top 10 table.

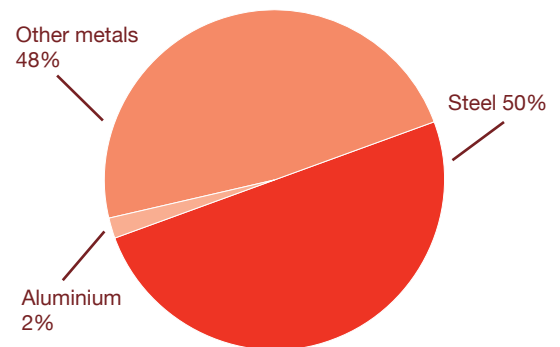
Deals in China, the US, Australia and India comprise the remainder of the top 10. These are discussed in the regional sections later in this report. The steel sector accounted for half of total 2009 metals deal value with transactions in the 'other metals' category, many of which are iron ore, delivering most of the remaining deal value. Activity in the aluminium industry took an even lower share than in 2008, in contrast to the flurry of very big aluminium deals in 2007. Deals for other metals continued to take a greater share of the shrinking total metals deal value in 2009 – up to 48% in 2009 from 29% in 2008 and just 5% in 2007 (figure 6).

Figure 6: 2009 total deal value: US\$15.1bn

Deal making by industry sector - 2008



Deal making by industry sector - 2009



Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review

These sector differences reflect the differences between the extent of consolidation in the different segments of the industry. In both steel and iron ore, consolidation remains far less advanced than in aluminium. As figure 7 highlights, the combined market share of the top five companies in iron ore and steel is significantly smaller than their counterparts in the aluminium industry where a series of consolidation deals over the last decade have concentrated the sector much more.

Figure 7: Estimated market share of top five companies by sector

	Iron Ore		Steel		Aluminium
Year	2009 estimate		2008		2009 estimate
	mill tonnes		mill tonnes		thous tonnes
Vale	256	ArcelorMittal	103	Rusal	3,897
Rio Tinto	165	Nippon Steel	37	Rio Tinto Alcan	3,803
BHP Billiton	115	Baosteel Group	35	Alcoa	3,301
ArcelorMittal	42	POSCO	35	Chalco	2,557
FMG	34	Hebei Steel Group	33	BHP Billiton	1,235
Top 5 total	611	Top 5 total	244	Top 5 total	14,793
Global total	2,213	Global total	1,329	Global total	36,736
Top 5 as a % of global	28%		18%		40%

Source: AME Mineral Economics. Note: Market shares for steel and aluminium are based on total global production. Market share for iron ore is based on estimated saleable iron ore production as a percentage of global production.

Deal places 11

The geographical centre of gravity for metals deals continues to shift towards Asia Pacific. The Asia Pacific share of worldwide metals deal value had already multiplied more than five-fold between 2007 and 2008. In 2009 it nearly doubled again with Asia Pacific accounting for exactly half of total value. For the first year on record, the region eclipsed North America for the largest proportion of 2009 metals M&A activity by both deal numbers and value (figure 8). Indeed, Asia Pacific did not just edge past but recorded a share of deal value that was nearly five times that of North America.

Similarly building on their increasing importance to worldwide metals deal activity, the share of Central and South American deals also continued to grow, accounting for 32% of total 2009 metals deal value. Deal numbers and total value in the region had risen by around a third between 2007 and 2008 with a series of deals for Brazilian iron ore targets. In common with other regions, deal values slumped in 2009 but, like Asia Pacific, the fall was nothing like as large as that experienced in North America and Europe. South America's share of total 2009 deal value was three times that of North America.

Total deal value fell substantially in all regions with the highest falls recorded in North America and western Europe where values dwindled to less than 10% of the level seen just a year earlier and to a startling 2% and 3% respectively of the total deal value reached in 2007. Deal numbers increased in all regions with the exception of North and South America.

The balance of activity between the number of deals transacted by parties within the same region and those transacted across continents also shifted dramatically, reflecting the focus on smaller deals in territories near home (figure 9). There had already been a shift away from cross-continental towards regional deal-making when the value share of regional deals rose from 39% in 2007 to 45% in 2008. In 2009, it jumped to 82%.

Figure 8: M&A activity by continent

North America	Number	% of all world deals	Value (US\$bn)	% of total value
2008	84	21%	17.2	28%
2009	73	14%	1.6	11%
% change	-13.1%		-90.7%	

Asia Pacific	Number	% of all world deals	Value (US\$bn)	% of total value
2008	185	47%	16.4	27%
2009	266	51%	7.6	50%
% change	+43.0%		-53.7%	

Figure 9: Regional vs cross-continental metals deals, 2008 & 2009

	2008						All sectors	
	Steel		Aluminium		Other Metals			
		% share of total steel		% share of total aluminium		% share of total other metals		% share of all deals
Regional								
Number	158	70%	32	84%	97	73%	287	72%
Value	20.1	50%	0.6	22%	6.8	39%	27.5	45%
Cross-continental								
Number	69	30%	6	16%	35	27%	110	28%
Value	20.3	50%	2.2	78%	10.5	61%	33.0	55%

Central & South America	Number	% of all world deals	Value (US\$bn)	% of total value
2008	31	8%	14.8	24%
2009	30	6%	4.9	32%
% change	-3.2%		-66.9%	

Western Europe	Number	% of all world deals	Value (US\$bn)	% of total value
2008	65	16%	8.5	14%
2009	75	14%	0.6	4%
% change	+15.4%		-92.9%	

Central and eastern Europe	Number	% of all world deals	Value (US\$bn)	% of total value
2008	32	8%	3.7	6%
2009	77	15%	0.4	3%
% change	+140.6%		-89.1%	

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review

	2009						All sectors	
	Steel		Aluminium		Other Metals			
		% share of total steel		% share of total aluminium		% share of total other metals		% share of all deals
Regional								
Number	129	83%	36	84%	276	85%	441	85%
Value	6.3	84%	0.3	97%	5.8	79%	12.4	82%
Cross-continental								
Number	26	17%	7	16%	47	15%	80	15%
Value	1.2	16%	0.0	3%	1.5	21%	2.7	18%

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review

14 North America

North America 2009 metal M&A deal value fell off a cliff having already fallen sharply in 2008 from the highs of 2007. Total deal value charted a downward course from US\$76.7bn in 2007, US\$17.2bn in 2008 to just US\$1.6bn in 2009. The crisis in the US automobile sector, together with the brake on construction activity, had a contagious upstream impact on the metals industry. Many steel companies have found themselves overexposed to one or both of the automobile and construction sectors with a consequent need to fundamentally reappraise their positioning.

Stimulus measures have provided some relief but conditions for M&A remain uncertain. Financing has been constrained although this is now easing. Forward demand trajectories, however, remain unclear and valuations are difficult as both buyers and sellers adjust to the changing market environment. The impact was a near stalling of North American metals M&A activity in 2009. The region was the only part of the world where deal numbers fell. This was accompanied by a deal value wipe-out with just US\$1.6bn of transactions.

Two US deals featured in the top 10 deals of 2009. At the beginning of the year, Hunt Gold Corporation divested American Molygold in a US\$620 million sale to an undisclosed acquirer. Molybdenum, or moly for short, readily forms hard, stable carbides and is important in the production of high-strength steel alloys such as are

used in the petroleum industry for drill pipes and pipeline construction. The sale allowed Hunt Gold to make a distribution to shareholders and focus exclusively on its existing gold exploration and mining properties.

The second top 10 deal saw Russia-based steel maker Trubnaya Metalurgicheskaya Kompanya (TMK) complete a US\$500 million purchase of 49% of NS Group, a Kentucky-based tubular supplier to the energy market, from Evraz Group, Russia's largest steelmaker and part-owned by billionaire Roman Abramovich. TMK already had a 51% stake in NS Group when its ownership moved to TMK and Evraz as part of the 2008 US\$4bn buy-out of IPSCO/SSAB. The latest deal saw TMK exercise its option to buy the remaining 49% from its Russian acquisition partner.

The largest deal where a North American entity was an acquirer was the US\$175 million purchase by Dow Corning of US and Brazilian silicon metal manufacturing assets from Globe Specialty Metals. Silicon-based components are important for products in, among others, the construction, personal care, life sciences, solar energy, automotive and electronics industries. The deal is indicative of the 2009 stasis in the North American metals deals market. With big deal-making stalled in the construction and steel sectors it was significant that a relatively small US\$175 million silicon deal topped the American acquisition list.

Figure 10: M&A activity in North America

North America	2008		
	Steel	Aluminium	Other Metals
Domestic			
Number	17	2	29
Value	2.8	0.4	1.1
Cross-border			
Number	22	4	10
Value	10.8	1.9	0.4
All deals			
Number	39	6	39
Value	13.6	2.2	1.4

* totals may not sum because of rounding

North America	2009		
	Steel	Aluminium	Other Metals
Domestic			
Number	7	4	44
Value (US\$bn)	0.1	0.0	0.1
Cross border			
Number	3	2	13
Value (US\$bn)	0.5	0.0	0.9
All deals			
Number	10	6	57
Value	0.6	0.0	1.0

* totals may not sum because of rounding

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review

In a thin metals M&A year the spotlight shifted firmly to the east. The Asia Pacific region delivered exactly half of total worldwide metals deal value and 51% of all metals deals. While the US\$7.6bn deal value in the region was down significantly from its US\$16.4bn record high, it remained on a par with its 2007 level. Deal numbers were over 40% up on their 2008 level. Chinese companies played a major role, accounting for US\$2.8bn of the US\$7.6bn total.

The shift in M&A reflects China's position as the steel powerhouse of the world with its share of world steel production set to pass the 50% mark in 2010. Asia Pacific deal-making was almost entirely fuelled from within the region with very little outside bidder activity. More than half the total Asia Pacific deal value came from Chinese and Indian entities who delivered US\$2.8bn and US\$1.1bn of activity each. South Korean, Australian and Hong Kong bidders added US\$795 million, US\$679 million and US\$575 million respectively. Japanese entities stayed mainly on the sidelines, accounting for just US\$365 million of deal value.

Three deals involving Chinese buyers featured in the top 10 metals deals of 2009, headed by a US\$962 million stock swap merger between Panzhihua New Steel & Vanadium Co and Pangang Group Sichuan Changcheng Special Steel. The deal is one of the more significant examples of the consolidation taking place in the highly fragmented Chinese metals sector. Such consolidation has a long way to run and is being encouraged by a government directive aiming to eliminate many smaller, inefficient steel mills and to concentrate growth in the larger, mainly state-owned mills.

The two other Chinese acquisitions in the metals top 10 deals table, both by Hunan Hualing Iron and Steel Group for Fortescue Metals Group, highlight the continuing

importance of Chinese investment in Australian raw material resources. Two deals, totalling US\$816 million give Hunan Hualing a 17.43% stake in the Fortescue, which is Australia's third-biggest iron ore producer behind Rio Tinto and BHP Billiton. Australian iron ore resources are attractive to Chinese steel manufacturers not just because of vast reserves but also because greater production efficiency gives Australian iron ore a competitive advantage over inefficient Chinese domestic iron ore producers and, to some extent, over Indian iron ore. Miners like Fortescue require substantial investment to expand production and, indeed, the company spent much of 2009 pursuing a US\$6bn investment package from Chinese lenders which eventually fell through.

Foreign moves by Chinese companies for raw material assets have also caused foreign governments to evolve their stance on Chinese investment. During the year, China Minmetals had found itself thwarted in its efforts to buy all of Australia's Oz Minerals. Due to concerns by the Australian defense department, Australia's foreign investment regulator blocked the deal on the grounds it would have given the Chinese group a copper and gold mine which was located partially in a military testing region. The deal had to be amended to exclude those assets.

Towards the end of the year Minmetals planned to acquire the remaining 46.92% stake, which it did not already own, in Hunan Nonferrous Metals Corporation, a Changsha-based manufacturer of nonferrous metals and the owner of China's biggest zinc producer, Zhuzhou Smelter. The move follows a strategic cooperation pact signed by the two companies in September 2008.

Figure 11: Share of total world steel production produced in China (thousand metric tons)

	1980	1985	1990	1995	2000	2005	2009
China	37,121	46,794	66,349	95,360	127,236	355,790	567,842
World	715,581	718,923	770,458	752,271	847,670	1,146,686	1,219,715
% of World Production	5.2%	6.5%	8.6%	12.7%	15.0%	31.0%	46.6%

Source: World Steel Association.



Downturn spurs diversification and innovation

The downturn found many companies overexposed to one sector, particularly those serving the automotive or construction markets. What are the lessons emerging from this and how can companies avoid such overreliance in the future?

The metals industry has hinged its revenue largely on the automobile and construction industries. Both sectors have been hit hard by the economic downturn. Many automakers face an uncertain future and are embarking on innovative ideas and technologies that may no longer require the traditional metal supply chain. Construction analysts expect the market to increase overall this year but do not predict increased demand for commercial, institutional, and manufacturing buildings.

Many companies across the marketplace have found themselves in a similar position. Overreliance on a single sector has hit their income statements. Now, in a difficult landscape, they must find ways to diversify their revenue stream.

Doing so means looking both inward and outward. Outward for ways to expand their reach, moving their products into more - and growing - sectors and markets. Healthcare, energy, and public infrastructure spending are experiencing significant growth potential. Inward, because serving different sectors requires retooling processes and product lines in order to produce goods tailored to these industries and hopefully fill the revenue gaps left by the automobile and construction sectors.

A more hopeful outlook for the metals deal market in 2010 could enable strategic combinations in these sectors. Metals companies also can find new opportunities by focusing on in-house innovation. Innovation and green initiatives are top of mind for many industries. Such initiatives can differentiate a company, growing market share and revenue for metals, as well as increasing productivity, reducing emissions, and lowering costs.

Figure 12: M&A activity in Asia Pacific

Asia Pacific	2008		
	Steel	Aluminium	Other Metals
Domestic			
Number	77	16	33
Value (US\$bn)	4.2	0.1	2.0
Cross border			
Number	27	6	26
Value (US\$bn)	5	0.1	5
All deals			
Number	104	22	59
Value	9.2	0.3	7.0

* totals may not sum because of rounding

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review

Asia Pacific	2009		
	Steel	Aluminium	Other Metals
Domestic			
Number	59	13	132
Value (US\$bn)	2.4	0.2	3.1
Cross border			
Number	22	3	37
Value (US\$bn)	0.1	0.1	1.7
All deals			
Number	81	16	169
Value	2.5	0.3	4.8

* totals may not sum because of rounding

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review

Central and South America 17

Deals for targets in South American accounted for a third of total metals deal value in 2009, a higher proportion than in any previous year and up from a quarter in 2008. This was, however, against a backdrop of the plunge in deal value overall. The region followed this downward movement with South American total metals deal value falling from US\$14.8bn in 2008 to US\$4.9bn in 2009.

US\$4.1bn of the US\$4.9bn 2009 total was accounted for by the three largest deals – the nearly US\$2bn nationalisation of Sidor in Venezuela; Vale’s US\$1.4bn stake-building in steelmaker Siderurgica do Atlantico in Brazil and Vale’s US\$750 million all-cash acquisition of the Corumbá iron ore mining operations from Rio Tinto (see Deal Makers). The latter was one of the few South American iron ore deals in 2009, which was a contrast to the previous year when seven of the eight biggest South American deals were for Brazilian targets and seven of these eight were for iron ore assets.

With the exception of the Venezuelan nationalisation, Brazil delivered the majority of 2009 metals deals total value in the region. Four of the five largest deals in South America were for Brazilian targets. In total, Brazil accounted for US\$2.6bn of the region’s US\$4.9bn worth of deals. The largest two of these deals are described in the Deal Makers section. The third was a US\$239 million takeover by Usinas Siderurgicas de Minas Gerais (Usiminas) of Zamprogna SA, a manufacturer and wholesaler of welded steel tubes, from NSG Capital Gestao de Recursos. The last of the four largest deals for Brazilian targets was US company Dow Corning’s US\$175 million purchase of silicon metal manufacturing assets from Globe Specialty Metals (see North America section).

Figure 13: South American metals deals, 2005-2009

	2005	2006	2007	2008	2009
Number	13	14	21	31	30
Value (US\$bn)	1.4	0.9	9.6	14.8	4.9

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review



Long or short - don't get carbon caught

Notwithstanding the uncertain outcome of the Copenhagen Climate Summit, carbon regulation shows no sign of slowing. Although a single international price for carbon now looks less likely in the near term, an extensive patchwork of regional carbon regulation and markets is emerging which has implications for dealmakers. But, in a world of carbon uncertainty, how can companies ensure their strategies are carbon-proofed?

The European policy horizon is firm until at least 2020. In the US, a federal cap-and-trade bill has passed through the House of Representatives and is navigating its way through the Senate. State-level programmes that will either impact steelmakers directly (through absolute CO₂ caps) or indirectly (through higher power prices) are also under preparation. In the Asia Pacific region, market-based measures to establish a carbon price are being pursued in Canberra, Tokyo and Seoul. International linkage may be some way off, but multinationals need to pay attention.

The political landscape around many of these initiatives is still shifting and the exact form of much legislation remains uncertain. But companies have investment and M&A horizons that reach way beyond the short-term vacillations of the political timeframe. For steelmakers and other energy intensive industries already facing a carbon price, the key issues remain - ensuring efficient compliance through hedging arrangements and undertaking internal process improvements where possible. For those anticipating regulation, in addition to pursuing advocacy efforts, it would seem prudent to begin to apply a shadow carbon price to major capex programs and consider the impact on end-user markets.

PricewaterhouseCoopers is a leader in carbon market services. We work on both the buy- and sell side and offer a full range of advisory and transaction services, including strategic advice, carbon due diligence and structuring for new carbon ventures.

Figure 14: M&A activity in central and South America

	2008		
	Steel	Aluminium	Other Metals
Central & South America			
Domestic			
Number	12	0	2
Value (US\$bn)	4.9	0	0.1
Cross border			
Number	10	0	7
Value (US\$bn)	6.2	0	3.5
All deals			
Number	22	0	9
Value	11.1	0	3.6

* totals may not sum because of rounding

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review

	2009		
	Steel	Aluminium	Other Metals
Central & South America			
Domestic			
Number	7	0	8
Value (US\$bn)	3.6	0.0	0.8
Cross border			
Number	5	1	9
Value (US\$bn)	0.2	0.0	0.3
All deals			
Number	12	1	17
Value	3.8	0.0	1.1

* totals may not sum because of rounding

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review

Europe 19

(including the Russian Federation)

The US\$1bn plus consolidation activity that buoyed total western European deal value in 2008 was absent in 2009. Similarly large activity for Russian and Ukrainian assets, again a feature of previous years, also failed to continue into 2009. The absence of large deals saw European and Russian total metals deal value fall through the floor – from US\$12.1bn in 2008, itself already down from US\$51.9bn in 2007, to just US\$1.0bn in 2009.

Incremental stake-building lay behind the two biggest deals. The largest deal for a European or Russian target was Arcelor Mittal's US\$339 million investment in ArcelorMittal Ostrava AS, a Czech manufacturer of steel. The payment to the Czech Republic government took Arcelor Mittal's ownership share from 72.1% to 80%. The only other US\$100 million plus deal was Japanese company Nisshin Steel's US\$145 million stake-building in Acerinox SA, a Madrid-based manufacturer and wholesaler of flat and long stainless steel. The deal raised Nisshin's stake from 11.3% to 15%.

Apart from Russian steel maker TMK's exercise of its 49% share option in US NS Group for \$US500m million (see North America section), deals for targets outside the region were completely off the table for European and

Russian metals companies. The remainder of the deals in the region were sub US\$100 million cautious stake-building or local consolidation moves. In Russia, metals industry restructuring was a major driver of deal numbers with 57 Russian deals among the 77 deals listed in central and eastern Europe, all but one of them with no disclosed value.

Rusal, the Russian aluminium giant which had made one of the biggest international expansionary moves in recent years with its 2007 US\$30bn merger with Sual and Glencore International, was preoccupied with restructuring and a debt mountain that nearly took it to the brink of insolvency. The level of debt led the company to raise US\$2.6bn by floating 10.6% of its equity in an initial public offering on the Hong Kong market. It took place in January 2010 and, hence, does not appear in our 2009 deal totals. The complexity of Rusal's affairs, detailed in a 1,141 page prospectus, led the Hong Kong exchange to restrict the IPO to professional investors. The deal values the company at US\$21.5bn, a long way short of the SUAL/Glencore deal value alone. It will remain to be seen whether the company is able to manage its still substantial debt.

Figure 15: M&A activity in western Europe

	2008		
Western Europe	Steel	Aluminium	Other Metals
Domestic			
Number	26	4	9
Value (US\$bn)	3.7	3	2.6
Cross border			
Number	18	5	3
Value (US\$bn)	0.7	0.1	1.5
All deals			
Number	44	9	12
Value	4.4	3.0	4.1

* totals may not sum because of rounding

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review

	2009		
Western Europe	Steel	Aluminium	Other Metals
Domestic			
Number	19	10	26
Value (US\$bn)	0.1	0.0	0.3
Cross border			
Number	3	5	12
Value (US\$bn)	0.1	0.1	0.0
All deals			
Number	22	15	38
Value	0.2	0.1	0.3

* totals may not sum because of rounding

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review



A new era of activity in Africa

Raw materials resources in Africa have always been important for some companies in the metals sector. As companies seek to secure future resources and as infrastructure in the continent develops, Africa is likely to be a key hunting ground. What are the special considerations that companies need to consider?

Despite the recent depressed economic conditions, the demand for core natural resources required to fuel future growth has not abated. With rapidly depleting existing resources and limited supply capacity, Africa is fast emerging as the new frontier for discoveries in large high-grade mineral deposits, attracting interest from mining and metals companies alike.

In the past, many companies have avoided parts of Africa either due to unstable and volatile geo-political regimes or simply due to complex logistical, operational and infrastructural constraints, particularly for bulk commodities. However, as geo-political stability returns, it is being supplemented with more advanced macro-economic governance and policy frameworks.

While this creates a more stable environment for mining and investment, these policies and agendas create a new and varied set of investment considerations. For example, among other things, consideration needs to be given to:

- attracting appropriate local equity partners;
- managing and structuring local community participation;
- understanding local taxation and royalty regimes;
- adhering to mineral transfer pricing and sales regulations; and
- gaining an understanding of environmental rehabilitation requirements.

Also accelerating this drive into Africa is the willingness of funders to invest capital into the region. Access to investor capital for such projects has generally become more accessible but management needs to firstly identify who the appropriate funding partners are and also to demonstrate the key fundamentals of the project and core knowledge of the sector.

With our experience in advising clients in such transactions, PricewaterhouseCoopers is well positioned to assist companies with investments in Africa. Our knowledge of this industry sector is diverse and this, coupled with our geographical spread of professionals in various other areas such as tax or transaction services, enables us to provide clients with appropriate advisory and investment solutions.

Figure 16: M&A activity in central and eastern Europe (including the Russian Federation)

Central & Eastern Europe	2008		
	Steel	Aluminium	Other Metals
Domestic			
Number	8	0	12
Value (US\$bn)	3	0	1.0
Cross-Border			
Number	10	1	1
Value (US\$bn)	2.2	0.3	0.2
All deals			
Number	18	1	13
Value (US\$bn)	2.2	0.3	1.2

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review

Central & Eastern Europe	2009		
	Steel	Aluminium	Other Metals
Domestic			
Number	23	4	36
Value (US\$bn)	0.0	0.0	0.0
Cross-Border			
Number	7	1	6
Value (US\$bn)	0.4	0.0	0.0
All deals			
Number	30	5	42
Value	0.4	0.0	0.0

Source: PricewaterhouseCoopers Forging Ahead deal analysis 2009 annual review



22 Looking ahead

Companies will remain cautious in an environment where the volatility surrounding demand for metals remains uncertain. This is particularly the case in the US and Europe where companies will be looking to base strategies on evidence of long-term revival that can be sustained without reliance on the shorter term stimulus measures that have been a factor in the past year. The outlook in the big consumption sectors of construction and automotive will be critical.

There is likely to be a protracted period when many companies will need to focus on balance sheet health before they can begin to undertake significant M&A activity. In contrast, many others went into the downturn relatively strong and, as we discussed earlier, unlike prior downturns, companies have exhibited discipline in controlling their production output. Most, if not all, have taken swift action. Some companies are strong enough to be early movers in any M&A upturn.

Despite some consolidation in recent years, the steel sector, in particular, remains relatively fragmented. This is the case both regionally and globally. With liquidity returning to the market place and, importantly, the capital markets more accessible for equity deals, the logic of consolidation may prompt some significant deals. Whether there is such a deal flow will depend on companies' assessment of the strength of any recovery.

The actions of players from developing economies will be a key determinant on whether metals deal activity will remain relatively flat or revive. While the outlook for the automobile and construction markets in the west remains uncertain, the motor of Chinese growth is likely to continue to spur deals. Brazilian economic growth will also be an important influence on the level of South American deals.

The need to secure raw materials, to fuel steel and aluminium production and to reduce reliance on annual price negotiations, combined with immense dollar buying power, means that international raw materials investments by Chinese entities is likely to be a significant feature of future deal-making. A key determinant will be the extent or otherwise of metals production stockpiling inside China that might ease demand-supply tightness and, in turn, reduce supply chain pressure. Much of the focus for securing raw materials will turn to Africa as companies strengthen their presence in that continent.

The Rusal restructuring, and how investors will judge its operations as a partially listed company, will have wider repercussions for deal-making in the Russia metals sector and, indeed, in the wider Russian economy. Credible governance and management will be important factors in determining the pace of an awakening of inbound and outbound Russian metals deal activity. More generally, the Hong Kong listing of Rusal, underpinned by renewed interest and liquidity in the market, will reinforce competition among the different capital markets to attract companies to their respective exchanges.

Some positive signs are undoubtedly in place and the big question mark is how sustainable these will prove. The direction and strength of economic indicators in the first half of 2010 will be key to whether 2010 will be a year of relatively flat, sideways deal movement or whether we will see modest but clear upward momentum. If demand revives, some companies may decide that the time is right to take advantage of M&A value on the back of the downturn to make some strategic moves.

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Our global Metals practice comprises a network of industry professionals serving metals clients strategically located in over 30 countries around the world. PricewaterhouseCoopers serves global clients involved in ferrous and non-ferrous primary and secondary metals production around the world. We bring experience, international industry best practices and a wealth of specialised resources to help solve business issues.

For more information on our Metals practice and other industry publications, please visit www.pwc.com/metals

Readers with an interest in the mining industry may also want to see our new publication, Mining Deals – 2009 Annual Review. In Mining Deals, we examine the rationale behind the overall trends and the key individual deals. We look at the year under review, the context of the preceding three years, and ahead to the future direction of deal-making in the sector. Copies of the report can be obtained at www.pwc.com/mining

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