June 15, 2011

Overview

Metals & Mining, North America

2011 Teach-In

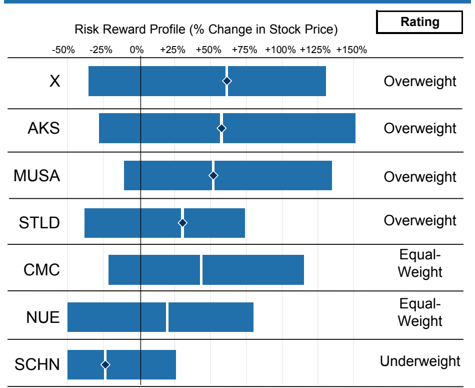
MORGAN STANLEY RESEARCH
North America

Evan L Kurtz, CFA
Evan.Kurtz@morganstanley.com
+1 212 761 7583

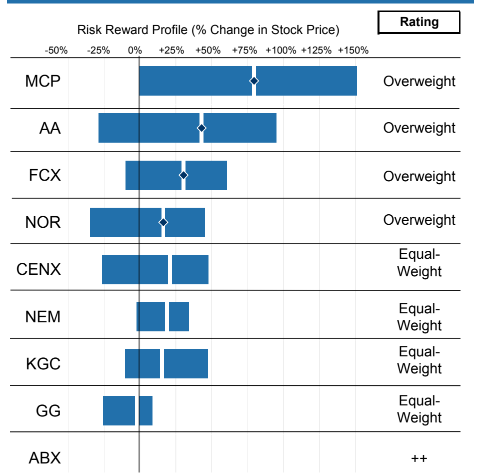
Paretosh Misra, Ph.D
Paretosh.Misra@morganstanley.com
+1 212 761 3590

Wes Sconce
Wes.Sconce@morganstanley.com
+1 212 761 6004

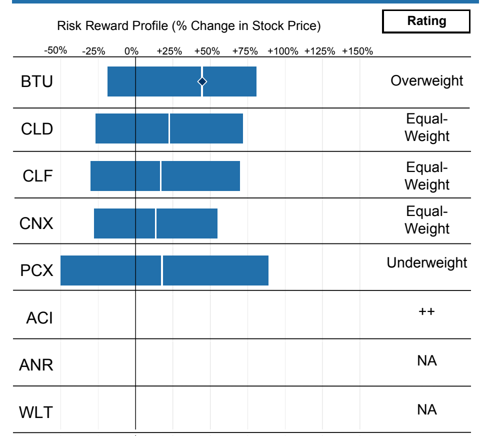
Evan Kurtz (Steel)



Paretosh Misra (Metals & Gold)



Wes Sconce (Coal & Iron Ore)



+ Analysts employed by non-U.S. affiliates are not registered with FINRA, may not be associated persons of the member and may not be subject to NASD/NYSE restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account.

++ Rating and price target for this company have been removed from consideration in this report because, under applicable law and/or Morgan Stanley policy, Morgan Stanley may be precluded from issuing such information with respect to this company at this time.

Introducing the team

Evan L. Kurtz, CFA – Vice President – Steel Focus

- Joined Morgan Stanley in 2006
- 6 Years of Sell-Side Experience (5 Years of Steel)
- 8 Years of Industry Experience
  - Sales, Project Management and Engineering at United Technologies and Johnson Controls
- New York University (Stern), MBA
- University of Rochester, BS (Electrical Engineering)

Paretosh Misra, Ph.D – Vice President – Non-Ferrous and Gold Focus

- Joined Morgan Stanley in 2007
- 6 Years of Sell-Side Experience
- 3 Years of Industry Experience
  - Process Engineer at Nucor
- Carnegie Mellon University, Ph.D (Materials Sciences)
- Indian Institute of Technology, BT (Metals and Metallurgical Engineering)

Wes Sconce – Associate – Coal Focus

- Joined Morgan Stanley in 2004
- 5 Years of Sell-Side Experience
- Swarthmore College, BA (Economics)

Metals & Gold

Key Investment Themes

Aluminum – Prefer AA as it is a net-long alumina producer with downstream earnings leveraged to recovery: Aluminum has been the best performing LME metal in 2011, benefitting from slowing supply growth in China, rising costs, LME delivery issues and improving demand. We prefer AA because we see its earnings driven by higher volumes in downstream segments and improving exposure to spot alumina prices, not just aluminum. Alcoa's alumina sales are moving to spot index-based pricing.

Copper – Investors overly bearish copper; FCX's advantaged growth not priced in: We expect copper prices to rebound in 2H, driven by restocking in China and improvement in OECD demand. Key to upside for FCX is organic growth opportunities at attractive costs.

Gold – May face 2H headwinds: Gold faces headwinds in 2H from withdrawal of QE2 in the US and peaking of EM inflation. Organic growth, cost control and wise capital allocation are key for gold miners, as multiples continue to compress.

Rare Earths – Market to remain tight in 2011-13: Chinese export REO prices have more than doubled ytd, while Chinese domestic prices have tripled, indicating domestic resource constraints and success in controlling illegal mining.

Top Picks: AA and FCX

M O R G A N S T A N L E Y
R E S E A R C H
North America

Paretosh Misra, Ph.D
Paretosh.Misra@morganstanley.com
+1 212 761 3590

Commodity Price Assumptions

	Aluminum	Alumina	Copper	Gold	REO
	$/lb	*$/T*	*$/lb*	*$/oz*	*$/Kg*
Spot	1.15	400	4.15	1520	175 *($57 within China)*
2011e	1.19	411	4.45	1400	
2012e	1.23	438	4.60	1330	47
2013e	1.31	471	3.80	1250	47

Source: Morgan Stanley Research

Aluminum - Record Inventories Limit Upside But Slowing Chinese Supply Growth, LME Delivery Issues, and Demand Improvement Provide Support

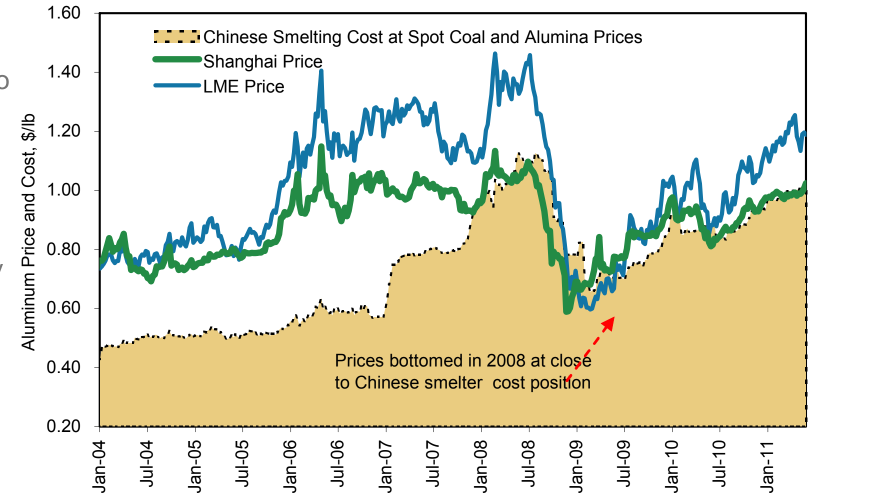
•**Chinese aluminum production to remain constrained.** We believe that China will become a net importer of primary aluminum as demand outpaces supply and as we expect a continued focus on restraining energy use by major industrial consumers because of the adoption of the new Five-year Plan with a strong emphasis on resource efficiency. Our commodity team expects China to have a net aluminum deficit of ~300kt this year and ~100kt in next two years

•Physical market remains tight. ~80% of total LME stocks still tied-up in financing deals. A sharp increase in warehouse delivery time is adding to physical tightness.

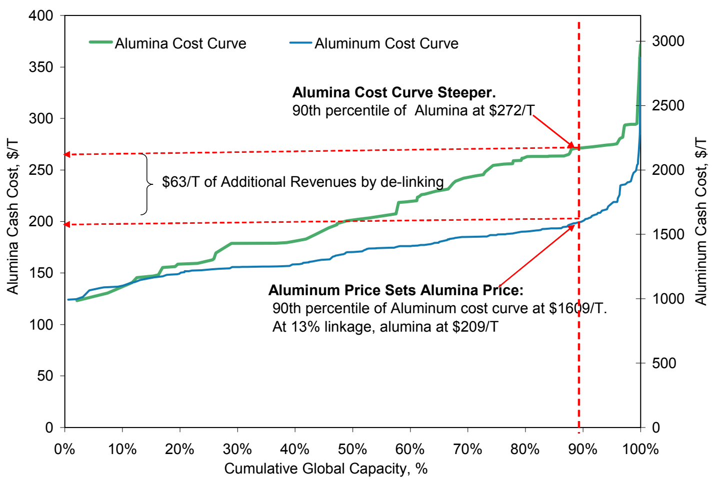
• Near record LME inventories and risk of unwinding of financing contracts may limit price upside, but we expect slowing supply growth, physical tightness, demand improvement, investment interest, and costs to provide price support.

•Transition to a spot-priced alumina market set to continue in 2011. Traditional linkage system of pricing no longer adequately reflects alumina variable and total costs.

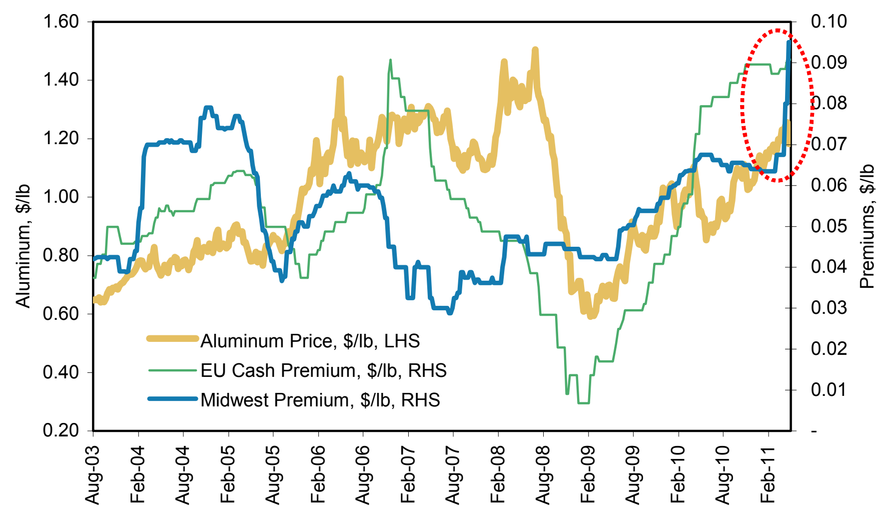
Aluminum Production Costs in China Have Been Rising



Aluminum Cost Curve Does not Reflect Key Drivers of Alumina Production Costs

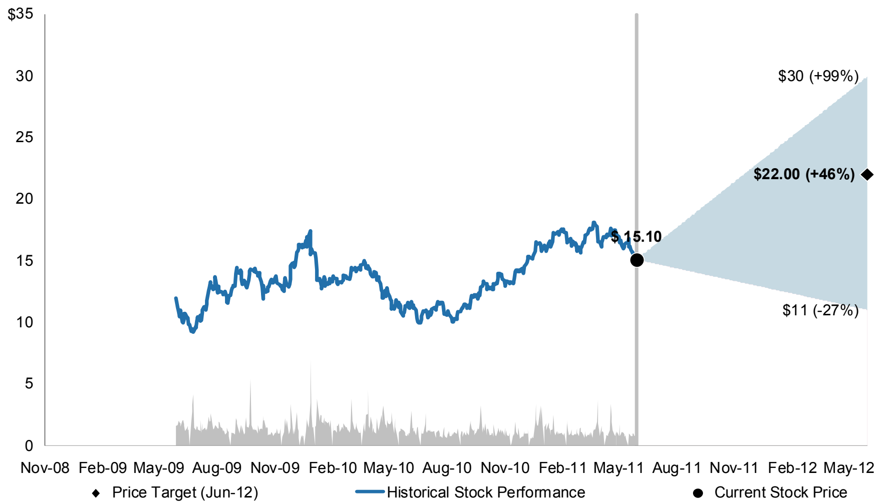


Spot Premiums Have Rallied Due to Physical Tightness



Source: Bloomberg, LME, CRU, Morgan Stanley Research

Alcoa (AA, $15, Overweight, Price Target $22)



Source: FactSet, Morgan Stanley Research

Price Target $22		Based on 13x our normalized EPS estimate of $1.80, implying a 4.7% RoA, 50bp higher than the last 15-year average to give credit for restructuring, capital spending and cost cutting.
Bull Case $30	12x Bull Case 2011 EPS of $2.50	**Economic recovery continues through 2010.** Stronger than expected economic growth drives a V-shaped recovery for aluminum demand. Global economy grows by 5.3% in 2011 and 5.7% in 2012. Prices remain above $1.25 in 2011–12.
Base Case $22	13x mid-cycle earnings at $1.80	**2010 recovery in prices proves sustainable, but high inventories and over-capacity keep a lid on prices.** LME inventory continue to decline in 1H11allowing prices to stabilize near the marginal cost of production. Demand from key-markets improves as global GDP grows 4.2% in 2011 and 4.5% in 2012.
Bear Case $9	1.1x Tangible Book Value per share	**Chinese over-production and unwinding of financing deals leads to over-supply in the market.** Prices come under pressure as market surplus grows. Premiums decline as materials comes off the financing contracts. Global GDP grows 3.1% in 2011 and 3.1% in 2012

Investment Thesis

- Our $22 price target is based on 12x normalized earnings potential of $1.80.
- We think Alcoa can increase alumina pricing as recent spot transactions suggest the company has room to increase linkage rate.
- Following the shedding of non-core businesses, downstream segments are better positioned to earn cost of capital, which is not reflected in shares

Key Value Drivers

- The aluminum price. We believe aluminum prices are well supported near current levels based on energy prices, FX and demand pick-up.
- Improving exposure to spot alumina market. AA's alumina sales are transitioning to spot index-based pricing, with 20% of volumes re-setting annually. Spot prices were 12% higher than AA's 2010 average realized price. AA's JV AWAC is the largest alumina supplier in free market.
- LT mid-stream and downstream earnings potential. Operating margins should improve as key end-markets recover. We estimate $2.4 bn in normalized EBITDA from Flat-Rolled & Engineered Products segments.

Potential Catalysts

- Western smelters lose access to cheap hydro-power as demand for "green power" increases.
- Pick up in key end-markets demand – particularly aerospace (3Q11).
- Strong government focus on restraining wasteful energy consumption and end of preferential power prices in China leads to capacity cuts.

State of Play and Potential Risks

- Aluminum prices are up 6.1% YTD as aluminum receives a cost support from high energy prices.
- Key risks: (1) Slowdown in key end-markets, (2) increase in Chinese aluminum exports (3) sharp supply response in alumina depresses spot pricing.

Alcoa – Normalized Earnings Power – Driven by Higher Operating Rates in Downstream

Segment	Production Capacity, T	10-year Avg. EBITDA/T	10-year Avg. ATOI/T, $/T	EBITDA, $ mm	ATOI, $ mm	Methodology
Alumina	16,827	70	41	1,346	774	ligher Than 1999-2009 average margin
Aluminum	3,827	410	233	1,569	892	Based on 1999-2009 average margin
FRP				1,000	500	Running at 90% utilization rate
EP&S				1,300	725	Running at 90% utilization rate
Total Segment				**5,215**	**2,891**	
Impact of LIFO					-	
Interest Income					20	
Interest Expense					(280)	
Minority Interest					(330)	
Corporate Expense					(280)	
Restructuring & Other charges					-	
Discontinued operations					-	
Other					-	
Net income					2,021	
EPS					**$1.75**	

Source: Company Data, Morgan Stanley Research estimates

Downstream currently running at ~70% rate

All data in $ mn unless indicated

Flat Rolled Products

	Shipments kt	Op. rate	Revenues	Fixed Costs	Variable Costs	Total Costs	EBITDA	ATOI
1Q10 Results	379	75%	1,435	443	885	1,328	107	30
2Q10 Results	420	75%	1,574	443	975	1,418	156	71
3Q10 Results	448	80%	1,645	443	1,053	1,496	149	66
4Q10 Results	411	~80%	1,623	443	1,042	1,485	138	53
1Q11 Results	446	80%	1,892	443	1,277	1,720	172	81

Engineered Products & Solutions

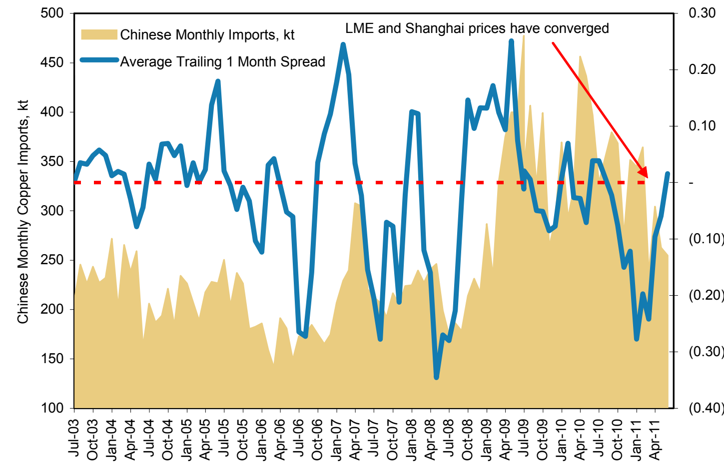
	Shipments kt	Op. rate	Revenues	Fixed Costs	Variable Costs	Total Costs	EBITDA	ATOI
1Q10 Results	46	67%	1,074	307	614	921	153	81
2Q10 Results	50	67%	1,122	307	622	929	193	107
3Q10 Results	51	67%	1,173	307	652	959	214	114
4Q10 Results	50	68%	1,215	307	704	1,011	204	113
1Q11 Results	55	71%	1,247	307	710	1,017	230	130

Source: Company Data, Morgan Stanley Research

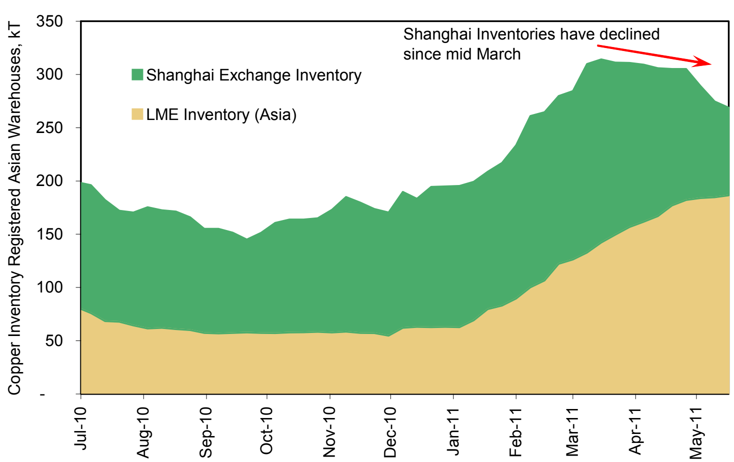
Copper - Signs Of Chinese Restocking Continue To Build

- Despite concerns of further tightening in China, copper has remained firm above $4.00/lb.
- Copper fell only 1% and FCX 2% WoW despite a 36% YoY decline in May Chinese copper imports, suggesting near-term lackluster Chinese demand is already priced in shares.
- Chinese copper premiums have remained stable at ~$100/t since late May, up from their trough of ~$20/t during late Feb- late May, signaling that Chinese buyers remain active.
- Brookhunt estimates that during April-May, the overall Chinese bonded copper inventory has been reduced by ~50% from peak 600-700kt levels in 1Q.
- Emergence of new physically backed investment products introduces a new component to physical demand for copper

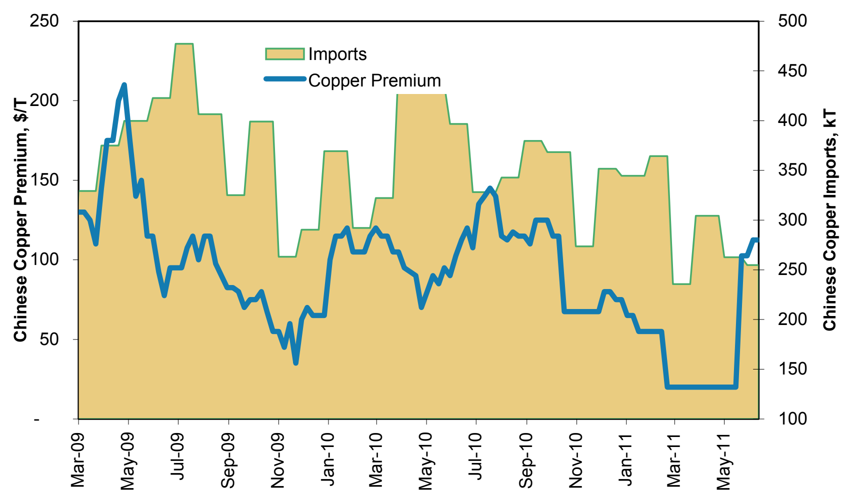
LME-SHFE Arb Has Closed, Which Should be Supportive to Chinese Copper Imports



Shanghai Copper Inventories Have Declined to Near 2010 Trough Levels; LME Asia Stocks Are Stabilizing

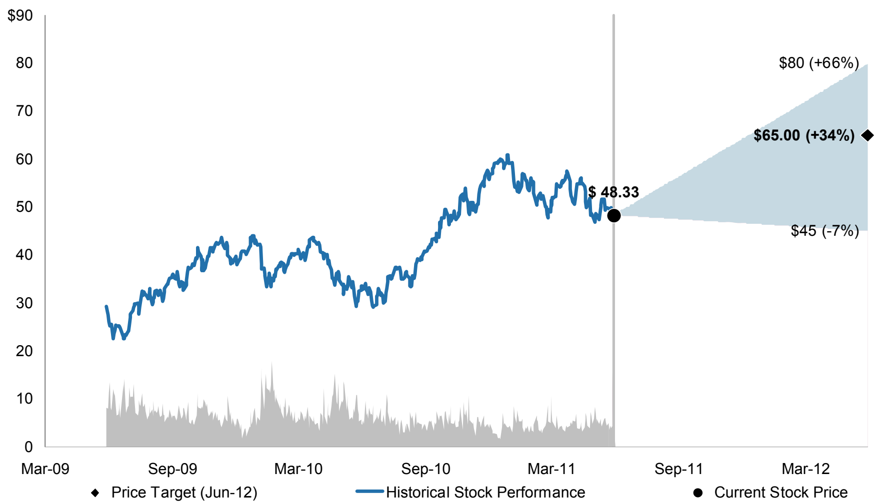


Shanghai Premiums Have Recently Rebounded



Source: Bloomberg, LME, CRU, Morgan Stanley Research

Freeport McMoRan (FCX, $48, Overweight, Price Target $65)



Source: FactSet, Morgan Stanley Research

Price Target $65		Based on 4.9x 2011e EBITDA at $4.45 copper price and 3.85 bn lbs p.a. copper. Multiple consistent with historical trading..
Bull Case $80	4.3x Bull Case 2011 EBITDA	**Strong copper prices and growth above 5 bn.** Unprecedented global stimulus, EM industrialization, and recovery in the US and Europe lead to a sharp risk rally. Global economy grows 5.3% in 2011; copper market remains tight. Valued at ~$5.00/lb copper and 4.5 bn lbs volumes in 2012. Volumes grow to 5.3 bn lbs in 2014-15
Base Case $65	4.9x Base Case EBITDA	**Sustainable recovery.** Copper fundamentals stay solid as demand in China exceeds expectations, combined with falling grades and tight scrap supply. Demand stays strong despite the surge in oil prices. Copper averages $4.45/lb in 2011, with volumes of 3.85 bn lbs in 2011, 4.3 bn in 2012, and 4.6 bn in 2013. Volumes grow to 5 bn lbs by 2014-15. Global GDP grows 4.3% in 2011.
Bear Case $45	6x Bear Case EBITDA	**Another leg down.** Widespread economic slowdown results in larger than expected copper surplus. Copper declines to $3.50/lb and volumes 10% lower than guidance. Global GDP grows 3.1% in 2011.

Why Overweight?

- We believe FCX is an attractive play on copper, our preferred base metal. Shares are pricing in $3.80/lb copper, 17% below our 2012 forecast.
- Growth opportunities. We see supply issues continuing to challenge the copper industry. We expect FCX to grow volumes by ~35% in 2011-15 (vs. 13% for the industry), capitalizing on brownfield growth opportunities at its long-lived operations.
- Attractive cost structure. We think FCX's position on the cost curve will improve.

Current State of Play

- Copper price. YTD copper has averaged 4.37/lb, (2006-10 average $3.04).
- Global inventory/consumption ratio remains ~30% below the 30-year average.
- Chinese imports fell 35% MoM in Feb, but due to irregular seasonality, in our view.

Key Value Drivers

- Copper Play. We forecast $4.45/lb copper in 2011 and $4.60 in 2012. Macro concerns may keep prices volatile, but we would consider this a buying opportunity based on our constructive view on copper.
- Growth. Opportunities at Tenke, Grasberg, Climax, El Abra, Cerro Verde and several North American operations.
- Costs. Better economics at Grasberg and lower cost Tenke and Cerro Verde expansions should help reduce overall cost of operations

Potential Catalysts

- Capital return announcements.
- Growth projects: Advancement of Cerro Verde (feasibility study in 2Q11), Climax (potential 2012 start-up), Tenke, Morenci and El Abra should drive volume growth.
- Copper related: LME inventories begin to decline; Shanghai prices move above LME, Chinese imports rebound strongly.

Key Risks

- Beyond restocking, OECD demand disappoints.
- Dilutive M&A to use excess cash.
- China tightens lending, imports remains weak in 2H11.

Rare Earth Oxides – Market Tightness to Persist

Rare Earths are a group of 17 elements that are used in various clean energy, high-tech, and defense applications because of their chemical, optical, electrical, magnetic, and metallurgical properties.

China has been the dominant supplier over the past two decades. China has about 49% of the known global REO reserves. The country started production in the mid-1980s, and by the mid-1990s had become the world's biggest REO producer. For the past five years, China has been producing >90% of the total REO supply.

In recent years, the government has shown a desire to conserve REOs for internal future use and even declared that the country's medium & heavy REO resources are finite (~15 years).

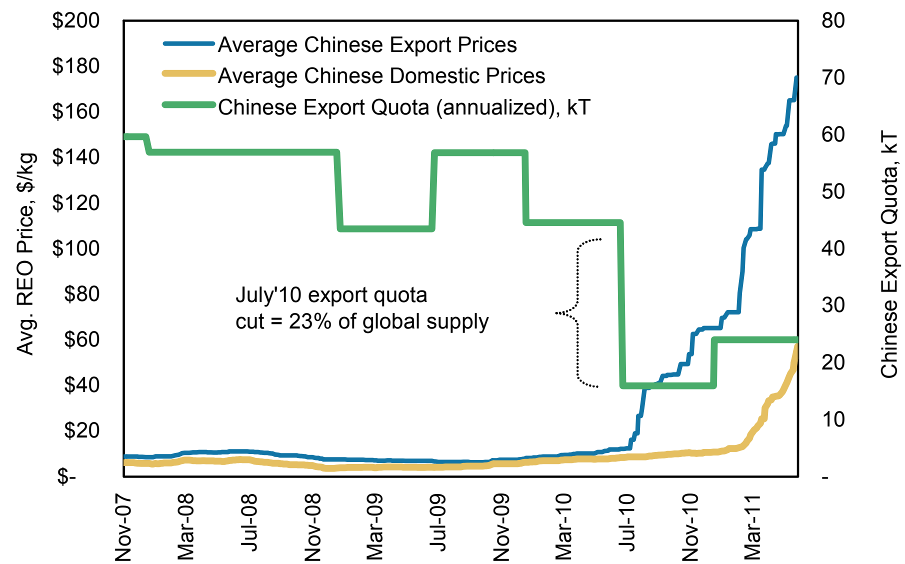
Chinese export quotas have declined ~55% since 2005. The 40% decline last year, to 30,260 tonnes, was particularly sharp. Additionally, the Chinese government imposed production quotas, and limited the issuance of new licenses for exploration.

We think price changes across the rare earth group will be uneven, based on the supply/demand dynamics of each metal.

Neodymium and praseodymium are key ingredients of permanent magnets used in high-tech electronics. Their prices should benefit from the high growth rate of these end markets, in our view.

Next Catalyst: *Chinese export quota announcement in late June/early July 2011.*

Supply Shock - China Export Cuts Tightened the Market in 2010



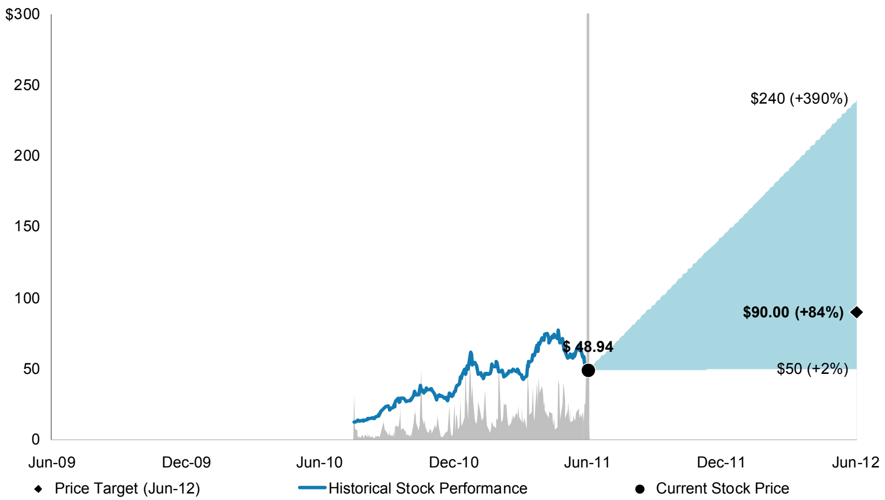
Market to Remain Tight in 2011-13e

All data in kT

2013 REO Market (Outside China) Balance			
2010 Supply	**55**	**2010 Demand**	**57**
Incremental 2013 Supply		**Incremental 2013 Demand**	
Mountain Pass	20	USA	4
Mount Weld	11	EU	4
Nolans Bore	5	Japan & SE Asia	7
Decline in Chinese export quotas	-5		
Clamp down on illegal exports	-10		
Stockpiling	-5		
India/Russia	0		
2013 Supply	**71**	**2013 Demand**	**72**

Source: Metal Pages, Morgan Stanley Research estimates

Risk-Reward Snapshot: Molycorp (MCP, $49, Overweight, Price Target $90)



Source: FactSet, Morgan Stanley Research

Price Target $90		Derived from base case.
Bull Case $240	DCF at avg. REO price $132/kg *(~75% of spot)*	**Tighter-than-expected supply/demand; downstream integration deliver superior margins.** REO prices prove sustainable at 75% of spot ($175/kg). Alloy and magnet production raises average realized price to $151/kg. DCF Discount rate of 11%.
Base Case $90	DCF at avg. REO price of $47/kg (*~27% of spot*)	**Continued favorable supply/demand.** MCP achieves 19kT production rate by year-end 2012 and 40kT by year-end 2013. Successful downstream integration. Alloy and magnet production improves revenues mix and raises average realized price to $65/kg. DCF discount rate at 11%.
Bear Case $50	DCF at avg. REO price of $32/kg *(~18% of spot)*	**Average realized price 32% below base case; project delays.** REO price deck based on a ~60% of Chinese domestic prices or ~18% of spot export prices. MCP experiences one year delay in startup. No credit for downstream integration. DCF discount rate at 12%.

Why Overweight?
•MCP is a play on long-term rare earth oxide (REO) fundamentals and execution. The combination of high-growth end markets and supply risks looks favorable for prices.
•The stock is up ~300% since its July IPO, driven by a ~825% rise in REO prices; however, based on our DCF, MCP is pricing in run-rate REO prices ~20% of spot. Our price target offers 84% upside and is based on REO prices ~27% of spot. We think this leaves upside for investors who believe REO supply shortages will prove structural.
•We like MCP's strategy to leverage its supply of REO products into magnet and alloy production and develop value-added products to defend profitability of more abundant cerium production.

Key Value Drivers
•Every 1% move in average REO prices drives a 1% move in our DCF valuation (excluding downstream).
•MCP should have an attractive cost structure due to proprietary process technology. We see production costs at $2.77/kg (vs. $5.58/kg in China), making it the lowest cost REO project.
•Lower technical risk. MCP's Mountain Pass mine has 50+ years of operating history. Developing processing capability may be a hurdle for early stage competitor projects.
•Downstream focus. Recent acquisitions indicate management's focus on downstream strategy, which improve exposure to high growth end markets and add stability to earnings

Potential Catalysts
•Further export restrictions on REO by China.
•Final agreements with key customers allowing MCP to integrate into alloy and magnet production.

2011 Milestones
•Management expects to convert significant future production covered by "LOIs" into final contracts which could provide more clarity on profit potential.
•Definitive agreement for the alloy and magnets later in 2011. Details of profit potential could be supportive of the stock price.

Gold - Gold Companies Executing Well, but Equity De-rating Continues

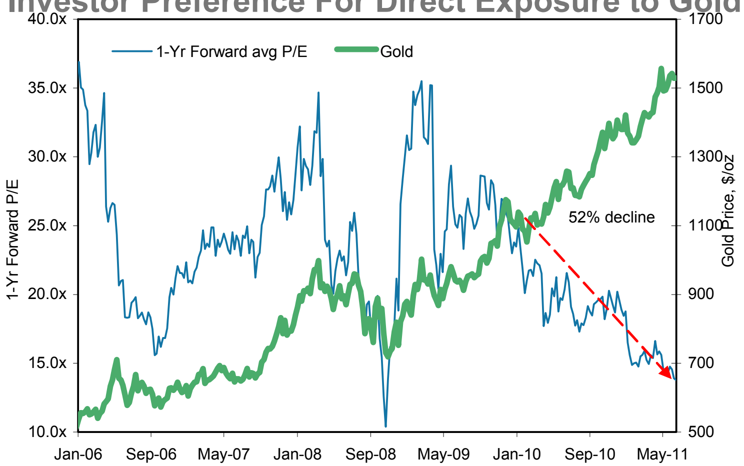
•Miners captured ~85% of the gold price increase in 2010. Gold miners continue to benefit from strong execution and favorable gold price environment in 2011.

•Several companies have announced an increase in dividend over the last 12-18 months. In a range-bound gold environment, stable dividend yield should improve the attractiveness of equities relative to gold-linked direct investments. Current dividend yield stands at 0.9% for ABX and ~2% for NEM.

•At current gold prices, miners should generate strong cash flow, but continue to face a challenge pleasing investors with how the cash will be deployed. We believe current valuations reflect risk of dilutive acquisitions. P/Es have declined ~50% since early 2010.

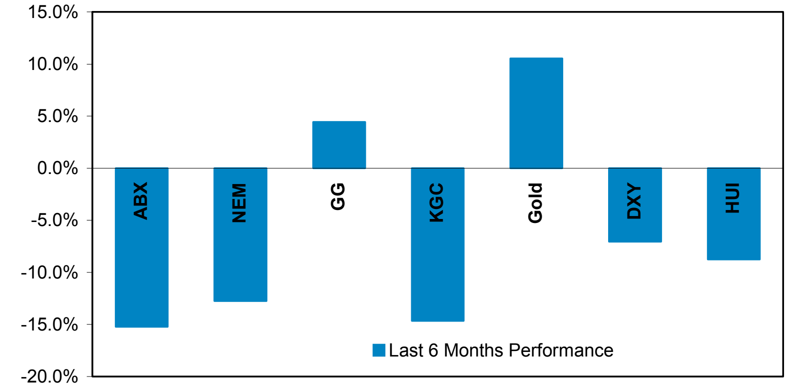
•MS Commodity team sees three challenges to the sustainability of the current record level of investment demand: (1) the growing prospect of the withdrawal of QE in the US at the end of June, (2) the growing possibility that inflationary risks in emerging markets will peak in H1 2011 as food price pressures ease, and (3) a plateau in inflation risks from rising energy prices.

Gold Equities P/E Has Been Declining, Indicating Investor Preference For Direct Exposure to Gold



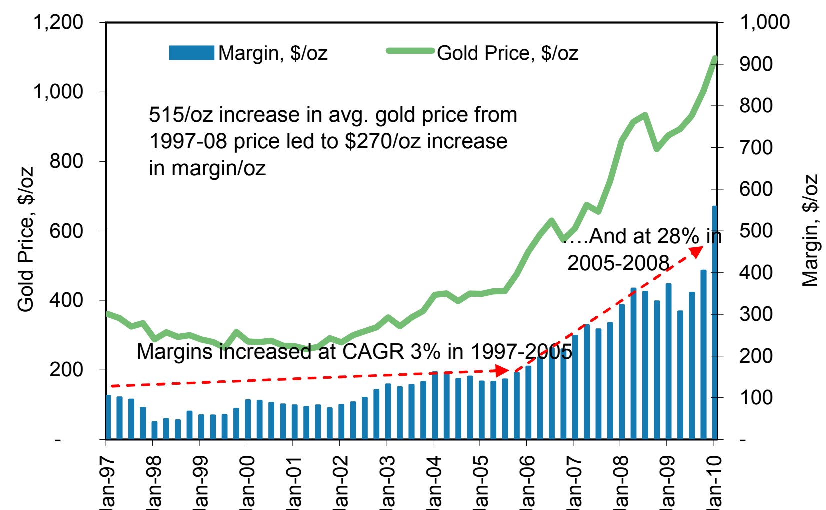
Source: Bloomberg, LME, CRU, Morgan Stanley Research

GG Has Been the Outperformer Within Our Coverage



Source: Factset, Morgan Stanley Research

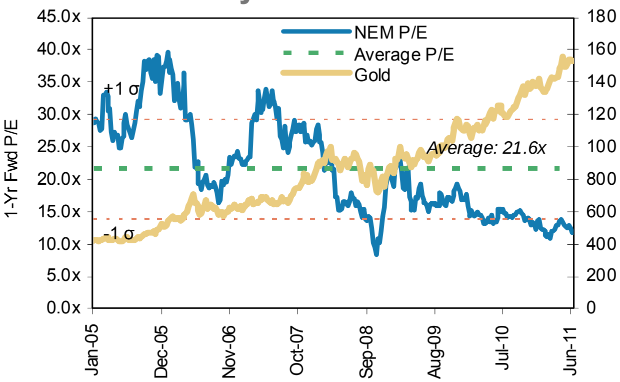
Cost increases eroded ~half of the gold price gains in 1997–2008.



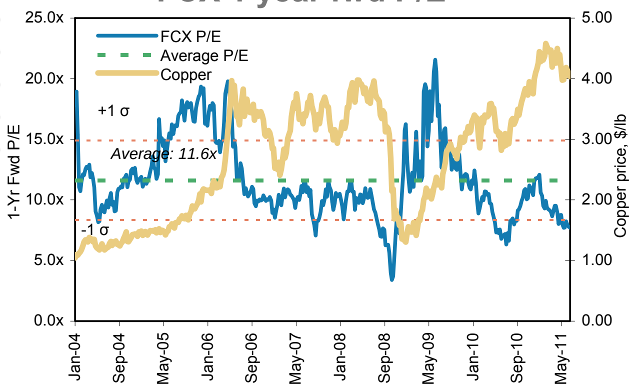
Source: Factset, Bloomberg, Morgan Stanley Research

Historical Valuations

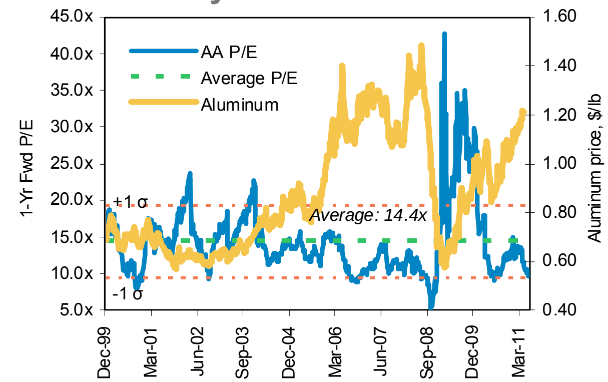
NEM 1 year fwd P/E



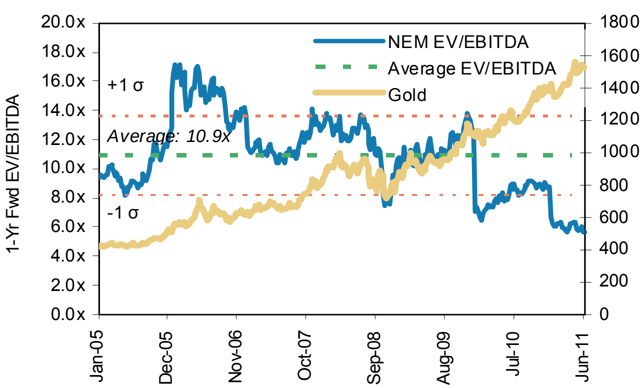
FCX 1 year fwd P/E



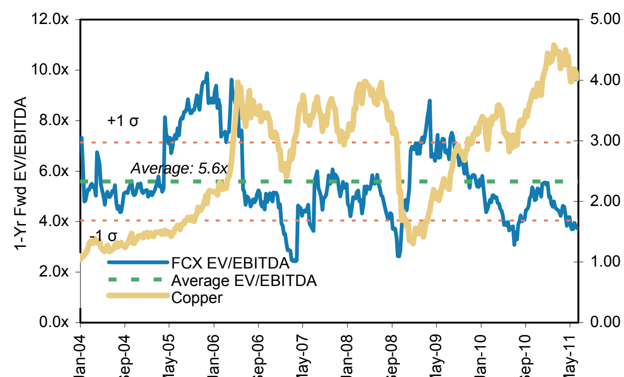
AA 1 year fwd P/E



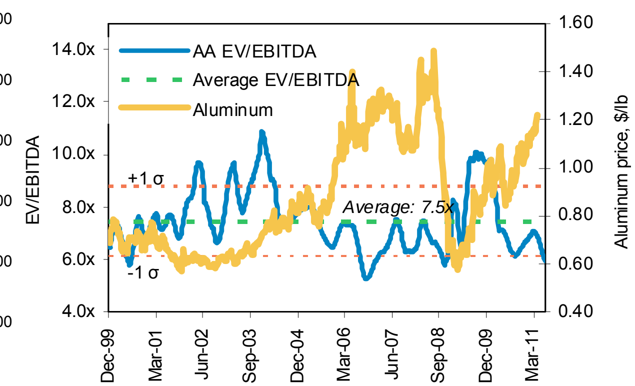
NEM 1 year fwd EV/EBITDA



FCX 1 year fwd EV/EBITDA



AA 1 year fwd EV/EBITDA



Source: Factset

Steel Industry
Key Investment Themes

MORGAN STANLEY RESEARCH
North America

Evan L Kurtz, CFA
Evan.Kurtz@morganstanley.com
+1 212 761 7583

Risk-reward is attractive: Many steel stock are trading at levels near last years lows when the economy was slower and steel prices were almost $300/t lower. Sentiment is currently very weak as a result of recent price declines, but as prices bottom, we believe that could reverse driving shares closer to their mid-cycle valuations, which, on average, provide close to 45% upside to current prices.

Global steel market to remain balanced going forward: We believe healthy demand growth powered by emerging market urbanization with soak up new capacity, and we expect operating rates to remain near mid-cycle levels through 2016. At these levels, steel companies should have enough pricing power to maintain mid-cycle margins on average.

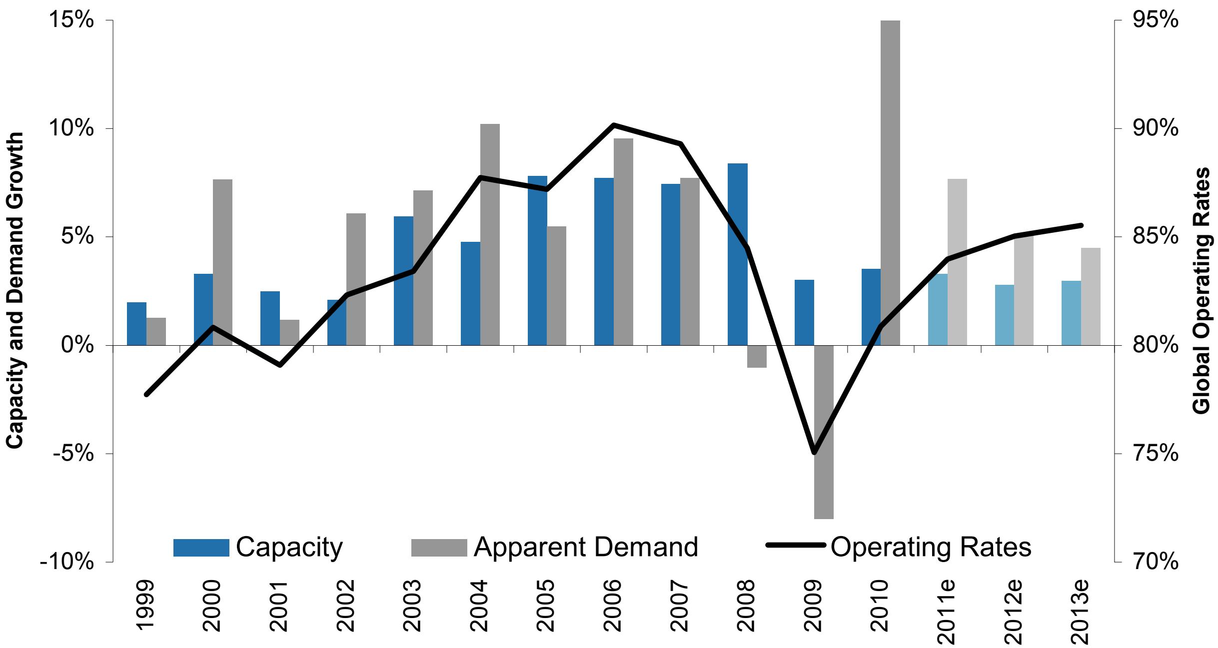
High steelmaking raw material costs should benefit NA producers: We are forecasting higher for longer iron ore, coking coal and scrap costs, which should benefit NA producers. NA is one of the few regions that is long all three raw materials, and steel producers tend to have better vertical integration.

Our preferred end-markets auto, machinery and energy: A strong fleet replacement cycle, high energy prices and growth in shale drilling should support these key steel end markets.

Top Picks: Overweight AKS and X

Industry Overview

Operating Rates Have Recovered, Driven by EM Strength



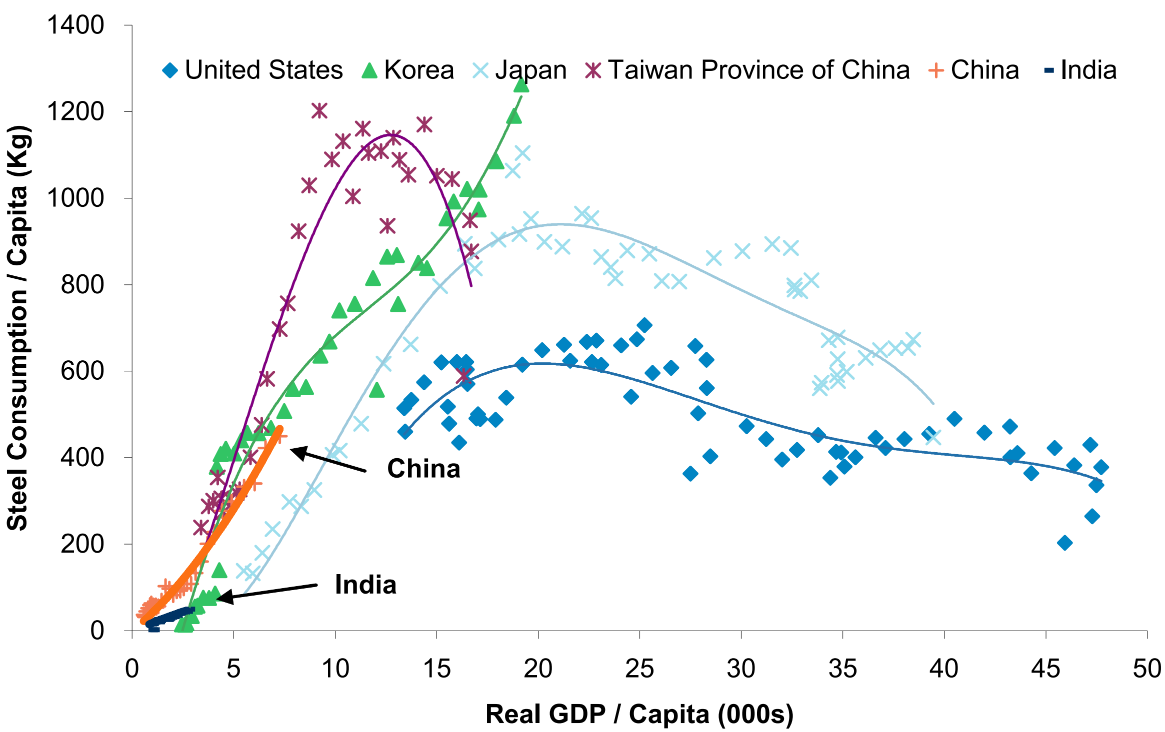
Returning to Normal

- Global operating rates are returning to normalized levels after sharp downturn in 2009
- The financial crisis had the greatest impact on operating rates of developed economies while relative strength in EM countries muted the blow and recovered quicker
- We expect global operating rates to remain at mid-cycle levels near 85% through 2016

Source: CRU, World Steel Assoc, Morgan Stanley Research Estimates

Long-Term Demand Dependent on GDP Growth in Developing Countries

Demand Driven by Emerging Economies



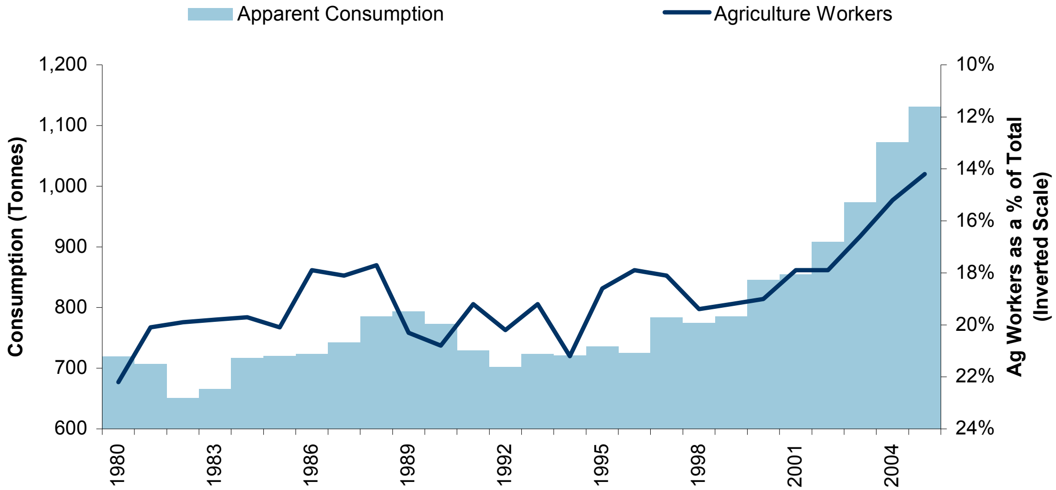
Source: CIA, CRU, Haver, UN, World Steel Assoc, Morgan Stanley Research

Improvement in Global Steel Fundamentals

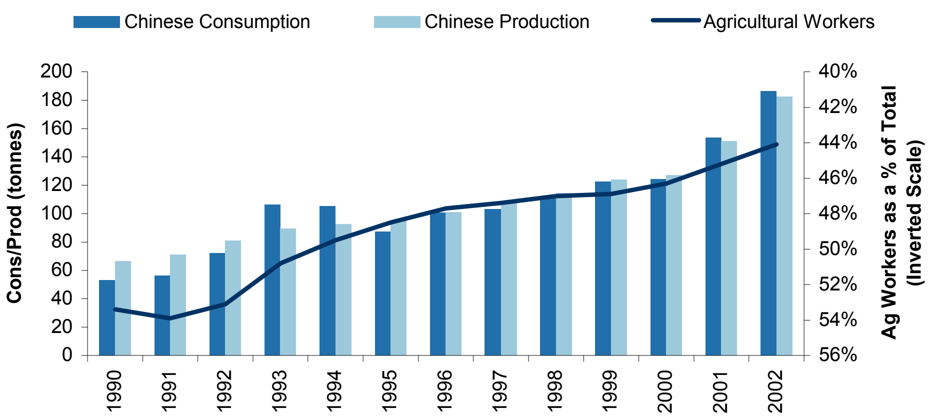
- **Steel intensity is highest in EM economies as they urbanize and make initial investments in capital stock**
- **Peak steel consumption generally occurs when GDP per capita is near US$20,000**
- **China's GDP per capita is just over US$7,000, implying consumption could potentially double from current levels in the next 15 years**
- **Similar consumption trends are developing in India as GDP per capita surpasses US$3,000. Indian steel consumption per capita is still only 50kg/person, roughly a tenth of Chinese per capita consumption. India could be the next big driver in the steel industry**

EM Urbanization Is Driving Steel Consumption Growth

Agricultural Employment (a proxy for urbanization) Fell by 5% Between 1998 and 2005 as Global Steel Demand Increased by 70%



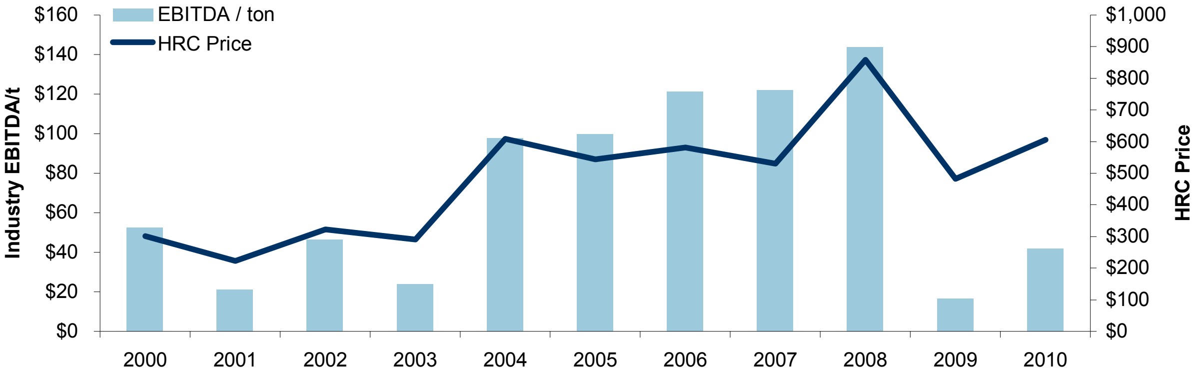
The Correlation is More Extreme in Emerging Markets

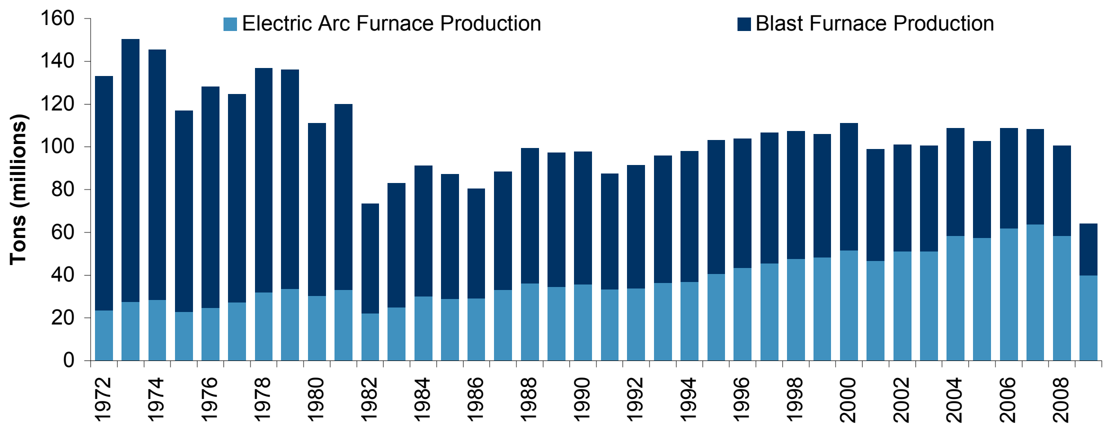


Source: CIA World Factbook, CRU, IISI, World Bank, World Steel Association, Morgan Stanley Research

- **In developed countries, agricultural workers comprise only ~5% of the total workforce**
- **Agricultural workers still constitute 40% of the labor-age population in China and 52% in India in 2010, but the percentages are falling as the countries urbanize**
- **Urbanization in these massive population centers will continue to drive steel consumption going forward**

Domestic Industry Profitability Picked up Sharply Halfway Through the Last Decade





Source: Company Data, Morgan Stanley Research

Post-2004 Industry Positives

- **A global boom in steel demand boosted steelmaking raw material prices. In general, North American producers have raw material cost advantages due to an abundance of scrap, iron ore and coking coal resources on the continent and backward integration**
- **State-owned foreign steel mills have largely been privatized and no longer run for employment and dump steel in the US**
- **The US industry now consists of 50% mini mills that can shutdown and restart at the flip of a switch, which helps with industry production discipline**

Bankruptcy in the Domestic Industry Has Led to Consolidation in North America

Steel Companies Filing For Bankruptcy Protection 1997-2004

Company	Headquarters	Bankrupty Filing	Capacity	Segment
Al Tech Specialty Steel Corp.	Dunkirk, NY	12/31/1997	0.1	Specialty Prods
Acme Metals	Riverdale	9/29/1998	1.2	Steel production
Laclede Steel Co.	St. Louis, MO	11/30/1998	1	Steel production
Geneva Steel Co.	Vineyard, UT	2/1/1999	2.6	Steel production
Qualitech Steel SBQ LLC	Pittsboro, IN	3/24/1999	0.6	Steel production
Worldclass Processing Inc.	Ambridge, PA	3/24/1999	-	Processing
Gulf States Steel	Gadsden, AL	7/1/1999	1.1	Steel production
J&L Structural Steel Inc.	Aliquippa, PA	6/30/2000	-	Processing
Vision Metals Inc.	Ann Arbor, MI	11/13/2000	-	Processing
Wheeling-Pittsburgh Steel Corp.	Wheeling, WV	11/16/2000	2.2	Steel production
Northwestern Steel & Wire	Sterling, IL	12/20/2000	2.4	Steel production
Erie Forge & Steel	Erie, PA	12/22/2000	0.1	Specialty Prods
LTV Corp.	Cleveland, OH	12/29/2000	7.6	Steel production
CSC Ltd.	Warren, OH	1/12/2001	0.4	Steel production
Heartland Steel Inc.	Terre Haute, IN	1/24/2001	-	Processing
GS Industries, Inc.	Charlotte, NC	2/7/2001	2	Steel production
Trico Steel	Decatur, AL	3/23/2001	2.2	Steel production
American Iron Reduction	Convent, LA	3/23/2001	-	Direct Reduced Iron
Republic Technologies	Akron, OH	4/2/2001	2.2	Steel production
Great Lakes Metals LLC	East Chicago,	4/11/2001	-	Processing
Freedom Forge Corp.	Burnham, PA	7/13/2001	0.2	Specialty Prods
Precision Specialty Metals Inc.	Los Angeles, CA	7/16/2001	-	Specialty
Excaliber Holdings Corp.	St. Louis, MO	7/18/2001	-	Processing
Edgewater Steel Ltd.	Oakmont, PA	8/6/2001	0.04	Specialty Prods
Riverview Steel Corp.	Glassport, PA	8/7/2001	-	Processing
GalvPro	Jeffersonville,	8/10/2001	-	Processing
Bethlehem Steel	Bethlehem, PA	10/15/2001	11.3	Steel production
Metals USA	Houston, TX	11/15/2001	-	Distribution
Sheffield Steel	Sand Springs,	12/7/2001	0.6	Steel production
Action Steel	Indianapolis, IN	12/28/2001	-	Processing
Huntco Inc.	Town and Country,	2/4/2002	-	Processing
National Steel	Mishawaka, IN	3/6/2002	7	Steel production
Calumet Steel	Chicago Heights,	3/19/2002	0.2	Steel production
Birmingham Steel	Birmingham, AL	6/3/2002	2.5	Steel production
Cold Metal Products	Youngstown,	8/16/2002	-	Processing
Bayou Steel	LaPlace, LA	1/23/2003	0.6	Steel production
Kentucky Electric Steel	Ashland, KY	2/6/2003	0.3	Steel production
EvTac Mining	Eveleth, MN	5/1/2003	-	Iron Ore
Weirton Steel	Weirton, WV	5/19/2003	3	Steel production
Fort Wayne Specialty Alloys	Fort Wayne, IN	6/3/2003	0.1	Steel production
WCI Steel	Warren, OH	9/17/2003	1.5	Steel production
Republic Engineered Products,	Fairlawn, OH	10/6/2003	2.2	Steel production
Rouge Industries, Inc.	Dearborn, MI	10/23/2003	3.2	Steel production
Keystone Consolidated Industries	Peoria, IL	2/26/2004	1	Steel production

Source: Alexander Hamilton Institute, Morgan Stanley Research

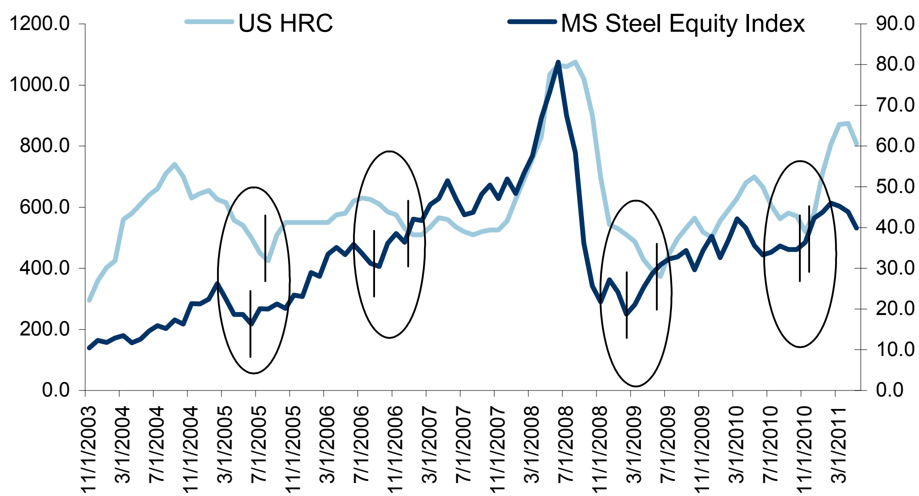
Post-2004 Industry Positives cont'd

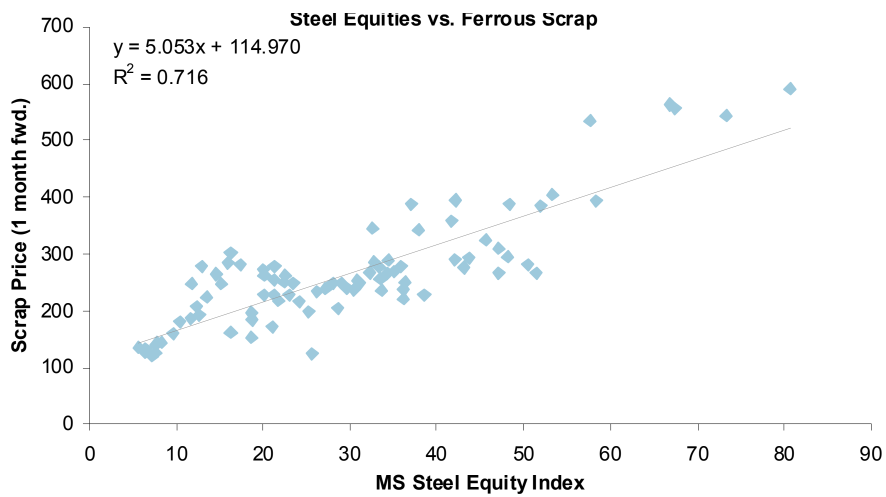
- US consolidation was sparked by 50 companies filing for bankruptcy protection leading up to 2004
- The wave of bankruptcies forced the industry to consolidate, and allowed producers to modify onerous labor contracts
- Pre-consolidation, single mill companies were forced to run for cash in down-cycles. Today, companies run multiple furnaces and have the flexibility to take down BF production if market conditions do not support full operating rates
- There are many global producers, but domestically the industry is now quite concentrated

Steel Teach-In

Stocks & Valuation

Steel Stock Trade on Price Movement and Sentiment More Than Earnings

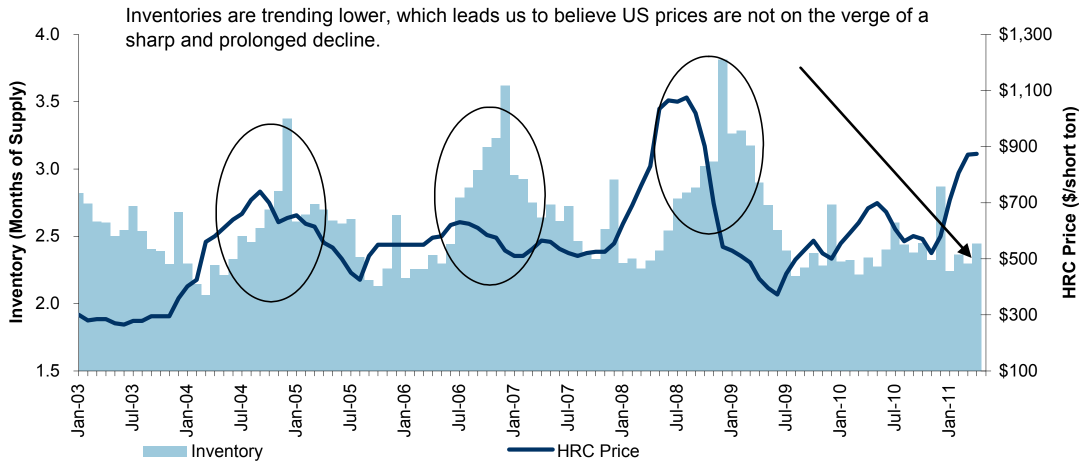


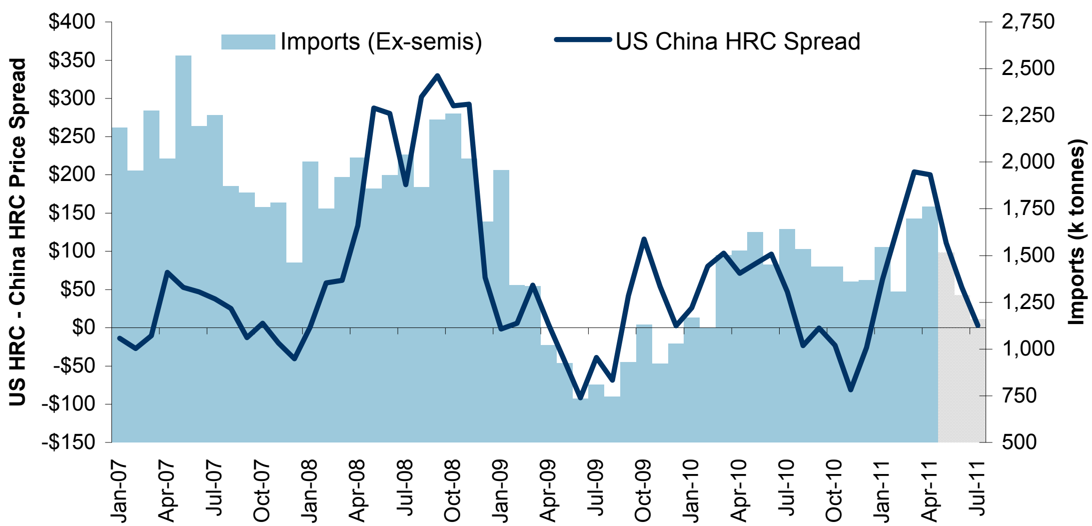


Source: AMM, CRU, Morgan Stanley Research

- **Scrap steel prices are a fairly reliable lead indicator for steel price, hence their very high correlation with the stocks.**

We Expect Prices to Bottom in Late July

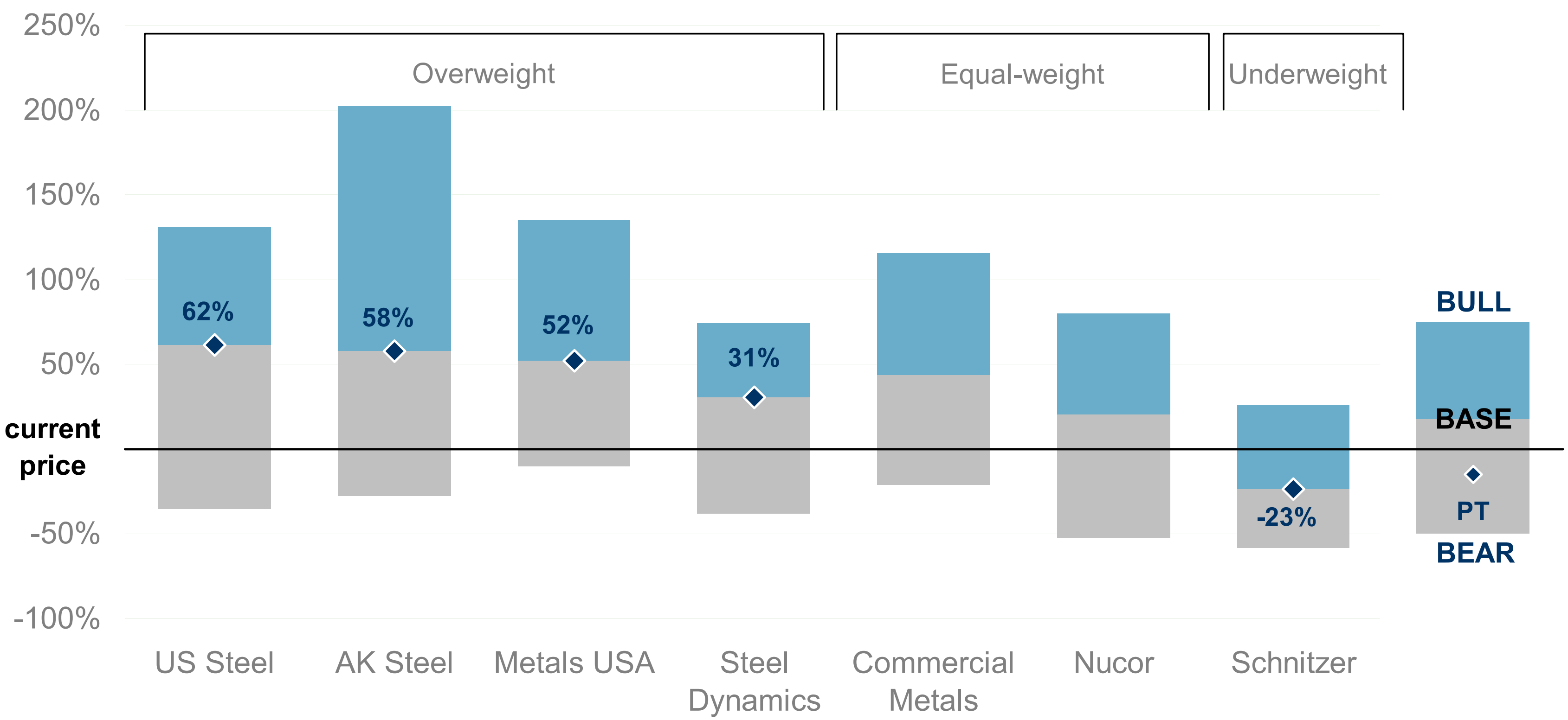




Source: MSCI, CRU, Census Bureau, ITA, Morgan Stanley Research Estimates

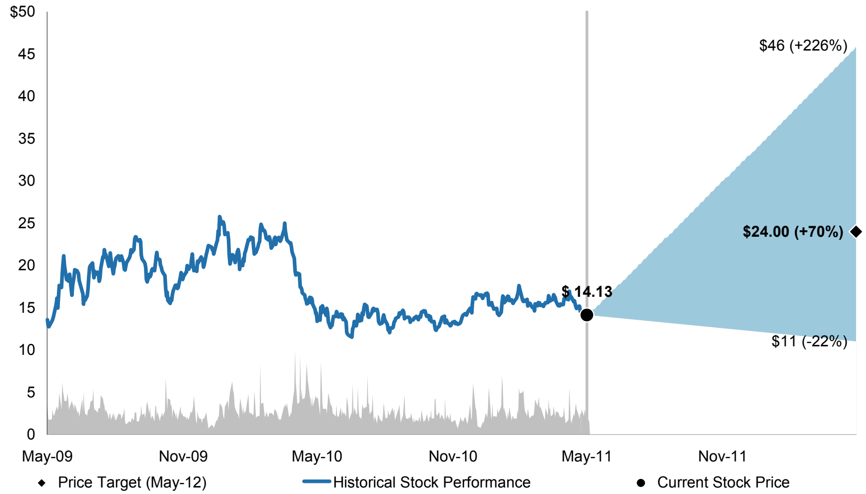
- **Inventories are lean (0.5 standard deviation below the mean at the end of April).**
- **Imports are set to decline since price spread with Asia are collapsing.**
- **Once August orders book are filled, we think prices will put in a bottom.**
- **Unlike 2010, when apparent steel demand raced ahead of real demand, we believe recent improvement in steel mill sales are more closely tied to the real economy, and producer have been better able to judge the right amount production required to keep the market in balance.**

Top Picks Are AKS and X; Both Have Attractive Risk-Reward Skews



Source: Morgan Stanley Research

AK Steel (AKS, $14, OW, PT $24): Risk-Reward Skewed Sharply to the Upside



Source: FactSet, MorganStanley Research

Price Target $24		Our $24 price target is based on 10x our 2012e EPS of $2.40 and 4.4x 2012e EBITDA, which is modestly below the long run average forward P/E of 11.3x and EV/EBTIDA of 4.7x
Bull Case $46	8.9x 2011 EPS of $11.30	**Strong improvement in 2012 demand:** The hot-rolled coil price per ton averages $825 in 2012. AK steel ships 6.2mn tons. Electrical steel prices climb 10% and volumes increase 20%. US auto production climbs to 14mn vehicles.
Base Case $24	12.5x 2011 EPS of $5.60	**Steady improvement in 2012 demand:** The hot-rolled coil price per ton averages $745 in 2012. AK steel ships 6mn tons. Electrical steel prices climb 3% and volumes climb 10%. US auto production climbs to 13.5mn vehicles.
Bear Case $11	1.5x 2009 Tang. BV of $19	**Double-dip recession:** The hot-rolled coil price per ton falls to $680 in 2012. While AKS troughed near 1.0x book value in March 2009, we believe improved liquidity will prevent a fall to similar levels in a double-dip.

Investment Case

- We believe temporary 2010 cost issues have caused investors to overlook the true earnings power of the company.
- Quarterly iron ore pricing and iron ore pass-through clauses should eliminate some of the risk of prolonged cost-related margin squeezes.
- Electrical steel demand appears to be recovering, which could provide an earnings tailwind if volumes rise and annual contract pricing resets higher going into 2012.
- We believe the market is overly concerned about a collapse in carbon steel fundamentals. We think low inventories and a reversal in import growth will prevent pricing from falling to levels seen last year.

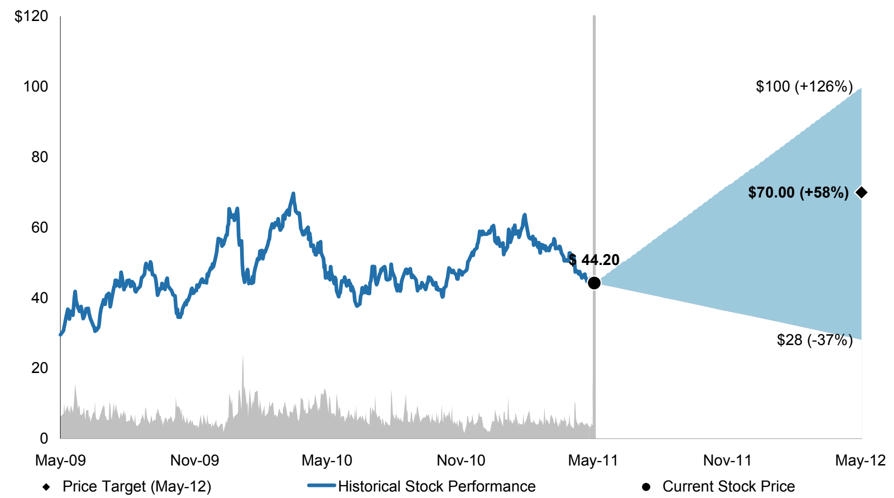
Potential Catalysts

- Signs of price stabilization at higher than expected levels would serve as a trigger for the shares.
- We expect 3Q guidance, released in late July, to lead to upwards earnings revisions.

Risks

- As a high beta name, the stock is vulnerable to a broad market sell-off on macro concerns.
- New flat-rolled and auto steel capacity in the US market could limit pricing power.

US Steel (X.N, $44, OW, PT $70): Risk-Reward Skewed to the Upside



Source: FactSet, MorganStanley Research

Price Target $70		Our $70 price target is based on 8.2x our 2012 EPS of $8.60 and 5.1x 2012 EBITDA, which is in line with the 10-year average forward P/E of 9.5x and EV/EBTIDA of 4.9x.
Bull Case $100	8.9x 2011 EPS of $11.30	**Strong rebound in real demand in 2011.** The hot-rolled coil price per ton averages to $840 in 2011. Operating rates average 83%. Iron ore price bounces to recent high, pushing steel price higher.
Base Case $70	12.5x 2011 EPS of $5.60	**Real US demand gradually climbs, China production recovers in 2011.** The hot-rolled coil price per ton averages $765 in 2011. Industry operating rates average 75%. Chinese steel production climbs 7% in 2011, causing global cost-push price hikes.
Bear Case $28	1.5x 2009 Tang. BV of $19	**Double-dip recession; China production does not rebound.** The hot-rolled coil price per ton falls to $585 in 2011. Operating rates average 70%. While X troughed at 1.0x tangible book value in March 2009, we believe improved liquidity will prevent a fall to similar levels in a double-dip.

Why Overweight?

- X is well positioned from a raw material integration and product market standpoint.
- Shares have traded off on oil price concerns, while X's tubular segment benefits from high global oil prices and MS economists believe risks to global growth are mild.
- US Steel fundamentals are in good shape and improving demand, low inventories and disciplined production should support pricing at higher than expected levels.
- After two years of US aggregate capex below depreciation, we believe X is well positioned for a US replacement cycle for autos, heavy trucks and machinery.

Key Value Drivers

- High fixed costs make US Steel's earnings highly leveraged to the steel price; every $10/t move in HRC tends to move shares by $1.50.

Risks

- As a high-beta name, the stock is vulnerable to a broad market sell-off.
- Overcapacity in the US market could limit pricing.

US Coal
Key Investment Themes

MORGAN STANLEY RESEARCH
North America

Wes Sconce
Wes.Sconce@morganstanley.com
+1 212 761 6004

Near-term fundamental outlook: peak met coal markets are easing

- We see coking ("metallurgical" or "met") coal prices troughing in 2H11 at ~$275/t, vs. $315/t today
- Consensus remains bullish on longer-term outlook for coking coal
- China dictating global thermal coal trade flows today
- Domestic US markets are sluggish; continue to track economic recovery
- Competition with nat gas unlikely to get much worse from here
- We believe current US export levels are sustainable, but could be very choppy over short term

Long-term fundamental outlook: new opportunities emerging for US export growth

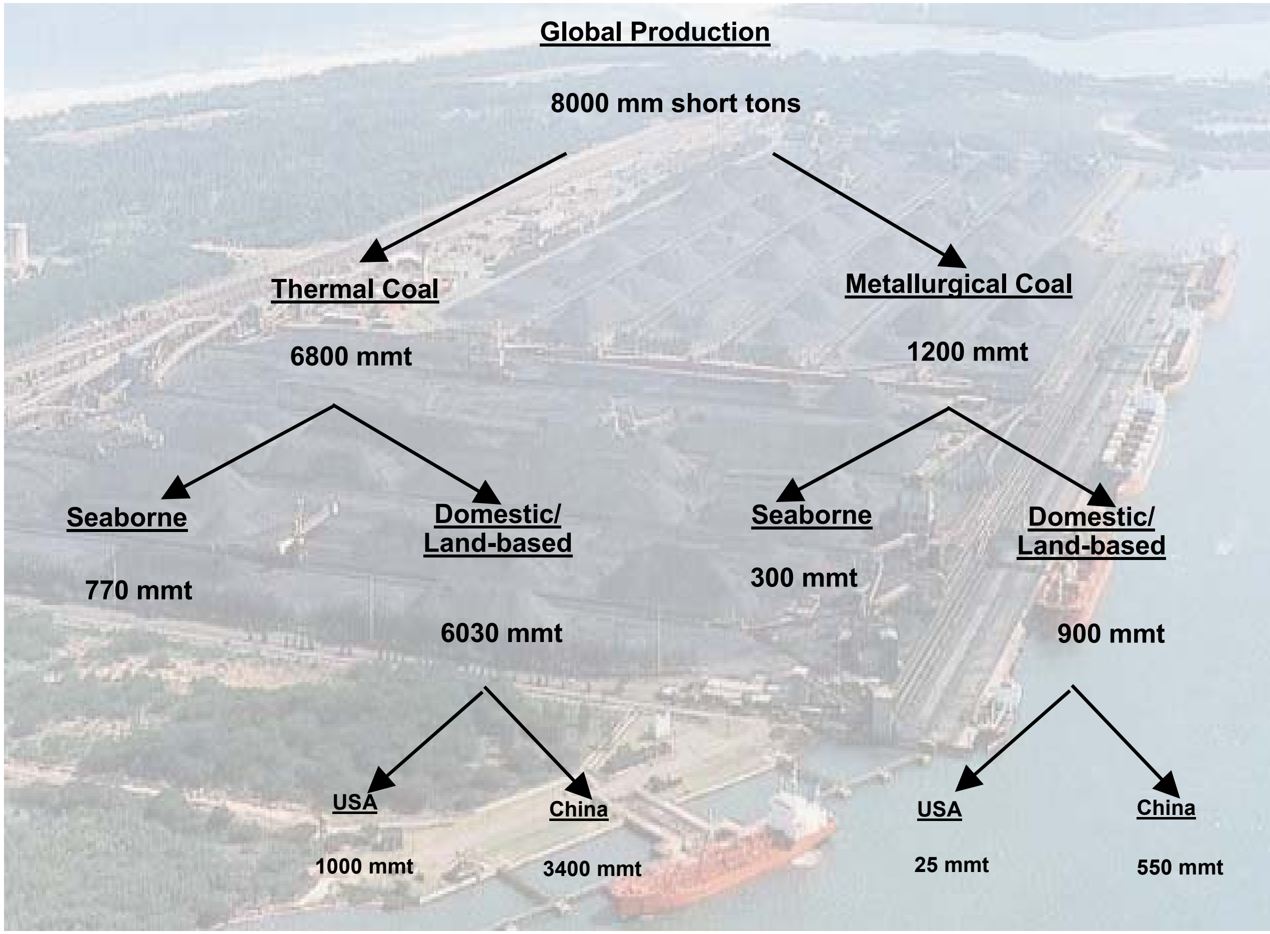
- Global met coal markets in deficit for the next several years
- India becoming a bigger determinant of seaborne thermal coal balances
- Increased opportunities for US to participate in export thermal coal market, but still a swing supplier
- Cheap natural gas will keep a ceiling on Central App; Illinois Basin, PRB gaining market share

Stocks discounting a sharp normalization in met coal prices; export markets driving sentiment

- Sector valuations approaching trough levels; stocks discounting ~$200-225/t coking coal
- Consensus remains bullish on longer-term outlook for coking coal
- Long-term met coal price expectations are driving investment decisions
- Rising investor interest in US thermal coal export theme
- We prefer low-cost suppliers with high-quality growth targeted at seaborne markets

Top Pick: Overweight BTU

Global Coal Market Overview

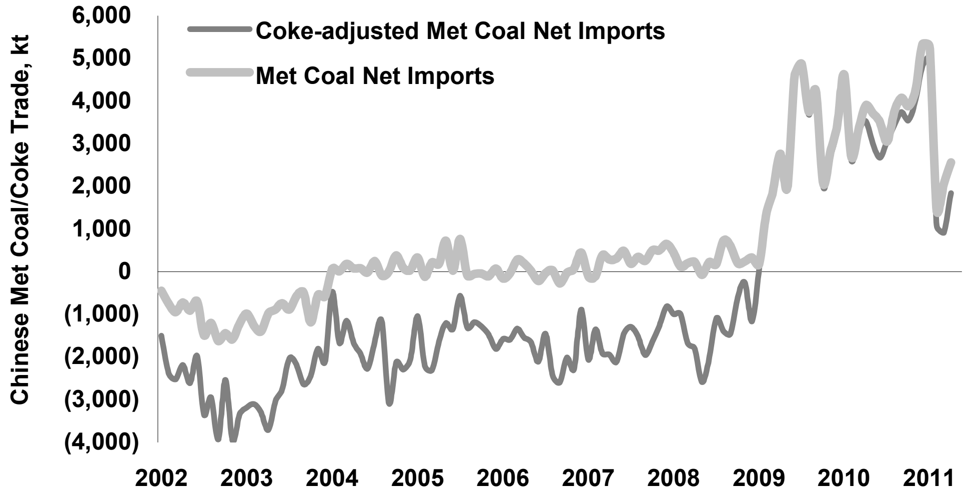


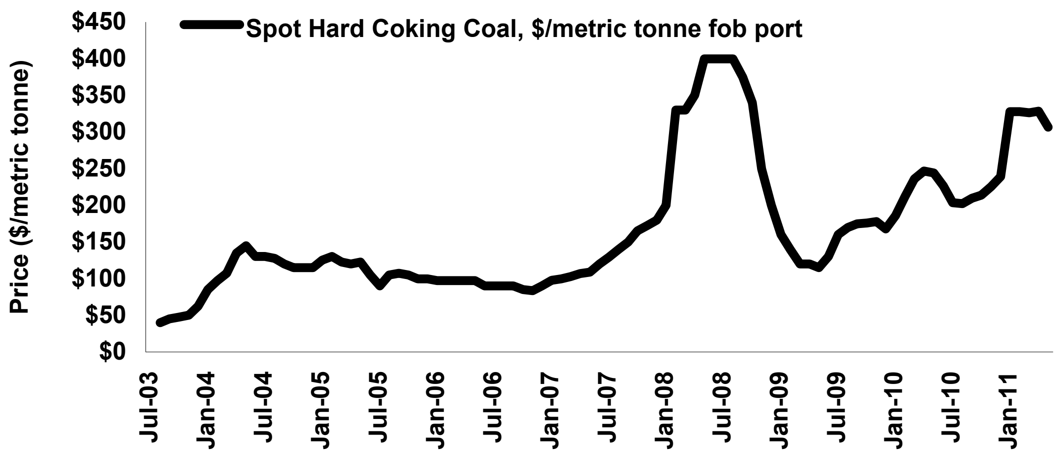
Global coal market ~8 billion tons

- Domestic trade: 6.9 bn tons
- Seaborne trade: 1.1 bn tons
- Thermal/Power: 6.8 bn tons
- Metallurgical/Steel: 1.2 bn tons
- US market: 1 bn tons
- China market: 4 bn tons

Source: BP Statistical Review of World Energy, Morgan Stanley Research

Metallurgical Coal: Global Steel Demand Growth, Structural Supply Constraints



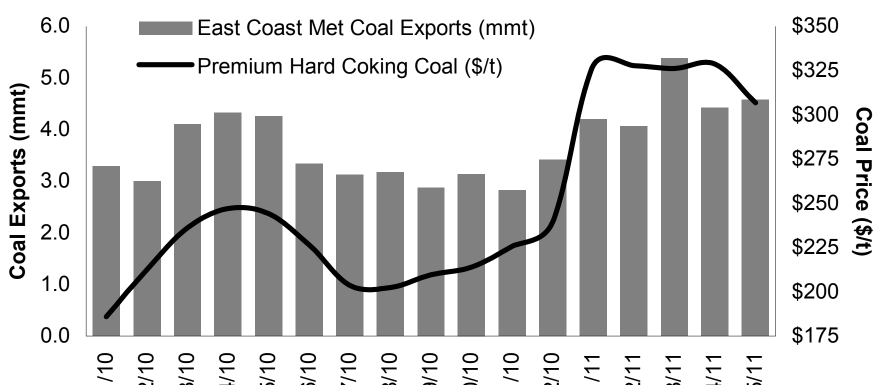


- Met coal is a key driver of equity valuations today
- Focus of significant M&A activity over last four years
- No more easy capacity
- Quality issues
- China has gone from being an effective 30 mmt net exporter to a 40 net importer
- China now drives 10% of seaborne met coal demand…
- … but China is price sensitive

Source: McCloskey's, Energy Publishing, Morgan Stanley Research

Metallurgical Coal: Producers Targeting Significant Expansion

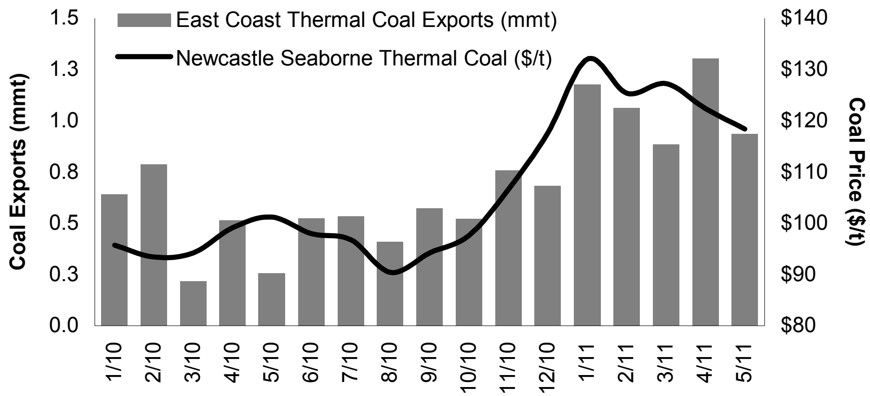
US Met Coal Producers	Met Production Potential Capacity
Massey	17.0
Alpha	14.0
Consol	13.5
Patriot	11.0
Walter	9.5
Arch	8.0
Cliffs	8.0
Bluestone (Mechel)	7.0
Other Central App	7.0
United (Metinvest)	6.0
Concept & Mid Vol (ArcelorMittal)	5.0
PBS (Severstal)	*4.0*
James River	3.6
Teco	4.0
Trinity (Essar)	3.5
Drummond	2.0
Suncoke	2.0
Rosebud	1.0
Total US Coal Companies	**126**
US Coking Coal Consumption	**23.0**
Coking Coal for Exports	**103**



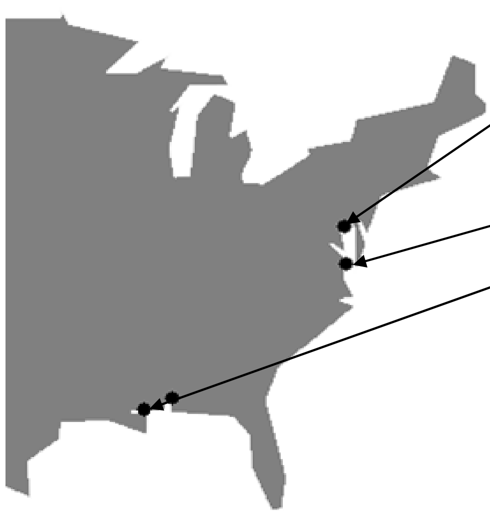
- **Coking coal EBITDA margins are ~50%, versus thermal coal (US Central App) ~15%**
- **US targeting a 60% increase in met coal production over the next 2-3 years**
- **Port capacity is there, but market volatility could push out timing of expansion**
- **US remains a swing supplier: quality issues, costs, proximity to the marginal buyer (Asia)**

Source: McCloskey's, Company Data, various industry trade publications, Morgan Stanley Research, ANR based on midpoint of current 2011 shipment guidance

US Thermal Coal Export Potential Taking Shape



- **Port capacity is there, but the US remains a high cost swing supplier into seaborne thermal coal markets**
- **Low-cost export supply from the Illinois Basin and Powder River Basin (PRB) remain attractive options**
- **Eastern US railroads are capturing greater rent**
- **Eastern US coal prices are being driven by export market arbitrage opportunities**



Baltimore	mmtpy	Terminals
2008	11.0	CNX Marine
2009	6.7	Curtis Bay
2010	14.2	Sparrow's Pt
Quarterly High	20.7	
2 Year Potential	20.5	
5 Year Potential	22.5	

Hampton Rds	mmtpy	Terminals
2008	29.7	Lambert's Pt
2009	27.7	Pier IX
2010	32.8	DTA
Quarterly High	51.9	
2 Year Potential	61.5	
5 Year Potential	69.0	

Gulf	mmtpy	Terminals
2008	18.0	McDuffie
2009	13.6	Int'l Marine
2010	20.0	IC RailMarine
Quarterly High	30.6	Teco Electro
2 Year Potential	52.0	
5 Year Potential	52.0	

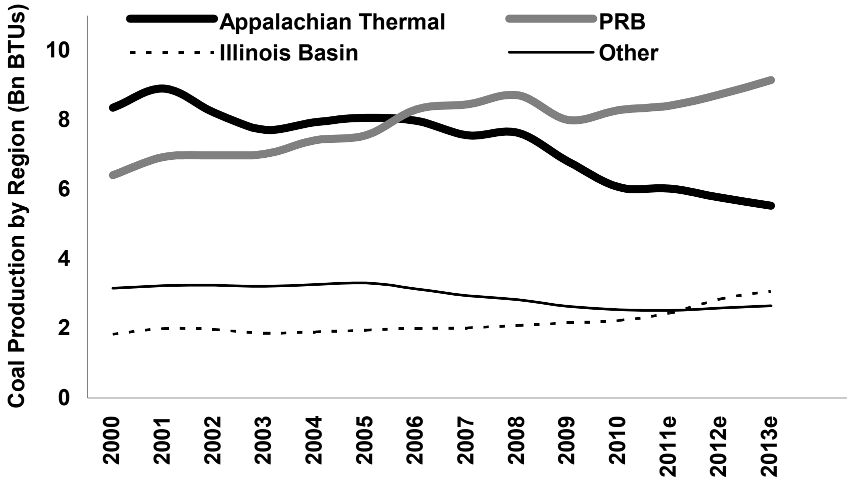
West Coast	mmtpy	Terminals
2008	1.4	Longview
2009	1.6	Cherry Point
2010	5.0	Westshore
Quarterly High	5.1	Ridley
2 Year Potential	10.0	LAX
5 Year Potential	55.0	

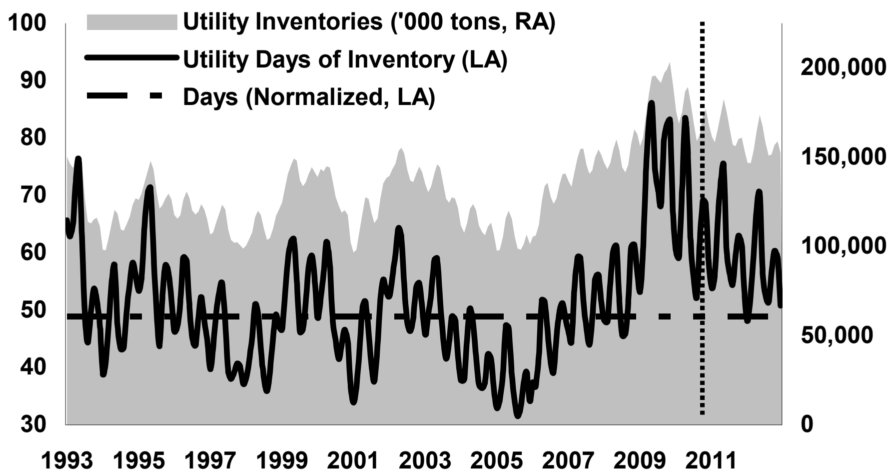
Other	mmtpy
2008	21.4
2009	9.5
2010	9.7
2 Year Potential	11.0
5 Year Potential	11.0

Total	mmtpy
2008	81.5
2009	59.1
2010	81.7
2 Year Potential	155.0
5 Year Potential	209.5

Source: McCloskey's, Energy Publishing, T. Parker Host, Morgan Stanley Research

Domestic Market Influences: Exports, Coal on Coal Competition, Cheap Nat Gas

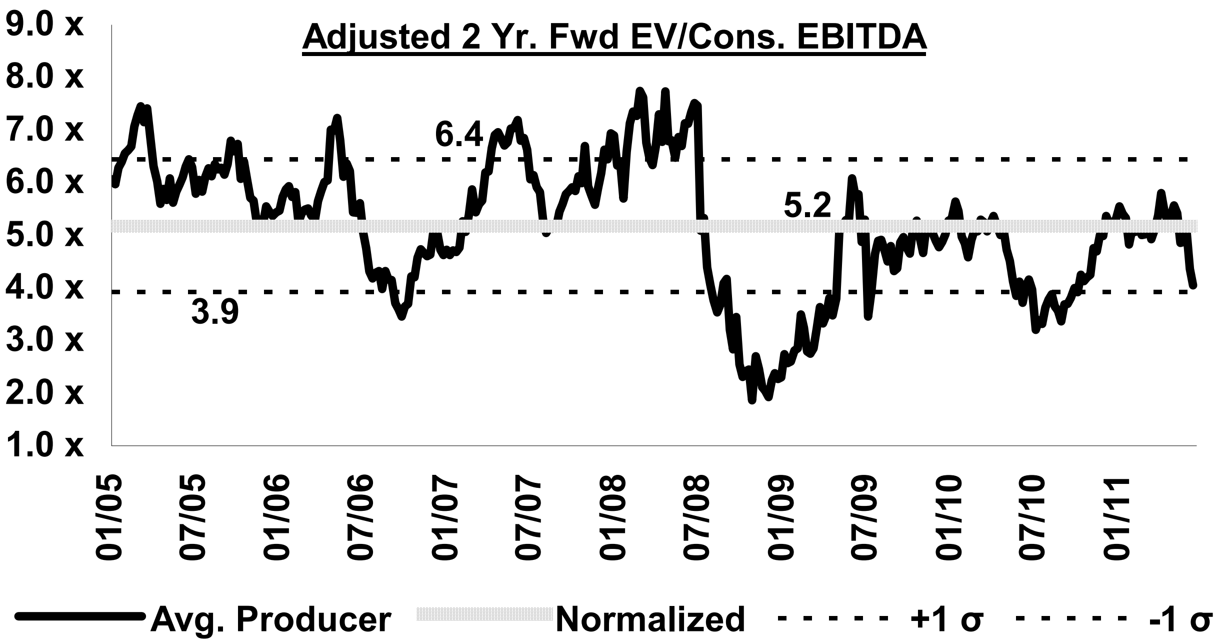




- **We see low-cost regions taking market share from high-cost Appalachian coal**
- **New US thermal coal mine investment in the Illinois Basin; PRB will be required over time as excess capacity is soaked up**
- **Central Appalachia (CAPP) thermal coal cannot compete against cheap natural gas**
- **The lowest cost Central App coal is surface mined, where new permits have been at a standstill for the last 4 years**
- **US coal market unlikely to see material growth beyond 2012, but we do not see declines**
- **Cheap natural gas has already impacted coal demand that is being targeted by current regulations**
- **We see inventories reaching normal levels in 2012**

Source: US Energy Information Administration, Morgan Stanley Research estimates

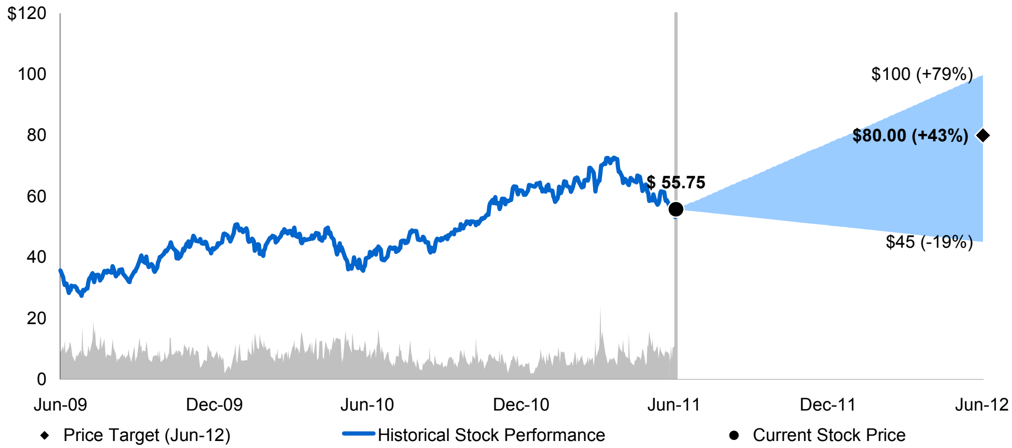
US Coal Equities



- **Valuations nearing trough levels**
- **Fewer pure plays left**
- **Further consolidation likely involves bolt-on opportunities**
- **Going forward, we think the best investment opportunities will be in US coal producers with low cost structures in the US and high quality growth in global coal markets**

Source: FactSet, Morgan Stanley Research

Peabody Energy (BTU, Overweight, Price Target US$80)



Source: FactSet, Morgan Stanley Research

Price Target $80		Based on 7.0x 2012e EBITDA, in-line with BTU historical multiple and at a premium to US producers, which we believe is warranted given its Australian and US growth potential on top tier reserve profile.
Bull Case $100	Implies 6.8x Bull Case 2011 EV/ 2012 EBITDA	**Australian growth accelerated as Asian markets tighten.** Australian segment reaches 40 mmt LT, 35 mmt in 2012. Met coal capacity ramps up to 16 mmtpy LT, 13 mmt in 2012. Benchmark hard coking coal prices peak at $316/t fob in 2012. New export terminals drive PRB pricing parity with Asian markets. School Creek PRB shipments commence in 2012. Illinois Basin growing to 50 mmtpy LT.
Base Case $80	Implies 7.0x Base Case 2011 EV/ 2012 EBITDA	**Consistent, above-trend growth in all operating segments.** Australian shipments reach 38.5 mmt LT, 32 mmt in 2012. Met coal capacity ramps up to 14.5 mmtpy LT, 11.5 mmt in 2012. Benchmark hard coking coal prices average $292-275/t in 2011-12. US thermal coal prices recover as utility stockpiles normalize. School Creek PRB shipments commence in 2013. Illinois Basin growing to 40 mmtpy LT.
Bear Case $45	Implies 5.8x Bear Case 2011 EV/ 2012 EBITDA	**Australian growth delayed; US thermal recovery stalls.** Australian segment reaches 32 mmt LT. Met coal expansion delays and cancellations: 10 mmtpy LT. Hard coking coal contracts prices decline to $175/t. US coal inventories remain above normal, pricing recovery stalls. School Creek PRB project deferred indefinitely. Illinois Basin growth stalls at 35 mmtpy LT.

Why Overweight?

- Fits well with our thesis suggesting investors play low-cost coal
- Best in-class growth potential across all operating regions justifies Peabody’s valuation premium to US peers, in our view
- Only US coal producer with direct exposure to Asia-Pac market
- Diversified mix between export metallurgical (~40% of 2011 EBITDA), Asia-Pacific thermal coal (~20% of 2010 EBITDA), and low-cost US thermal coal (~35% of 2010 EBITDA)

Key Value Drivers

- **Size:** Largest private sector and publicly-traded US coal producer with ~8 billion tons of reserves. Currently produces ~190 mmtpy in the US and is a leading producer in Australia
- **Low-cost operations in the US:** Growing opportunities for PRB and Illinois Basin to displace high-cost Appalachian production
- **Substantial growth potential in all operating regions:** Projected growth in Australia (23 mmt to 35–40 mmt), PRB (137 mmt to 150–175 mmt), Illinois B (32 mmt to 40–45 mmt) by 2015
- Trading & brokerage business contributing 5–15% of EBITDA

Potential Catalysts

- Dalrymple and Newcastle port and rail infrastructure expansions
- Benchmark hard coking coal price settlements
- New mines announced in PRB, Illinois Basin and Australia
- Developing interests in China, Mongolia, India and Indonesia
- Acquisition risk: $1.4 billion cash on hand, $2.8 billion liquidity
- US West Coast port development
- Minerals Resources Rent Tax (MRRT): BTU has suggested that its Australian projects currently in pre-construction phases will move forward should the MRRT move ahead in current form.

Price Target Methodology and Key Risks

Ticker	Price Target	Valuation Methodology	Key Risks
BTU	$80	Based on 7.0x 2012e EBITDA, in-line with Peabody's average historical multiple and at a premium to US producers, which we believe is warranted given its Australian and US growth potential on top tier reserve profile.	Weaker than expected Chinese imports; delayed ramp up of key Australian port expansions; weaker nat gas prices; tougher environmental regulations; higher Australian taxes; more modest recovery in US power demand.
AKS	$24	Our $24 price target is based on 10x our 2012e EPS of $2.40 and 4.4x 2012e EBITDA, which is modestly below the long run average forward P/E of 11.3x and EV/EBTIDA of 4.7x.	As a high beta name, the stock is vulnerable to a broad market sell-off on macro concerns. New flat-rolled and auto steel capacity in the US market could limit pricing power.
X	$70	Our $70 price target is based on 8.1x our 2012e EPS of $8.60 and 5.1x 2012e EBITDA, in line with the 10-year average forward P/E of 9.5x and EV/EBTIDA of 4.9x.	As a high beta name, the stock is vulnerable to a broad market sell-off. Overcapacity in the US market could limit pricing. Imports may tick up as struggling international competitors attempt to dump steel.
STLD	$21	Our $21 price target is based on our mid-cycle sum-of-the-parts analysis, less $4 per share to exclude Mesabi value, which is probably too long-term for investors to pay for now. Our SOTP value of $25 is 8.4x our mid-cycle EPS estimate of $3.	As a high beta name, the stock is vulnerable to a broad market sell-off. China tightening may discourage investors from buying steel stocks
MUSA	$22	Based on 11x our 2011 EPS estimate of $2.02 The multiple represents a slight discount to a normalized Reliance Steel and Aluminum multiple, Metals USA's closest peer.	Risks include a sponsor overhang: Apollo owns 65% of MUSA. In addition, high leverage could limit growth. Restrictive covenants limit borrowing capacity, and the company's growth strategy depends on sufficient liquidity.
SCHN	$42	We took the 10-year average ROE and applied it to the current book value to derive a mid-cycle EPS. We then used an average P/E multiple and discounted the result back to present.	Key upside risks include faster than expected pick up in the US construction market and a meaningful pickup in global scrap based steel production.
AA	$22	Based on 13x our normalized EPS estimate of $1.70, implying a 4.7% RoA, 50bp higher than the last 15-year average to give credit for restructuring, capital spending and cost cutting.	Key risks include the rate of US and global economic growth, potential ali price weakness, continued cost inflation, a weak USD, idled capacity restarts, and greater-than-expected aluminum production in China.
NOR	$16	Based on DCF at current aluminum futures curve at 9.6% WACC and 0% terminal growth rate	Higher than expected power costs; labor/production disruptions; rate of US/global economic growth; potential aluminum price weakness; weak USD impact on non-US costs; idled capacity restarts; greater than expected Chinese aluminum production
FCX	$65	Based on 4.9x our 2011 EBITDA estimate at $4.45 copper price or 10.4x 2011 EPS.	Risks include an earlier and sharper correction in the copper price than we currently forecast, weaker-than-expected gold and/or molybdenum pricing, higher-than-expected capital costs associated with growth projects, and/or less impact on costs than expected from new operations.
MCP	$90	Our price target is based on DCF using average REO prices of $47/kg over the life of mine at 11% discount rate.	Delays in modernization plans or in securing the key land use permit, failure in commercialization of certain products, compression of downstream margins, changes in Chinese policy, capex and/or operating costs higher than our estimates.

Source: FactSet, Morgan Stanley Research

Comps

North America Metals & Mining		Stock Rating	Price 6/13/2011	MS EPS 2011	MS EPS 2012	MS EPS 2013	Cons EPS 2011	Cons EPS 2012	Cons EPS 2013	MS PE 2011	MS PE 2012	MS PE 2013	Consensus PE 2011	Consensus PE 2012	Consensus PE 2013
Non-ferrous										**13.5**	**8.7**	**6.5**	**13.6**	**8.6**	**7.5**
AA	Alcoa	Overweight	$15.10	$1.42	$1.85	$2.34	$1.36	$1.62	$1.72	10.7	8.2	6.4	11.1	9.3	8.8
CENX	Century Aluminum	Equal-Weight	$14.41	$1.65	$2.10	$2.75	$1.62	$1.95	$2.14	8.8	6.9	5.2	8.9	7.4	6.7
NOR	Noranda Aluminum	Overweight	$13.58	$1.46	$1.70	$2.05	$1.62	$1.74	$1.73	9.3	8.0	6.6	8.4	7.8	7.8
FCX	Freeport-McMoran	Overweight	$48.33	$6.54	$7.38	$6.54	$6.18	$6.33	$5.70	7.4	6.5	7.4	7.8	7.6	8.5
MCP	Molycorp	Overweight	$48.94	$1.55	$3.56	$7.00	$1.53	$4.43	$8.68	31.5	13.8	7.0	31.9	11.0	5.6
Gold										**17.9**	**16.3**	**17.6**	**16.2**	**13.8**	**13.5**
ABX	Barrick Gold	++	$43.39	$4.22	$4.00	$3.74	$4.37	$4.57	$4.49	10.3	10.9	11.6	9.9	9.5	9.7
GG	Goldcorp Inc.	Equal-Weight	$46.24	$1.95	$2.17	$1.91	$2.31	$2.69	$2.87	23.7	21.3	24.3	20.0	17.2	16.1
KGC	Kinross Gold Corp.	Equal-Weight	$15.50	$0.63	$0.79	$0.75	$0.69	$0.94	$0.94	24.7	19.6	20.6	22.5	16.5	16.6
NEM	Newmont Mining	Equal-Weight	$51.90	$4.04	$3.91	$3.76	$4.22	$4.40	$4.47	12.8	13.3	13.8	12.3	11.8	11.6
Coal										**10.7**	**8.0**	**7.2**	**12.7**	**7.8**	**7.6**
ACI	Arch Coal	++	$25.15	$2.50	$4.43	$5.09	$2.50	$3.92	$4.39	10.0	5.7	4.9	10.0	6.4	5.7
CLF	Cliffs Natural Res.	Equal-Weight	$83.49	$15.18	$14.72	$13.02	$14.48	$14.57	$12.37	5.5	5.7	6.4	5.8	5.7	6.8
CLD	Cloud Peak	Equal-Weight	$19.51	$1.69	$2.06	$3.08	$1.77	$2.08	$2.87	11.5	9.5	6.3	11.0	9.4	6.8
CNX	Consol Energy	Equal-Weight	$47.15	$2.95	$4.65	$5.28	$2.94	$4.50	$4.95	16.0	10.1	8.9	16.0	10.5	9.5
PCX	Patriot	Underweight	$20.57	$0.40	$2.50	$2.61	$0.68	$2.78	$2.59	NM	8.2	7.9	30.1	7.4	7.9
BTU	Peabody	Overweight	$53.22	$5.00	$6.12	$6.10	$4.54	$6.00	$5.95	10.6	8.7	8.7	11.7	8.9	8.9
Steel & Ferrous										**10.6**	**7.4**	**6.2**	**11.8**	**8.4**	**7.7**
AKS	AK Steel	Overweight	$14.75	$1.50	$2.40	$3.00	$1.30	$1.83	$1.95	9.8	6.1	4.9	11.4	8.1	7.6
CMC	Commercial Metals	Equal-Weight	$13.55	$0.25	$1.65	$2.60	$0.20	$1.71	$2.11	NM	8.2	5.2	NM	7.9	6.4
MUSA	Metals USA	Overweight	$14.40	$1.50	$1.95	$2.40	$1.57	$1.94	$2.00	9.6	7.4	6.0	9.2	7.4	7.2
NUE	Nucor	Equal-Weight	$39.46	$3.30	$4.75	$5.25	$2.89	$3.90	$4.17	11.9	8.3	7.5	13.7	10.1	9.5
SCHN	Schnitzer Steel	Underweight	$53.25	$3.80	$4.60	$5.30	$4.20	$5.02	$5.70	14.0	11.6	10.1	12.7	10.6	9.3
STLD	Steel Dynamics	Overweight	$15.77	$1.90	$2.90	$3.05	$1.83	$2.26	$2.35	8.3	5.4	5.2	8.6	7.0	6.7
X	US Steel	Overweight	$42.16	$4.25	$8.60	$9.60	$2.77	$5.63	$6.05	9.9	4.9	4.4	15.2	7.5	7.0

"Pens-Adj" = Enterprise Value and MS EBITDA adjusted for Pension and OPEB *"ASIF" = As-Stated-in-Financials, excluding Pension and OPEB* *ASIF presented because we believe it is most comparable to consensus*

North America Metals & Mining		Current EV, Pension-Adj	Current EV, ASIF	MS EBITDA, Pens-Adj 2011	MS EBITDA, Pens-Adj 2012	MS EBITDA, Pens-Adj 2013	MS EBITDA, ASIF 2011	MS EBITDA, ASIF 2012	MS EBITDA, ASIF 2013	Cons EBITDA, ASIF 2011	Cons EBITDA, ASIF 2012	Cons EBITDA, ASIF 2013	MS EV/EBITDA, Pens-Adj 2011	MS EV/EBITDA, Pens-Adj 2012	MS EV/EBITDA, Pens-Adj 2013	MS EV/EBITDA (ASIF) 2011	MS EV/EBITDA (ASIF) 2012	MS EV/EBITDA (ASIF) 2013	Cons EV/EBITDA (ASIF) 2011	Cons EV/EBITDA (ASIF) 2012	Cons EV/EBITDA (ASIF) 2013
Non-ferrous													**7.6**	**5.0**	**3.9**	**7.3**	**4.8**	**3.7**	**8.0**	**5.1**	**4.2**
AA	Alcoa	32,843	29,590	4744	5647	6994	4658	5623	7038	4390	4739	5505	6.9	5.8	4.7	6.4	5.3	4.2	6.7	6.2	5.4
CENX	Century Aluminum	1,567	1,456	257	296	393	283	326	422	269	318	364	6.1	5.3	4.0	5.2	4.5	3.4	5.4	4.6	4.0
NOR	Noranda Aluminum	1,297	1,297	304	323	367	304	323	367	295	310	319	4.3	4.0	3.5	4.3	4.0	3.5	4.4	4.2	4.1
FCX	Freeport-McMoran	48,297	48,297	12950	14498	12759	12950	14498	12759	12665	13029	11786	3.7	3.3	3.8	3.7	3.3	3.8	3.8	3.7	4.1
MCP	Molycorp	3,594	3,594	210	529	963	210	529	963	183	524	1115	17.1	6.8	3.7	17.1	6.8	3.7	19.6	6.9	3.2
Gold													**8.3**	**7.6**	**8.0**	**8.3**	**7.6**	**8.0**	**7.7**	**7.0**	**6.8**
ABX	Barrick Gold	47,707	47,707	7666	7529	7246	7666	7529	7246	8050	8576	8604	6.2	6.3	6.6	6.2	6.3	6.6	5.9	5.6	5.5
GG	Goldcorp Inc.	36,748	36,748	2875	3352	3114	2875	3352	3114	3357	3848	4024	12.8	11.0	11.8	12.8	11.0	11.8	10.9	9.6	9.1
KGC	Kinross Gold Corp.	16,838	16,838	1898	2100	2040	1868	2100	2040	1942	2152	2237	8.9	8.0	8.3	9.0	8.0	8.3	8.7	7.8	7.5
NEM	Newmont Mining	26,215	26,215	4900	5283	5068	4900	5283	5068	4990	5375	5336	5.4	5.0	5.2	5.4	5.0	5.2	5.3	4.9	4.9
Coal													**5.8**	**4.6**	**4.3**	**5.7**	**4.4**	**4.1**	**5.8**	**4.5**	**4.3**
ACI	Arch Coal	5,616	5,566	1025	1477	1673	1022	1476	1673	1064	1465	1600	5.5	3.8	3.4	5.4	3.8	3.3	5.2	3.8	3.5
CLF	Cliffs Natural Res.	17,157	16,859	3757	3954	3587	3744	3944	3579	3297	3694	3411	4.6	4.3	4.8	4.5	4.3	4.7	5.1	4.6	4.9
CLD	Cloud Peak	1,419	1,419	333	379	482	333	379	482	341	372	440	4.3	3.7	2.9	4.3	3.7	2.9	4.2	3.8	3.2
CNX	Consol Energy	16,622	14,295	2058	2690	2938	1788	2414	2654	1804	2350	2582	8.1	6.2	5.7	8.0	5.9	5.4	7.9	6.1	5.5
PCX	Patriot	2,992	2,113	450	722	738	337	608	623	346	591	629	6.6	4.1	4.1	6.3	3.5	3.4	6.1	3.6	3.4
BTU	Peabody	16,418	15,750	2748	3213	3462	2656	3125	3375	2489	3065	3119	6.0	5.1	4.7	5.9	5.0	4.7	6.3	5.1	5.1
Steel & Ferrous													**6.4**	**4.8**	**4.6**	**6.1**	**4.5**	**4.3**	**6.3**	**4.8**	**4.6**
AKS	AK Steel	3,312	2,283	592	745	830	554	724	830	460	577	620	5.6	4.4	4.0	4.1	3.2	2.8	5.0	4.0	3.7
CMC	Commercial Metals	2,511	2,511	315	561	736	315	561	736	296	555	628	8.0	4.5	3.4	8.0	4.5	3.4	8.5	4.5	4.0
MUSA	Metals USA	1,005	1,005	144	169	196	143	169	196	156	182	186	7.0	6.0	5.1	7.0	6.0	5.1	6.4	5.5	5.4
NUE	Nucor	14,918	14,918	2426	3090	3296	2426	3090	3296	2217	2789	2977	6.1	4.8	4.5	6.1	4.8	4.5	6.7	5.3	5.0
SCHN	Schnitzer Steel	1,755	1,755	238	280	232	238	280	232	249	292	303	7.4	6.3	7.6	7.4	6.3	7.6	7.1	6.0	5.8
STLD	Steel Dynamics	5,767	5,767	1068	1454	1465	1068	1454	1465	1051	1248	1290	5.4	4.0	3.9	5.4	4.0	3.9	5.5	4.6	4.5
X	US Steel	11,851	8,937	2118	3098	3309	2067	2988	3226	1710	2339	2523	5.6	3.8	3.6	4.3	3.0	2.8	5.2	3.8	3.5

"Pens-Adj" = Enterprise Value and MS EBITDA adjusted for Pension and OPEB *"ASIF" = As-Stated-in-Financials, excluding Pension and OPEB* *ASIF presented because we believe it is most comparable to consensus*

Source: FactSet, Morgan Stanley Research

MORGAN STANLEY ModelWare

Morgan Stanley ModelWare is a proprietary analytic framework that helps clients uncover value, adjusting for distortions and ambiguities created by local accounting regulations. For example, ModelWare EPS adjusts for one-time events, capitalizes operating leases (where their use is significant), and converts inventory from LIFO costing to a FIFO basis. ModelWare also emphasizes the separation of operating performance of a company from its financing for a more complete view of how a company generates earnings.

Disclosures Section

Morgan Stanley does and seeks to do business with companies covered in Morgan Stanley Research. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of Morgan Stanley Research. Investors should consider Morgan Stanley Research as only a single factor in making their investment decision. The information and opinions in Morgan Stanley Research were prepared by Morgan Stanley & Co. Incorporated, and/or Morgan Stanley C.T.V.M. S.A. As used in this disclosure section, "Morgan Stanley" includes Morgan Stanley & Co. Incorporated, Morgan Stanley C.T.V.M. S.A. and their affiliates as necessary. For important disclosures, stock price charts and equity rating histories regarding companies that are the subject of this report, please see the Morgan Stanley Research Disclosure Website at www.morganstanley.com/researchdisclosures, or contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY, 10036 USA.

Analyst Certification

The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report: Evan Kurtz, Paretosh Misra, Wes Sconce. Unless otherwise stated, the individuals listed on the cover page of this report are research analysts.

Global Research Conflict Management Policy

Morgan Stanley Research has been published in accordance with our conflict management policy, which is available at www.morganstanley.com/institutional/research/conflictpolicies.

Important US Regulatory Disclosures on Subject Companies

As of May 31, 2011, Morgan Stanley beneficially owned 1% or more of a class of common equity securities of the following companies covered in Morgan Stanley Research: AK Steel Holding Corp., Alpha Natural Resources, Inc., Arch Coal Inc., Freeport-McMoRan, Molycorp, Inc., Nucor Corporation, Patriot Coal Corporation, US Steel Corporation. Within the last 12 months, Morgan Stanley managed or co-managed a public offering (or 144A offering) of securities of AK Steel Holding Corp., Alcoa Inc., Arch Coal Inc., Barrick Gold Corporation, Cloud Peak Energy Inc., Molycorp, Inc., Noranda Aluminum Holding Corp, Peabody Energy Corp.. Within the last 12 months, Morgan Stanley has received compensation for investment banking services from AK Steel Holding Corp., Alcoa Inc., Alpha Natural Resources, Inc., Arch Coal Inc., Barrick Gold Corporation, Cliffs Natural Resources, Cloud Peak Energy Inc., Freeport-McMoRan, Goldcorp Inc., Kinross Gold Corp., Metals USA Holdings Corp., Molycorp, Inc., Noranda Aluminum Holding Corp, Nucor Corporation, Patriot Coal Corporation, Peabody Energy Corp., Steel Dynamics, US Steel Corporation, Walter Energy Inc.. In the next 3 months, Morgan Stanley expects to receive or intends to seek compensation for investment banking services from AK Steel Holding Corp., Alcoa Inc., Alpha Natural Resources, Inc., Arch Coal Inc., Barrick Gold Corporation, Century Aluminum, Cliffs Natural Resources, Cloud Peak Energy Inc., Freeport-McMoRan, Goldcorp Inc., Kinross Gold Corp., Metals USA Holdings Corp., Molycorp, Inc., Newmont Mining Corp., Noranda Aluminum Holding Corp, Nucor Corporation, Patriot Coal Corporation, Peabody Energy Corp., Steel Dynamics, US Steel Corporation, Walter Energy Inc.. Within the last 12 months, Morgan Stanley has received compensation for products and services other than investment banking services from AK Steel Holding Corp., Alcoa Inc., Alpha Natural Resources, Inc., Arch Coal Inc., Barrick Gold Corporation, Century Aluminum, Cliffs Natural Resources, Cloud Peak Energy Inc., Consol Energy Inc, Freeport-McMoRan, Goldcorp Inc., Kinross Gold Corp., Metals USA Holdings Corp., Newmont Mining Corp., Noranda Aluminum Holding Corp, Patriot Coal Corporation, Peabody Energy Corp., Steel Dynamics, US Steel Corporation, Walter Energy Inc.. Within the last 12 months, Morgan Stanley has provided or is providing investment banking services to, or has an investment banking client relationship with, the following company: AK Steel Holding Corp., Alcoa Inc., Alpha Natural Resources, Inc., Arch Coal Inc., Barrick Gold Corporation, Century Aluminum, Cliffs Natural Resources, Cloud Peak Energy Inc., Freeport-McMoRan, Goldcorp Inc., Kinross Gold Corp., Metals USA Holdings Corp., Molycorp, Inc., Newmont Mining Corp., Noranda Aluminum Holding Corp, Nucor Corporation, Patriot Coal Corporation, Peabody Energy Corp., Steel Dynamics, US Steel Corporation, Walter Energy Inc.. Within the last 12 months, Morgan Stanley has either provided or is providing non-investment banking, securities-related services to and/or in the past has entered into an agreement to provide services or has a client relationship with the following company: AK Steel Holding Corp., Alcoa Inc., Alpha Natural Resources, Inc., Arch Coal Inc., Barrick Gold Corporation, Century Aluminum, Cliffs Natural Resources, Cloud Peak Energy Inc., Consol Energy Inc, Freeport-McMoRan, Goldcorp Inc., Kinross Gold Corp., Metals USA Holdings Corp., Newmont Mining Corp., Noranda Aluminum Holding Corp, Patriot Coal Corporation, Peabody Energy Corp., Steel Dynamics, US Steel Corporation, Walter Energy Inc..

An employee, director or consultant of Morgan Stanley (not a research analyst or a member of a research analyst's household) is a director of Alcoa Inc...

Disclosures *(cont.)*

The equity research analysts or strategists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality of research, investor client feedback, stock picking, competitive factors, firm revenues and overall investment banking revenues. Morgan Stanley and its affiliates do business that relates to companies/instruments covered in Morgan Stanley Research, including market making, providing liquidity and specialized trading, risk arbitrage and other proprietary trading, fund management, commercial banking, extension of credit, investment services and investment banking. Morgan Stanley sells to and buys from customers the securities/instruments of companies covered in Morgan Stanley Research on a principal basis. Morgan Stanley may have a position in the debt of the Company or instruments discussed in this report. Certain disclosures listed above are also for compliance with applicable regulations in non-US jurisdictions.

STOCK RATINGS

Morgan Stanley uses a relative rating system using terms such as Overweight, Equal-weight, Not-Rated or Underweight (see definitions below). Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold and sell. Investors should carefully read the definitions of all ratings used in Morgan Stanley Research. In addition, since Morgan Stanley Research contains more complete information concerning the analyst's views, investors should carefully read Morgan Stanley Research, in its entirety, and not infer the contents from the rating alone. In any case, ratings (or research) should not be used or relied upon as investment advice. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations.

Global Stock Ratings Distribution

(as of May 31, 2011)

For disclosure purposes only (in accordance with NASD and NYSE requirements), we include the category headings of Buy, Hold, and Sell alongside our ratings of Overweight, Equal-weight, Not-Rated and Underweight. Morgan Stanley does not assign ratings of Buy, Hold or Sell to the stocks we cover. Overweight, Equal-weight, Not-Rated and Underweight are not the equivalent of buy, hold, and sell but represent recommended relative weightings (see definitions below). To satisfy regulatory requirements, we correspond Overweight, our most positive stock rating, with a buy recommendation; we correspond Equal-weight and Not-Rated to hold and Underweight to sell recommendations, respectively.

	Coverage Universe		Investment Banking Clients (IBC)		
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category
Overweight/Buy	1153	41%	464	48%	40%
Equal-weight/Hold	1140	41%	365	38%	32%
Not-Rated/Hold	108	4%	20	2%	19%
Underweight/Sell	390	14%	108	11%	28%
Total	**2791**		**957**		

Data include common stock and ADRs currently assigned ratings. An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations. Investment Banking Clients are companies from whom Morgan Stanley received investment banking compensation in the last 12 months.

Analyst Stock Ratings

Overweight (O or Over) - The stock's total return is expected to exceed the total return of the relevant country MSCI Index, on a risk-adjusted basis over the next 12-18 months. Equal-weight (E or Equal) - The stock's total return is expected to be in line with the total return of the relevant country MSCI Index, on a risk-adjusted basis over the next 12-18 months. Not-Rated (NR) - Currently the analyst does not have adequate conviction about the stock's total return relative to the relevant country MSCI Index on a risk-adjusted basis, over the next 12-18 months. Underweight (U or Under) - The stock's total return is expected to be below the total return of the relevant country MSCI Index, on a risk-adjusted basis, over the next 12-18 months. Unless otherwise specified, the time frame for price targets included in Morgan Stanley Research is 12 to 18 months.

Analyst Industry Views

Attractive (A): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be attractive vs. the relevant broad market benchmark, as indicated below. In-Line (I): The analyst expects the performance of his or her industry coverage universe over the next 12-18 months to be in line with the relevant broad market benchmark, as indicated below. Cautious (C): The analyst views the performance of his or her industry coverage universe over the next 12-18 months with caution vs. the relevant broad market benchmark, as indicated below. Benchmarks for each region are as follows: North America - S&P 500; Latin America - relevant MSCI country index or MSCI Latin America Index; Europe - MSCI Europe; Japan - TOPIX; Asia - relevant MSCI country index.

Disclosures *(cont.)*

Important Disclosures for Morgan Stanley Smith Barney LLC Customers

Citi Investment Research & Analysis (CIRA) research reports may be available about the companies or topics that are the subject of Morgan Stanley Research. Ask your Financial Advisor or use Research Center to view any available CIRA research reports in addition to Morgan Stanley research reports. Important disclosures regarding the relationship between the companies that are the subject of Morgan Stanley Research and Morgan Stanley Smith Barney LLC, Morgan Stanley and Citigroup Global Markets Inc. or any of their affiliates, are available on the Morgan Stanley Smith Barney disclosure website at www.morganstanleysmithbarney.com/researchdisclosures. For Morgan Stanley and Citigroup Global Markets, Inc. specific disclosures, you may refer to www.morganstanley.com/researchdisclosures and https://www.citigroupgeo.com/geopublic/Disclosures/index_a.html. Each Morgan Stanley Equity Research report is reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval is conducted by the same person who reviews the Equity Research report on behalf of Morgan Stanley. This could create a conflict of interest.

Other Important Disclosures

Morgan Stanley & Co. International PLC and its affiliates have a significant financial interest in the debt securities of Alcoa Inc., Arch Coal Inc., Barrick Gold Corporation, Cliffs Natural Resources, Commercial Metals Company, Freeport-McMoRan, Goldcorp Inc., Kinross Gold Corp., Newmont Mining Corp., Nucor Corporation, Patriot Coal Corporation, Peabody Energy Corp., Steel Dynamics, US Steel Corporation, Walter Energy Inc.

Morgan Stanley produces an equity research product called a "Tactical Idea." Views contained in a "Tactical Idea" on a particular stock may be contrary to the recommendations or views expressed in research on the same stock. This may be the result of differing time horizons, methodologies, market events, or other factors. For all research available on a particular stock, please contact your sales representative or go to Client Link at www.morganstanley.com. Morgan Stanley Research does not provide individually tailored investment advice. Morgan Stanley Research has been prepared without regard to the individual financial circumstances and objectives of persons who receive it. Morgan Stanley recommends that investors independently evaluate particular investments and strategies, and encourages investors to seek the advice of a financial adviser. The appropriateness of a particular investment or strategy will depend on an investor's individual circumstances and objectives. The securities, instruments, or strategies discussed in Morgan Stanley Research may not be suitable for all investors, and certain investors may not be eligible to purchase or participate in some or all of them. The fixed income research analysts or strategists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality, accuracy and value of research, firm profitability or revenues (which include fixed income trading and capital markets profitability or revenues), client feedback and competitive factors. Fixed Income Research analysts' or strategists' compensation is not linked to investment banking or capital markets transactions performed by Morgan Stanley or the profitability or revenues of particular trading desks. Morgan Stanley Research is not an offer to buy or sell or the solicitation of an offer to buy or sell any security/instrument or to participate in any particular trading strategy. The "Important US Regulatory Disclosures on Subject Companies" section in Morgan Stanley Research lists all companies mentioned where Morgan Stanley owns 1% or more of a class of common equity securities of the companies. For all other companies mentioned in Morgan Stanley Research, Morgan Stanley may have an investment of less than 1% in securities/instruments or derivatives of securities/instruments of companies and may trade them in ways different from those discussed in Morgan Stanley Research. Employees of Morgan Stanley not involved in the preparation of Morgan Stanley Research may have investments in securities/instruments or derivatives of securities/instruments of companies mentioned and may trade them in ways different from those discussed in Morgan Stanley Research. Derivatives may be issued by Morgan Stanley or associated persons. With the exception of information regarding Morgan Stanley, Morgan Stanley Research is based on public information. Morgan Stanley makes every effort to use reliable, comprehensive information, but we make no representation that it is accurate or complete. We have no obligation to tell you when opinions or information in Morgan Stanley Research change apart from when we intend to discontinue equity research coverage of a subject company. Facts and views presented in Morgan Stanley Research have not been reviewed by, and may not reflect information known to, professionals in other Morgan Stanley business areas, including investment banking personnel. Morgan Stanley Research personnel may participate in company events such as site visits and are generally prohibited from accepting payment by the company of associated expenses unless pre-approved by authorized members of Research management. The value of and income from your investments may vary because of changes in interest rates, foreign exchange rates, default rates, prepayment rates, securities/instruments prices, market indexes, operational or financial conditions of companies or other factors. There may be time limitations on the exercise of options or other rights in securities/instruments transactions. Past performance is not necessarily a guide to future performance. Estimates of future performance are based on assumptions that may not be realized. If provided, and unless otherwise stated, the closing price on the cover page is that of the primary exchange for the subject company's securities/instruments. Morgan Stanley may make investment decisions or take proprietary positions that are inconsistent with the recommendations or views in this report.

Disclosures *(cont.)*

To our readers in Taiwan: Information on securities/instruments that trade in Taiwan is distributed by Morgan Stanley Taiwan Limited ("MSTL"). Such information is for your reference only. Information on any securities/instruments issued by a company owned by the government of or incorporated in the PRC and listed in on the Stock Exchange of Hong Kong ("SEHK"), namely the H-shares, including the component company stocks of the Stock Exchange of Hong Kong ("SEHK")'s Hang Seng China Enterprise Index; or any securities/instruments issued by a company that is 30% or more directly- or indirectly-owned by the government of or a company incorporated in the PRC and traded on an exchange in Hong Kong or Macau, namely SEHK's Red Chip shares, including the component company of the SEHK's China-affiliated Corp Index is distributed only to Taiwan Securities Investment Trust Enterprises ("SITE"). The reader should independently evaluate the investment risks and is solely responsible for their investment decisions. Morgan Stanley Research may not be distributed to the public media or quoted or used by the public media without the express written consent of Morgan Stanley. Information on securities/instruments that do not trade in Taiwan is for informational purposes only and is not to be construed as a recommendation or a solicitation to trade in such securities/instruments. MSTL may not execute transactions for clients in these securities/instruments.

To our readers in Hong Kong: Information is distributed in Hong Kong by and on behalf of, and is attributable to, Morgan Stanley Asia Limited as part of its regulated activities in Hong Kong. If you have any queries concerning Morgan Stanley Research, please contact our Hong Kong sales representatives.

Morgan Stanley Research is disseminated in Japan by Morgan Stanley MUFG Securities Co., Ltd.; in Hong Kong by Morgan Stanley Asia Limited (which accepts responsibility for its contents); in Singapore by Morgan Stanley Asia (Singapore) Pte. (Registration number 199206298Z) and/or Morgan Stanley Asia (Singapore) Securities Pte Ltd (Registration number 200008434H), regulated by the Monetary Authority of Singapore, which accepts responsibility for its contents; in Australia to "wholesale clients" within the meaning of the Australian Corporations Act by Morgan Stanley Australia Limited A.B.N. 67 003 734 576, holder of Australian financial services license No. 233742, which accepts responsibility for its contents; in Australia to "wholesale clients" and "retail clients" within the meaning of the Australian Corporations Act by Morgan Stanley Smith Barney Australia Pty Ltd (A.B.N. 19 009 145 555, holder of Australian financial services license No. 240813, which accepts responsibility for its contents; in Korea by Morgan Stanley & Co International plc, Seoul Branch; in India by Morgan Stanley India Company Private Limited; in Canada by Morgan Stanley Canada Limited, which has approved of, and has agreed to take responsibility for, the contents of Morgan Stanley Research in Canada; in Germany by Morgan Stanley Bank AG, Frankfurt am Main and Morgan Stanley Private Wealth Management Limited, Niederlassung Deutschland, regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin); in Spain by Morgan Stanley, S.V., S.A., a Morgan Stanley group company, which is supervised by the Spanish Securities Markets Commission (CNMV) and states that Morgan Stanley Research has been written and distributed in accordance with the rules of conduct applicable to financial research as established under Spanish regulations; in the United States by Morgan Stanley & Co. Incorporated, which accepts responsibility for its contents. Morgan Stanley & Co. International plc, authorized and regulated by the Financial Services Authority, disseminates in the UK research that it has prepared, and approves solely for the purposes of section 21 of the Financial Services and Markets Act 2000, research which has been prepared by any of its affiliates. Morgan Stanley Private Wealth Management Limited, authorized and regulated by the Financial Services Authority, also disseminates Morgan Stanley Research in the UK. Private U.K. investors should obtain the advice of their Morgan Stanley & Co. International plc or Morgan Stanley Private Wealth Management representative about the investments concerned. RMB Morgan Stanley (Proprietary) Limited is a member of the JSE Limited and regulated by the Financial Services Board in South Africa. RMB Morgan Stanley (Proprietary) Limited is a joint venture owned equally by Morgan Stanley International Holdings Inc. and RMB Investment Advisory (Proprietary) Limited, which is wholly owned by FirstRand Limited.

The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (DIFC Branch), regulated by the Dubai Financial Services Authority (the DFSA), and is directed at Professional Clients only, as defined by the DFSA. The financial products or financial services to which this research relates will only be made available to a customer who we are satisfied meets the regulatory criteria to be a Professional Client. The information in Morgan Stanley Research is being communicated by Morgan Stanley & Co. International plc (QFC Branch), regulated by the Qatar Financial Centre Regulatory Authority (the QFCRA), and is directed at business customers and market counterparties only and is not intended for Retail Customers as defined by the QFCRA. As required by the Capital Markets Board of Turkey, investment information, comments and recommendations stated here, are not within the scope of investment advisory activity. Investment advisory service is provided in accordance with a contract of engagement on investment advisory concluded between brokerage houses, portfolio management companies, non-deposit banks and clients. Comments and recommendations stated here rely on the individual opinions of the ones providing these comments and recommendations. These opinions may not fit to your financial status, risk and return preferences. For this reason, to make an investment decision by relying solely to this information stated here may not bring about outcomes that fit your expectations. The trademarks and service marks contained in Morgan Stanley Research are the property of their respective owners. Third-party data providers make no warranties or representations of any kind relating to the accuracy, completeness, or timeliness of the data they provide and shall not have liability for any damages of any kind relating to such data. The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property of MSCI and S&P.

Morgan Stanley Research is disseminated and available primarily electronically, and, in some cases, in printed form.

Additional information on recommended securities/instruments is available on request.

The Americas
1585 Broadway
New York, NY 10036-8293
United States
Tel: +1 (1)212 761 4000

Europe
20 Bank Street, Canary Wharf
London E14 4AD
United Kingdom
Tel: +44 (0)20 7425 8000

Japan
4-20-3 Ebisu, Shibuya-ku
Tokyo 150-6008
Japan
Tel: +81 (0)3 5424 5000

Asia/Pacific
1 Austin Road West
Kowloon
Hong Kong
Tel: +852 2848 5200