

2009 Outlook: Pricing supply destruction

From demand destruction to supply destruction

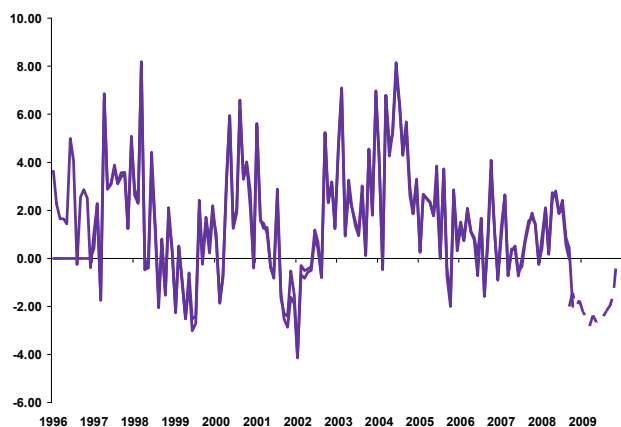
In just five months, the commodity markets went from needing to price demand destruction to needing to price supply destruction. Evidence continues to mount that the collapse in autumn demand was not only a transient impact of the credit paralysis, exacerbated by US hurricanes, as we had previously believed, but instead a prelude to the wider damage that the sharp deterioration in credit conditions has inflicted on economic activity around the world. In many cases, this sharply weaker demand environment has temporarily seen demand levels fall far below constrained-supply levels to the extent that the large surpluses will likely need to be contained through production shut-ins motivated by sharp declines in spot prices; in other words, supply destruction.

It's all about spot prices in 2009

We have long held the view that spot prices resolve market surpluses and long-dated prices resolve long-term shortages. Accordingly, following years of focus on long-dated prices to address long-term supply shortages, the new need to resolve large surpluses suggests spot price movements will dominate commodity price action in 2009. While this suggests near-term downward pressure on spot prices, the supply cuts and ensuing damage to long-term production potential due to a collapse in capex, sets the stage for a strong recovery in 2010.

World oil demand is likely to experience a protracted contraction in 2009

% change year on year



Source: IEA, *Have Analytics*, Bloomberg and GS Global ECS Research.

The Goldman Sachs Group, Inc. does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision. For important disclosures, see the text preceding the disclosures or go to www.gs.com/research/hedge.html.

Jeffrey Currie

+44(20)7774-6112 | jeffrey.currie@gs.com
Goldman Sachs International

Allison Nathan

(212) 357-7504 | allison.nathan@gs.com
Goldman, Sachs & Co.

David Greely

(212) 902-2850 | david.greely@gs.com
Goldman, Sachs & Co.

Giovanni Serio

+44(20)7774-2535 | giovanni.serio@gs.com
Goldman Sachs International

Samantha Dart

+44(20)7552-9350 | samantha.dart@gs.com
Goldman Sachs International

John J. Baumgartner, CFA

(212) 902-3307 | john.baumgartner@gs.com
Goldman, Sachs & Co.

Table of contents

Executive Summary	3
2009 Commodities price forecasts	5
S&P GSCI Enhanced Commodity Index and strategies' total returns	5
Current trading recommendations	6
Price actions, volatilities and forecasts	7
The need to price supply destruction in 2009	8
Oil: The need to price supply destruction	12
Natural gas: Global recession and more LNG leave the burden on US producers	20
Industrial metals: The rebalancing process is underway, but more cuts are needed	26
Precious metals: Back to the buck for gold prices	33
Agriculture: The "defensive" commodities	35
Livestock: Hogs to outperform in the near term, cattle over the longer term	42
Commodities in a nutshell	45
Disclosures	55

Executive Summary

Oil: The need to price supply destruction

While strong oil demand from China and the Non-OECD countries helped propel WTI crude oil prices to over \$145/bbl in the first half of 2008, the collapse in world oil demand in the fourth quarter of 2008 as the global credit crunch intensified now threatens to push oil prices below \$40/bbl in the near term as the impact of the global economic recession has swung the oil market from pricing demand destruction in 2008 to pricing supply destruction in 2009. We now expect oil demand to decline by 1.7 million b/d in 2009, driven by a 1.0 million b/d decline in the OECD countries. While oil supply cuts are unlikely to prevent OECD inventories from building to full storage by February, as inventories reach full storage either further OPEC cuts will be required to balance the market or prices will need to decline further to force Non-OPEC producers to shut-in production. Net, we expect that an additional 2 million b/d of OPEC supply cuts will be required in 2009, along with a 600 thousand b/d reduction in Non-OPEC production, in order to rebalance the oil market. Consequently, we are lowering our 3-month WTI target to \$30/bbl, our 6-month target to \$42/bbl, and our 12-month target to \$65/bbl, with our calendar 2009 average price forecast reduced to \$45/bbl from \$80/bbl previously.

Natural gas: Global recession and more LNG leave the burden on US producers

As global economic activity slows and oil prices approach cash costs, we believe that both US and UK natural gas prices are set for further declines. In the United States, we believe that a massive surplus in the market brought about by reductions in industrial and generation demand, on top of production growth, will likely add further pressure to already low NYMEX natural gas prices. Accordingly, we are lowering both our 2008/2009 winter and 2009 summer US natural gas forecasts to \$5.35/mmBtu (\$6.20/mmBtu and \$6/mmBtu, previously, respectively). We believe that an aggressive supply response to low prices will reduce production sufficiently to return the market to balance in 2H2009. This will likely allow for a recovery in prices by the 2009/2010 winter. We therefore maintain our 2009/2010 winter NYMEX natural gas forecast at \$7/mmBtu. In Europe, most of the downward pressure on UK NBP prices will likely come from its arbitrage against oil-indexed prices. As lower oil prices lead Continental natural gas prices down, we expect UK NBP prices to become competitive with US natural gas prices next summer, likely creating incentives to send LNG to the United States rather than to Europe or Asia. We also expect UK NBP prices to rebound in the 2009/2010 winter, as increasing oil prices help lift European Continental natural gas prices.

Industrial metals: The rebalancing process is underway, but more cuts are needed

Sharp deterioration in global industrial output and in metals-intensive sectors continues to worsen the demand outlook for industrial metals in 2009. Although the rebalancing process is already underway with deep cuts in mine and smelter production in response to the exceptional price weakness, we expect substantial surpluses across most metals to continue to pressure prices lower from current levels in the short-to-medium term. We anticipate that declining borrowing costs, tightening supplies and some stabilization in demand will lead to sequential improvement in prices by late in the year, but anticipate that large surpluses and high inventories will largely persist, leaving little upside to prices relative to current forward curves across the complex throughout 2009. We believe that fundamentals are strongest for zinc and weakest for aluminum, where inventories are set to climb to extraordinary levels. On net, we are lowering our 2009 average price forecasts for aluminum, copper, nickel and zinc to \$1410/mt, \$2950/mt, \$8980/mt and \$1150/mt, from \$2310/mt, \$5230/mt, \$12735/mt and \$1475/mt, respectively.

Precious metals: Back to the buck for gold prices

Gold price movements have remained exceptionally volatile and have recently again broken away from the currency basket that historically has had tremendous predictive power for gold price action. We believe driving this disconnect has been a resurgence in investor safe haven buying as the financial and economic crisis has deepened. We maintain that these dynamics will likely keep gold price volatility high and could sustain gold prices above their currency-based fair value for periods of time into 2009. However, we believe that the currency driver will ultimately prevail. As a result, we are raising our gold price forecasts in line with Goldman Sachs economists' currency revisions toward a weaker US dollar outlook. These revised currency forecasts suggest a \$795/oz gold price on a 12-month horizon.

Agriculture: A "defensive" commodity, so we remain overweight agriculture

In contrast to the rest of the commodity complex, in agriculture we believe that a more insulated demand base, along with expected challenges to acreage expansion in the upcoming planting seasons, suggests less downside from current levels and the potential for a moderate price rebound in late 2009. Further, some agriculture commodities can be viewed as "defensive" such as basic cereals and lower-cost proteins, which are likely to be less sensitive to or even derive benefit from slowing income growth. For this reason, we believe that portions of the agricultural and livestock complex will continue to outperform oil and metals in the near term. The key reason is that the losses in demand have so far not been that large and are unlikely to be so given the importance of population growth in agriculture demand. We estimate that global GDP growth would have to go outright negative next year to create a year-over-year decline in agriculture demand. Further, grain stocks remain at critically low levels, creating a much quicker recovery path. As such, we highlight wheat and our 12-month 770 cents/bu price forecast, as it is expected to benefit most from relatively stable demand and tighter 2009/10 carry-out.

Commodity Index: Shifting to underweight commodities, but remain overweight agriculture

We are reducing our recommendation on commodity index investments from overweight to underweight, particularly relative to equities. The key reason for this is that commodities are what we call "spot" assets versus equities and even bonds which are what we call "anticipatory" assets, meaning commodities do not anticipate fundamental shifts, but instead reflect current fundamentals. This means that commodities will be one of the last asset classes to perform in a recovery. However, we believe that due to the structural supply problems, commodities will recover much faster than in previous cycles.

2009 Commodities price forecasts

	Units	Price Forecasts					
		3m		6m		12m	
		Old	New	Old	New	Old	New
Energy							
WTI Crude Oil	\$/bbl	62.00	30.00	73.00	42.00	107.00	65.00
Brent Crude Oil	\$/bbl	60.50	28.50	71.50	40.50	105.50	63.50
RBOB Gasoline	\$/gal	1.64	0.90	1.86	1.19	2.51	1.58
USGC Heating Oil	\$/gal	1.93	1.02	2.21	1.33	3.05	1.90
NYMEX Nat. Gas	\$/mmBtu	6.10	5.00	6.00	5.00	7.20	7.20
UK NBP Nat. Gas	p/th	75.90	49.32	48.70	34.92	76.60	42.69
Industrial Metals							
LME Aluminum	\$/mt	2020	1300	2200	1380	2800	1500
LME Copper	\$/mt	3835	2700	4875	2850	7500	3200
LME Nickel	\$/mt	11095	8000	12125	8750	15500	9700
LME Zinc	\$/mt	1310	1080	1415	1140	1750	1235
Precious Metals							
London Gold	\$/troy oz	690	700	730	785	710	795
London Silver	\$/troy oz	9.90	10.04	10.30	11.08	9.20	10.30
Agriculture							
CBOT Wheat	cent/bu	650	525	700	600	770	770
CBOT Soybean	cent/bu	1000	825	1100	875	1125	950
CBOT Corn	cent/bu	500	400	550	450	575	525
NYBOT Cotton	cent/lb	55	45	55	50	65	55
NYBOT Coffee	cent/lb	115	115	130	130	150	150
NYBOT Cocoa	\$/mt	2250	2250	2500	2250	2500	2450
NYBOT Sugar	cent/lb	13.0	13.0	13.0	13.0	13.0	13.0
CME Live Cattle	cent/lb	100	85	105	90	105	100
CME Lean Hog	cent/lb	60	70	70	75	85	70

Source: GS Global ECS Research.

S&P GSCI Enhanced Commodity Index and strategies' total returns

	Current Weight (%)	2006	2007	2008 YTD	12-Month Forward Forecast
S&P GSCI Enhanced Commodity Index	100.0	0.9	36.2	-35.4	8.9
Energy	72.9	-8.1	44.8	-37.8	10.0
Industrial Metals	6.3	62.0	-5.3	-42.7	-5.0
Precious Metals	2.4	24.1	28.0	-7.1	-4.0
Agriculture	13.7	19.5	36.6	-28.4	14.0
Livestock	4.6	4.0	1.2	-24.7	5.0

Note: YTD returns as of November 28, 2008.

Source: Standard and Poor's and GS Global ECS Research.

Current trading recommendations

Current trades	First recommended	Initial value	Current Value	Current profit/(loss) ¹
Opening: Long residual fuel oil crack trade Buy 1% August NYHB residual fuel oil Sell August 2009 NYMEX WTI contract	December 12, 2008 - <i>Issues and Outlook 2009</i>	(\$14.83/bbl)	-	-
Opening: Short heating oil trade Sell August 2009 NYMEX heating oil contract	December 12, 2008 - <i>Issues and Outlook 2009</i>	(\$1.72/gal)	-	-
Opening: Short UK summer natural gas trade Sell 3Q2009 ICE UK NBP swap	December 12, 2008 - <i>Issues and Outlook 2009</i>	(52.77 p/th)	-	-
Opening: Long S&P GSCI agriculture, short S&P GSCI energy trade² Buy S&P GSCI agricultural enhanced strategy excess return Sell S&P GSCI energy index excess return	December 12, 2008 - <i>Issues and Outlook 2009</i>	61.3708 271.8684	-	-
Closing: Long soybean timespread trade Buy July 2009 CBOT soybean contract Sell November 2009 CBOT soybean contract	January 18, 2008 - <i>Agriculture</i>	31 cents/bu	1 cents/bu	(30 cents/bu)
Short long-dated oil trade Sell December 2011 NYMEX WTI contract	December 9, 2008 - <i>Energy Weekly</i>	(\$71.95/bbl)	(\$66.40/bbl)	\$5.55/bbl
Long Continental, short UK natural gas trade Buy two August 2009 London gasoil contracts Buy one August 2009 Rotterdam 1% fuel oil contract Sell three August 2009 ICE UK NBP contracts	October 29, 2008 - <i>Natural Gas Weekly</i>	\$12.86/mmBtu	\$5.94/mmBtu	(\$6.92/mmBtu)
Long corn trade Buy December 2009 CBOT corn contract	April 2, 2008 - <i>Agriculture</i>	546 cents/bu	387.3 cents/bu	(158.7 cents/bu)

¹ As of close on Dec 10, 2008, except for the opening and closing trades, which are as of close on Dec 11, 2008. Inclusive of all previous rolling profits/losses.

² For the S&P GSCI trading recommendation, the initial and current value columns show the levels for the indices. Profit column shows the percentage returns.

Source: GS Global ECS Research.

Price actions, volatilities and forecasts

	Prices and monthly changes ¹			Volatilities (%) and monthly changes ²				Historical Prices						Price Forecasts ³			
	units	Dec 10	Change	Implied	Change	Realized	Change	1Q 07	2Q 07	3Q 07	4Q 07	1Q 08	2Q 08	3Q 08	3m	6m	12m
Energy																	
WTI Crude Oil	\$/bbl	43.52	-18.89	39.1	-1.8	71.2	-1.6	58.23	65.02	75.20	90.50	97.77	123.86	117.98	30.00	42.00	65.00
Brent Crude Oil	\$/bbl	42.40	-16.68	37.9	-1.2	73.3	17.6	58.62	68.66	74.65	88.53	96.42	122.71	116.86	28.50	40.50	63.50
RBOB Gasoline	\$/gal	0.97	-0.40	39.4	1.6	74.0	12.2	1.69	2.23	2.07	2.28	2.48	3.17	2.95	0.90	1.19	1.58
USGC Heating Oil	\$/gal	1.20	-3.49	37.5	-1.2	57.4	10.4	1.62	1.90	2.05	2.44	2.69	3.50	3.26	1.02	1.33	1.90
NYMEX Nat. Gas	\$/mmBtu	5.69	-1.56	43.2	4.6	45.0	-3.5	7.18	7.65	6.25	7.39	8.73	11.47	8.95	5.00	5.00	7.20
UK NBP Nat. Gas	p/th	56.81	-8.65	42.9	-11.6	52.9	-11.7	22.92	19.55	28.80	50.43	52.75	63.08	66.16	49.32	34.92	42.69
Industrial Metals⁴																	
LME Aluminum	\$/mt	1526	-459	28.0	-12.1	37.4	10.8	2748	2802	2609	2500	2785	2995	2835	1300	1380	1500
LME Copper	\$/mt	3305	-570	32.8	-10.7	79.1	35.4	5975	7578	7625	7259	7751	8323	7561	2700	2850	3200
LME Nickel	\$/mt	10300	-1005	46.4	0.2	89.3	42.6	38810	45701	30238	29802	29168	25859	19117	800	8750	9700
LME Zinc	\$/mt	1104	-1	39.7	-5.1	70.0	21.8	3441	3679	3220	2664	2465	2150	1795	1080	1140	1235
Precious Metals																	
London Gold	\$/troy oz	807	61	40.0	0.1	42.0	5.2	651	668	684	791	927	897	870	700	785	795
London Silver	\$/troy oz	9.96	-0.35	66.0	0.2	63.9	-4.9	13.29	13.33	12.71	14.21	17.63	17.18	15.03	10.04	11.08	10.30
Agriculture																	
CBOT Wheat	cent/bu	493	-28	n/a	n/a	55.6	5.3	463	510	717	853	1025	837	783	525	600	770
CBOT Soybean	cent/bu	830	-111	n/a	n/a	54.3	-31.9	736	777	877	1058	1330	1384	1327	825	875	950
CBOT Corn	cent/bu	327	-57	n/a	n/a	54.6	6.7	401	371	335	386	517	630	577	400	450	525
NYBOT Cotton	cent/lb	44	-1	n/a	n/a	50.3	13.7	54	53	62	65	73	72	67	45	50	55
NYBOT Coffee	cent/lb	108	-4	n/a	n/a	33.8	-1.9	115	110	116	128	143	136	138	115	130	150
NYBOT Cocoa	\$/mt	2382	443	n/a	n/a	42.5	5.3	1722	1904	1937	1966	2422	2771	2782	2250	2250	2450
NYBOT Sugar	cent/lb	11.6	-0.4	n/a	n/a	51.3	-1.9	10.7	9.2	9.7	10.1	12.6	11.2	13.1	13.0	13.0	13.0
CME Live Cattle	cent/lb	84	-9	n/a	n/a	21.9	3.2	95	93	94	95	92	94	101	85	90	100
CME Lean Hog	cent/lb	57	2	n/a	n/a	43.4	10.5	64	71	69	56	58	73	75	70	75	70

¹ Monthly change is difference of close on last business day of the month and close on the last business day of the prior month.

² Monthly volatility change is difference of average volatility over the month ending December 10, 2008 and that of the prior month.

³ Based on LME three month prices.

Source: GS Global ECS Research.

The need to price supply destruction in 2009

In just five months, the commodity markets went from needing to price demand destruction to needing to price supply destruction. During the first part of 2008, exceptionally strong emerging market demand growth against a string of supply disruptions and increasing declines from mature producers necessitated sharply higher prices to take demand out of the system and keep the market in balance. This need to price demand destruction occurred across many of the markets – oil, gas, grains and copper – pushing prices across the commodity complex to all-time highs.

However, just a few months later, the credit crisis led to a collapse in commodity demand that was far greater than what the high prices achieved. And as time goes on, evidence continues to mount that the collapse in September and October oil and other commodity demand was not only a transient impact of the credit paralysis, exacerbated by US hurricanes, as we had previously believed, but instead a prelude to the wider damage that the sharp deterioration in credit conditions has inflicted on economic activity around the world. The continued sharp decline in Chinese power generation demand in November, down 7% yoy, underscores the severity of the declines in industrial production in China which, in turn, likely signals the onset of a pronounced deceleration in Asia, the key driver of commodity demand growth this decade. On net, Goldman Sachs economists do not see a bottom in global economic activity until mid-2009, nor a return to year-over-year global growth until fourth quarter 2009.

This sharply weaker demand environment has temporarily seen demand levels fall far below constrained-supply levels to the extent that large surpluses will likely need to be contained through production shut-ins motivated by sharp declines in spot prices; in other words, supply destruction. In some markets, particularly the industrial-related markets, such as steel, petrochemicals, base metals and petroleum refining, this process is already underway. In other markets, such as oil and gas, the process is only just beginning. Although this suggests substantial downward pressure on spot prices in the near term, the supply cuts and ensuing damage to long-term production potential due to a likely unprecedented collapse in capex sets the stage for a strong recovery in 2010 and beyond.

It's all about spot prices in 2009

We have long held the view that spot prices resolve market surpluses and long-dated prices resolve long-term market shortages. In a surplus environment, weak near-term spot prices are required to force supply shut-ins and stimulate current demand and economic activity. In contrast, long-term shortages require high and stable long-dated prices to attract the investment capital into next-generation production capacity while at the same time incentivize investment into conservation to slow future demand. Accordingly, following years of focus on long-dated prices to address long-term supply shortages that have constrained commodity demand growth for much of this decade, the new need to resolve large surpluses suggests spot price movements will be key to commodity price action in 2009.

Spot prices will likely drive the back-end in 2009

The new emphasis on spot prices as opposed to long-dated prices will likely have a significant impact on the term structure in commodity markets. During the period from 2004 to 2008, we believed that long-dated prices supported and cleared the market and spot prices were simply an arb to the long-dated price. In 2009, the reverse is likely to hold true. While the long-term outlook for energy prices is ever-more supported by the damage

that possible prolonged weakness in oil prices may inflict on industry investments, the outlook for long-dated oil prices in the next few months is much less constructive.

Although we believe that we will go back to a long-dated price-driven market in 2010, over the next year, spot prices will need to remain low to keep supply out of the market. As a result, the only way that timespreads are likely to tighten is by the back-end coming down. As a result, we believe that further downward pressure on spot prices may soon extend to long-dated oil prices following the typical pattern in a downturn cycle, where extreme levels of contango, like the current situation, are followed by a back-end sell-off. As a consequence, we are currently recommending a short position in the December 2011 WTI contract. In past pronounced cyclical bear markets, after inventories reached full-storage and the forward curve moved into a super-contango, long-dated oil prices declined sharply, forcing a "bearish" flattening of the forward curve. The trigger for this kind of adjustment has typically been producers' hedging programs as they hedge the shut-in oil under the ground, which puts pressure on long-dated oil prices.

How low do spot prices need to go? Prices need to fall to "cash costs" which are not the same as "all-in" costs

To motivate these supply reductions or shut-ins, particularly in energy and metals, prices need to decline sufficiently to be below operating costs and create negative cash flow on current operations. Operating costs or "cash costs" as they are called are far lower than "all-in" costs, which can be viewed as the hurdle to incentivize long-term investment. For example, in oil we still believe all-in marginal costs, which include cash costs, capex, taxes and an all-important internal rate of return, are still above \$85/bbl. This is even with lower input costs, as the geological elements have not changed and production and export taxes are unlikely to fall and could actually rise as producing countries struggle with sharply lower revenues. Further, for input prices such as steel which have also seen recent sharp declines, given the planned infrastructure spending programs expected around the world that future oil projects will have to compete with, these input prices are unlikely to remain low for very long.

In contrast, cash costs for the marginal producer in old mature fields adjusting for the current lower price environment are likely as low as \$25/bbl with Canadian oil sands near \$30/bbl. This is why when the market shifts back to pricing in long-term investment the upside potential will likely be large and violent and the long-dated price will return as the center of focus at much higher levels to attract capital again. However, in the near term, the key in many markets is that prices will need to not only trade to cash costs, but also to overshoot them to create the incentives to begin the necessary shut-ins.

To get prices to cash costs, however, the market must first run out of storage capacity such that there is no other option remaining above ground to store other than leaving the commodity underground, i.e. shutting in. For oil, we believe that storage capacity will be exhausted by February, barring a cold winter, at which point we believe prices could trade as low as \$27.00/bbl. Even a cold winter may not be enough to slow this process down, as in Germany, where it is already extremely cold, heating oil inventories have managed to swell towards tank tops. Nonetheless, once storage is breached and shut-ins begin, we expect spot prices to remain at lower levels for a period of time in order to sustain production cuts while the market rebalances.

Voluntary or forced shut-ins? Most markets will need forced shut-ins, which will reduce spare capacity in energy

There are two types of shut-ins, voluntary and forced, with differing implications for the longer-term supply outlook. Voluntary shut-ins, such as OPEC production cuts, generally have few implications for the longer-term supply as adjusting this "swing" capacity inflicts little damage on the producing fields and leaves the market with spare capacity that can be utilized as demand improves. However, we do not believe that voluntary cuts will be sufficient in most of these markets. In oil, we believe that an additional 2.6 million b/d of supply needs to be taken off the market and we believe that OPEC will likely provide 2.0 million b/d of the required reduction in supply. The remaining 0.6 million b/d will likely have to come from forced or economically motivated shut-ins by higher cost non-OPEC producers in places like Canada, North Sea, Russia and the US. In base metals, while we have seen some voluntary shut-ins, the rest will need to be forced and in natural gas all the shut-ins will likely need to be forced. In oil and natural gas, forced shut-ins come in two forms: (1) capping wells, and (2) stopping short-cycle activities, which allows decline rates to set in.

Unlike metals and other manufactured commodities, oil and natural gas fields have natural decline rates so forced shut-ins can be created by stopping short-cycle activities, such as laying down workover rigs and halting tying up new wells. Within one to two months after stopping these activities, decline rates set in and production begins to fall. The key here is the industry is not left with spare capacity, which means when demand recovers new investment will be required to bring on new supply. Further, capping wells in older mature basins can inflict permanent damage on the well's production capacity when pressure is lost. As a result, the need for forced shut-ins in the current environment reinforces our view that supply constraints will likely quickly bind again, suggesting a sharp recovery in prices as demand recovers against tighter supplies.

The financial crisis has only derailed the investment phase, as the market still needs long-term production capacity

Looking into 2010, we expect a return to the commodity investment phase that has characterized this past decade. The current surplus market is the result of unprecedented demand declines due to severe economic weakness, which have pushed prices to critically-low levels long before the investment phase created next-generation production capacity to resolve the longer-term supply issues.

Further, once demand begins to stabilize and growth recovers, which we believe is unlikely to occur before late 2009, the market will once again face the same problem of inadequate long-term production capacity. In some commodity markets, which have natural decline rates, such as oil and gas, the sharp drop-off in investment will cause production capacity to actually decline, which suggests in these markets that demand will not need to return to first half 2008 levels to create similar shortages. In other words, the current environment only exacerbates the long-term supply problems and reinforces the long-term bullish case for commodities, particularly as the demand from the emerging markets will ultimately recover.

We are shifting to an underweight recommendation on index investments...

We are reducing our recommendation on commodity index investments from overweight to underweight, particularly relative to equities. The key reason for this is that commodities are "spot" assets versus equities and even bonds, which are "anticipatory"

assets, meaning commodities do not anticipate fundamental shifts, but instead reflect current fundamentals. This means that commodities will be one of the last asset classes to perform in a recovery. However, we believe that due to the structural supply problems, commodities will recover much faster than in previous cycles.

The reason for this timing of recovery is that in commodities the focus is on the levels, not changes in supply and demand. The only way a commodity market can turn bullish is if the demand "level" exceeds the supply "level" such that a deficit market is created and inventories drawn down. So even if commodity demand and economic activity is likely to trough between now and the middle of next year as our economists have modeled it, commodity prices will remain under pressure until demand levels exceed supply levels. However, equity markets will likely recover much sooner (if not already) as soon as it is clear that the economy has bottomed. Even if the economy has bottomed, as long as the commodity markets run a surplus, prices will remain under pressure.

...but would remain overweight agriculture relative to the rest of the commodity complex

Within the commodity complex, however, we would be overweight the agricultural complex. In contrast to the rest of the commodity complex, in agriculture we believe that a more insulated demand base, along with expected challenges to acreage expansion in the upcoming planting seasons, suggests limited downside from current levels and the potential for a moderate price rebound in late 2009. Further, some agricultural commodities can be viewed as "defensive", such as basic cereals and lower-cost proteins, which are likely to be less sensitive to or even derive benefit from slowing income growth. For this reason, we believe that portions of the agricultural and livestock complex will continue to outperform oil and metals in the near term.

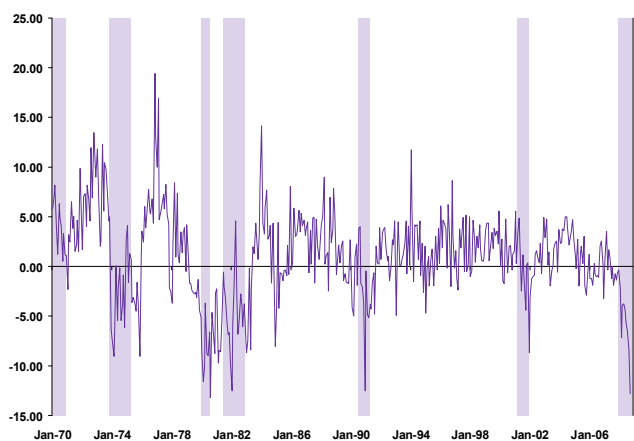
Oil: The need to price supply destruction

While strong oil demand from China and the Non-OECD countries helped propel WTI crude oil prices to over \$145/bbl in the first half of 2008, the collapse in world oil demand in the fourth quarter of 2008 as the global credit crunch intensified now threatens to push oil prices below \$40/bbl in the near term as the impact of the global economic recession has swung the oil market from pricing demand destruction in 2008 to pricing supply destruction in 2009. We now expect oil demand to decline by 1.7 million b/d in 2009, driven by a 1.0 million b/d decline in the OECD countries. While oil supply cuts are unlikely to prevent OECD inventories from building to full storage by February, as inventories reach full storage either further OPEC cuts will be required to balance the market or prices will need to decline further to force Non-OPEC producers to shut-in production. Net, we expect that an additional 2 million b/d of OPEC supply cuts will be required in 2009, along with a 600 thousand b/d reduction in Non-OPEC production, in order to rebalance the oil market. Consequently, we are lowering our 3-month WTI target to \$30/bbl, our 6-month target to \$42/bbl, and our 12-month target to \$65/bbl, with our calendar 2009 average price forecast reduced to \$45/bbl from \$80/bbl previously.

Oil demand growth in the United States and the OECD countries has fallen to recessionary levels in 2008, with US total petroleum demand currently down 6.1% year-over-year (see Exhibit 1). While oil demand estimates in China and the non-OECD countries have shown continued growth (see Exhibit 2), recent economic indicators suggest that demand growth in these countries is on the cusp of a sharp deceleration. This week's reported 1.8% year-over-year decline in Chinese crude oil imports in November could be the first evidence of such a deceleration.

Exhibit 1: US total petroleum demand growth has declined to recessionary levels in 2008...

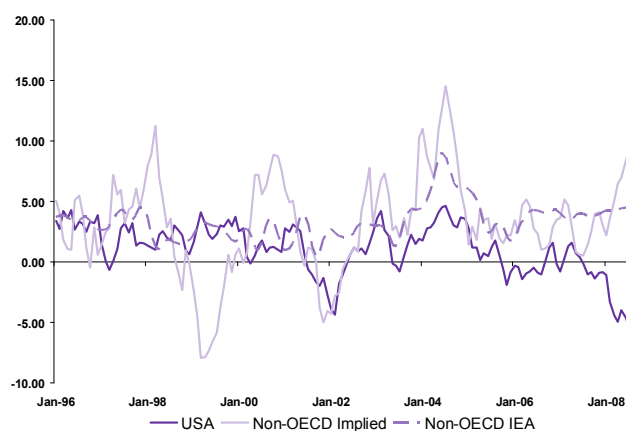
% change year-over-year, US recessions shaded



Source: DOE, NBER, and GS Global ECS Research.

Exhibit 2: ...while demand growth in the non-OECD countries has been remarkably robust

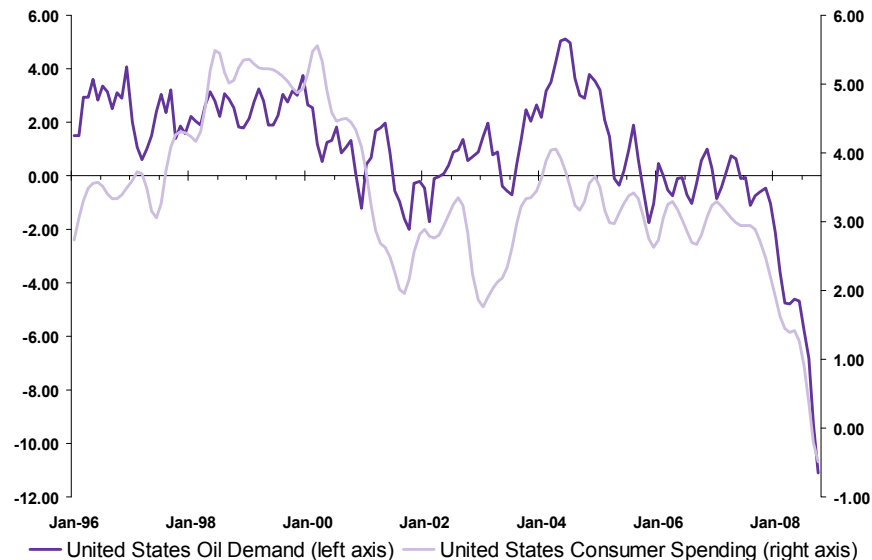
% change year-over-year



Source: DOE, IEA, and GS Global ECS Research.

The collapse in US total petroleum demand occurred against the backdrop of the largest contraction in real consumer spending since the economic recessions of the early 1980s (see Exhibit 3). The concurrent collapse in both US total petroleum demand and overall consumer spending highlights that US petroleum demand is primarily consumer-based, and its collapse has been driven by the same factors that have undermined overall US consumer spending: falling home prices, rising food and energy prices, and tight credit markets.

Exhibit 3: US total petroleum demand collapsed with overall consumer spending
% per annum (both axes)



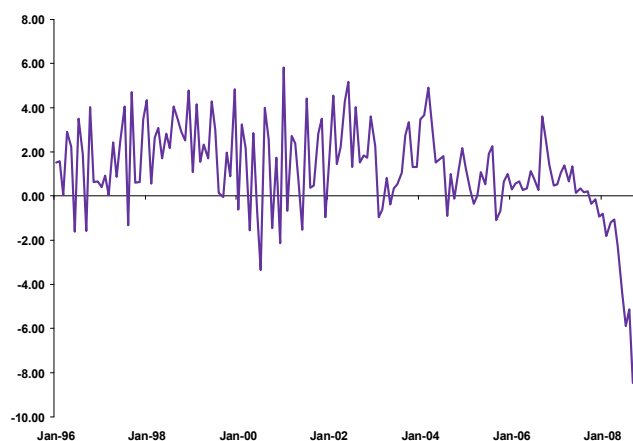
Source: DOE, BEA, and GS Global ECS Research.

While a decline in US oil demand would be expected, given the US economic environment, the swiftness and severity of the collapse was dramatic. For example, US motor gasoline demand was down 2.31% year-over-year in May, then contracted to a massive 5.89% year-over-year decline in July (see Exhibit 4). We believe that this rapid collapse was triggered by the combination of rapidly-rising food and energy prices over that period as food and energy price movements act as shocks to the income available for discretionary spending by US consumers.

Consider typical US consumers for whom food comprises roughly 10% of their budget. If food prices increase 10%, the impact is similar to a 1% decline in income. Among lower-income consumers for whom food expenditures constitute a much larger share of their budgets, the impact would be greater still. Further, it will likely push them closer to their budget constraints, making them even more sensitive to further price increases or income shocks. In the recent environment, this has been of rising importance as food basics, such as bread, have increased at a pace not seen since the late 1970s (see Exhibit 5). On net, we believe that the rapid rise in energy prices undercut US total petroleum demand in June and July, mainly because US consumers were far more sensitive to the increase than they normally would be, due to the sharp rise in food prices that occurred at the same time.

Exhibit 4: US motor gasoline demand collapsed in June...

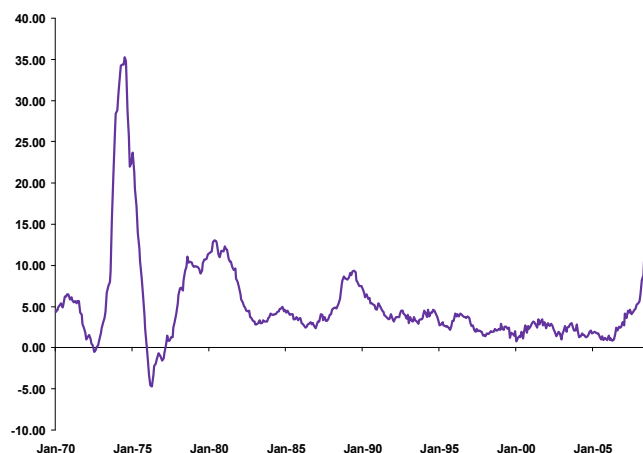
% change year-over-year



Source: DOE and GS Global ECS Research.

Exhibit 5: ...as US consumers faced the largest increase in bread and cereal prices since the 1970s

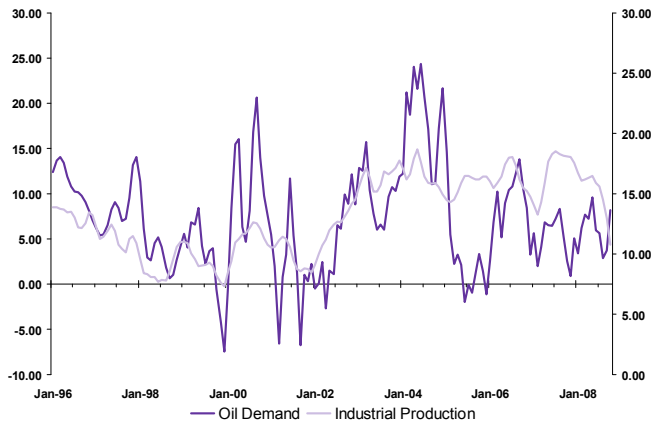
% change year-over-year



Source: Haver and GS Global ECS Research.

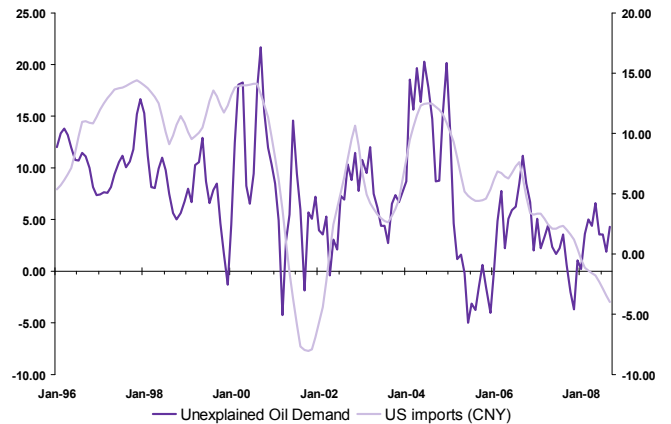
While oil demand in China and the Non-OECD has shown remarkable resilience to the US economic recession this year, there is increasing evidence that the impact of the collapse of the US consumer on world oil demand is now being felt in these countries. Oil demand in China and the Non-OECD countries is primarily driven by petroleum's use in industry and power generation as evidenced by the sharp increases in Chinese oil demand and industrial production in 2004 that sent crude oil prices surging (see Exhibit 6). The credit crunch in October of this year seems to have triggered a sharp deceleration in Chinese industrial production, with growth declining to 8.2% in October, and our economists are now expecting Chinese industrial production growth of only 5.2% in 2009. In addition, Chinese oil demand is leveraged to the Chinese export sector. As can be seen in Exhibit 7, much of the variation in Chinese oil demand that is not driven by changes in industrial production is correlated with the level of US imports. This suggests that the impact of the collapse of the US consumer on world oil demand is currently being felt far from the shores of the United States. On net, we expect Chinese demand to decline by 200 thousand b/d in 2009.

Exhibit 6: Chinese oil demand increased sharply with Chinese industrial production in 2004...
 % change year-over-year (both axes)



Source: Bloomberg, Haver, and GS Global ECS Research.

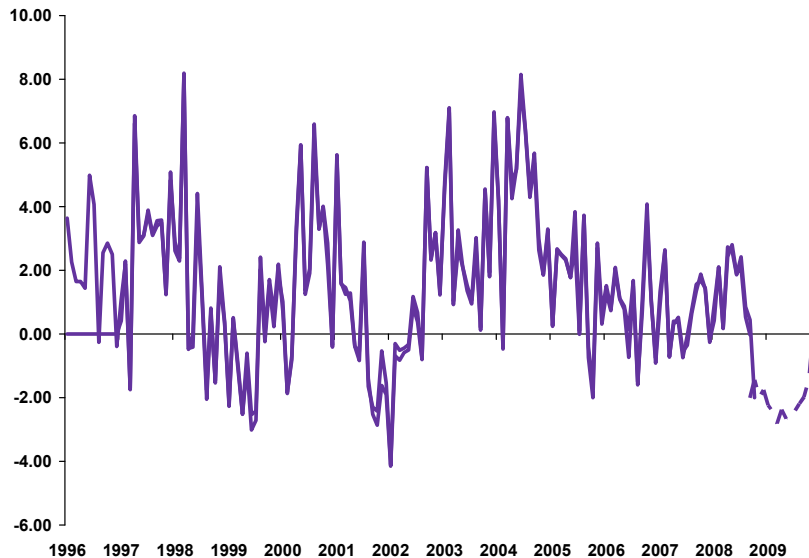
Exhibit 7: ...while the remaining fluctuations are well-correlated with US imports
 % change year-over-year (both axes)



Source: Bloomberg, Haver, and GS Global ECS Research.

With the recession expected to take on an increasingly global character as we move into 2009, we expect world oil demand to continue to contract, with growth bottoming in 2Q2009. Although the depth of the year-over-year contractions are not much more severe than those in 2001, they are expected to be much greater in duration, leading to a substantially greater cumulative loss in oil demand (see Exhibit 8). Net, we don't expect to return to current world oil demand levels until near the end of 2009.

Exhibit 8: World oil demand is likely to experience a protracted contraction in 2009
 % change year-over-year, GS forecast in dashed line



Source: IEA GS Global ECS Research.

Global economic recession swings market from pricing demand destruction in 2008 to pricing supply destruction in 2009

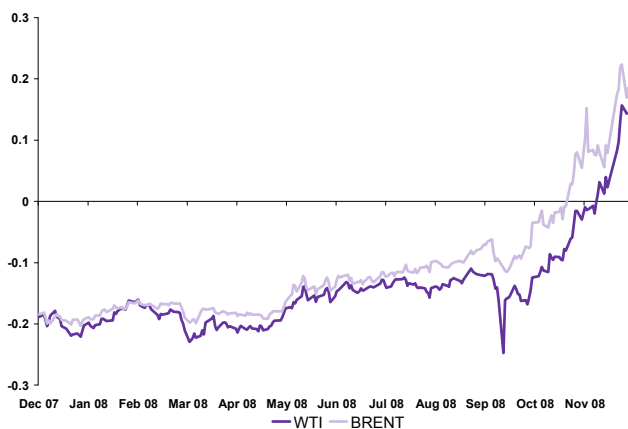
The continued sharp deterioration in world oil demand expected over the next few months will likely require substantial declines in world oil supplies in order to rebalance the market.

Barring an upturn in demand due to colder-than-normal winter temperatures, total OECD petroleum inventories will likely approach record high levels by February next year. While continued pressure on crude oil prices will likely induce a supply contraction in non-OPEC production, mainly through accelerated depletion rates, we believe that a significant 1.5 million b/d OPEC production cut, in addition to the one already announced, will be required to rebalance the market in 2009. This would bring OPEC production down by 2.0 million b/d from current levels. A cut of this magnitude combined with expected non-OPEC declines, if implemented by the first quarter of next year and maintained throughout 2009, could offset the expected demand shortfall and bring inventories to below 10-year average levels by year-end.

In the meantime, the current surplus in the market will likely bring total OECD inventories to the record-high levels of 1998 by February of next year. The steep contango in the WTI and Brent forward curves has been motivating inventory builds that will likely be showing up in official statistics over the course of the next two months. The physical crude oil and freight markets are already signalling an increase in crude oil demand for storage. Physical grades started to strengthen relative to NYMEX WTI and ICE Brent immediately after their forward curves moved into full carry (see Exhibit 9). Shortly after, freight rates increased, reflecting an increased demand for tankers (see Exhibit 10). Because the average voyage time from the large producing regions, such as the Arab Gulf, to large consuming regions, such as the United States or Japan, is 30 days, the additional crude oil could actually be reported in storage in the next 15-30 days. Further, there is evidence of tankers being chartered for use as floating storage, paid for by the large contango in the market.

Exhibit 9: The forward curves in WTI and Brent moved into a full-carry contango in November...

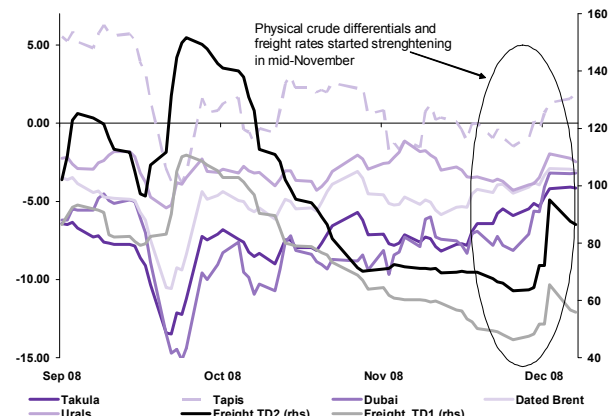
12m/1m timespreads + 0.9% as storage cost + BBB credit spreads+ Libor



Source: NYMEX ICE and GS Global ECS Research.

Exhibit 10: ...when the physical differential started to increase and the freight rate rebounded, suggesting an increase of crude demand for storage

Spread with WTI in \$/bbl(left axis); Worldscale (right axis)



Source: Platts and Baltic Exchange.

While the large contango in the crude oil forward curves was initially generated by the oil surplus and reluctance of refiners to hold oil inventories in the face of declining demand and tighter credit markets, the contango has motivated the use of high-cost forms of oil storage, such as tankers. As inventories are likely to approach full storage by February next year, spot prices will likely have to weaken further and incentivize arguably the most expensive form of storage, namely production shut-ins.

Consequently, the near-term outlook for oil prices will likely hinge on the price required to reduce world oil supply in line with declining demand, rebalancing the market. We expect that this price will be the price at which Non-OPEC producers curtail supply as we do not believe OPEC cuts alone will be enough to offset the demand shortfall.

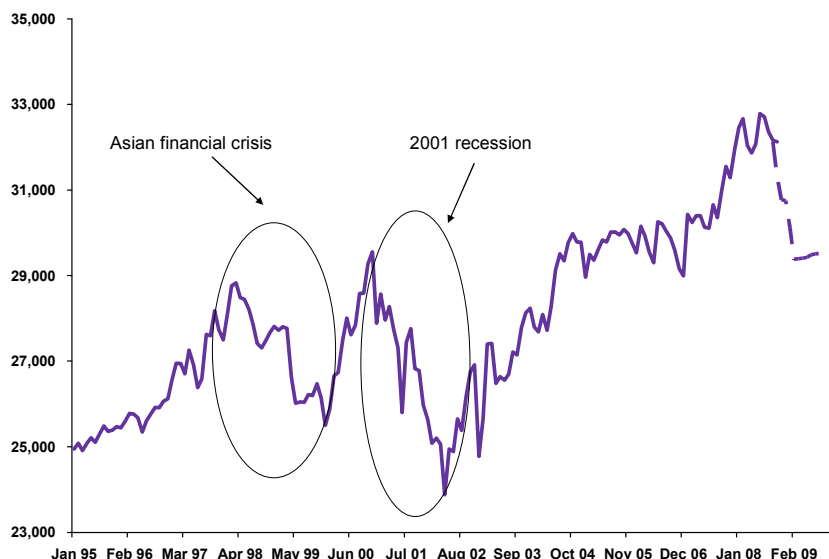
Non-OPEC supply reductions will potentially come in three forms: decreased investment, accelerated depletion rates, and production shut-ins. The decline in crude oil prices to levels below the “all in” cost of many large projects has already led to sharp declines in investment and capital expenditures by oil producers. However, the decline in investment today reduces supplies years from now, increasing upside risk to oil prices over the longer term but doing little to alleviate the near-term surplus.

The current low oil prices and constrained credit conditions are arguably also forcing a rapid decline in maintenance and “short-cycle” activity that will likely result in higher depletion rates on existing fields. Short-cycle activity includes field maintenance, infield drilling and enhanced oil recovery techniques that typically counter the natural field decline rate. Already at current lower prices these expenses have been likely reduced significantly. We expect that as prices decline to a level close to average cash costs for Non-OPEC producers, the combination of lower infield investments and partial shut-ins will induce around 600 thousand b/d lower non-OPEC production than previously expected. These declines will likely be spread across mature producing regions such as Russia, North Sea, Mexico, United States and Canada. The lower Non-OPEC production comes from an expected acceleration in Non-OPEC depletion rates from 6.5% to 8%. We now expect total non-OPEC production to decline in 2009 by 400 thousand b/d, against our previously anticipated 200 thousand b/d increase. The decline in non-OPEC production from accelerated depletion rates, however, will hardly be enough to rebalance the market or prevent total OECD stocks from reaching and possibly breaching full storage levels by February next year, when we expect prices to dip slightly below \$30/bbl.

Consequently, we expect that either OPEC cuts an additional 2 million b/d of production to balance the market or prices will have to move even lower in order to force Non-OPEC producers to shut-in producing oil wells. The required cut includes 500 thousand b/d yet to be implemented from the previously announced cut and an additional 1.5 million b/d that would have to be announced. This supply decline would bring OPEC crude oil production (including Indonesia) to 29.4 million b/d, 2 million b/d below current levels (see Exhibit 11). We expect that, just as in 2006, Saudi Arabia will have to bear the brunt of a cut that could bring the world’s largest oil producer to a little over 7 million b/d, a production level marginally lower than the one reached in January 2002. We have embedded the additional OPEC cut in our mainline view, but the need for Non-OPEC producers to shut-in production in the absence of such a cut remains a downside risk to our oil price forecast.

Exhibit 11: To balance the market OPEC production will have to decline by a similar amount as in previous economic downturns

Million b/d, GS forecast in dashed line

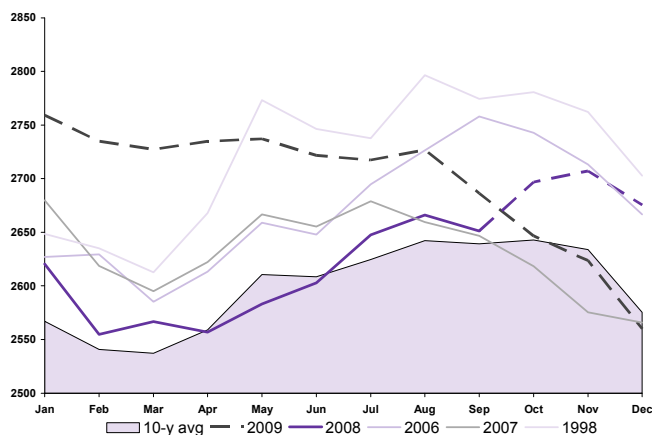


Source: International Energy Agency (IEA) and GS Global ECS Research.

If the full additional cut is implemented by March next year, the market could avoid a further build in inventory and enter into a market deficit in the second half of the year. We expect that the production cuts, along with an expected stabilization in demand on the back of improved economic conditions late next year, will likely bring OECD oil inventories back to below 10-year averages at the end of next year. As a consequence, we expect oil prices to recover to \$65/bbl by the end of 2009.

Exhibit 12: After reaching levels similar to 1998, total OECD inventories are expected to decline to below 10-year averages by year-end 2009

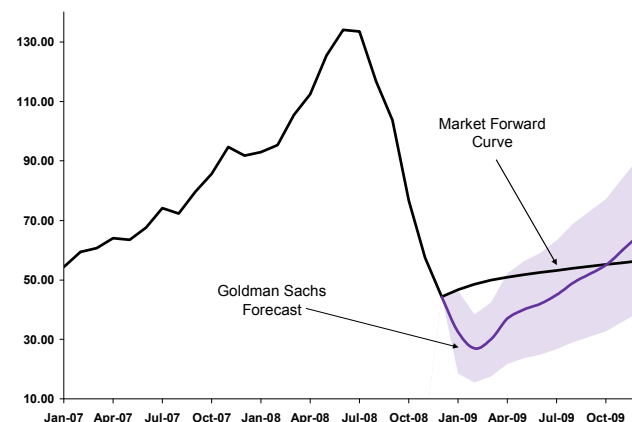
Million barrels, GS forecasts in dashed lines



Source: IEA and GS Global ECS Research.

Exhibit 13: WTI price path

\$/bbl



Source: GS Global ECS Research.

It should be emphasized that in the absence of significant OPEC cuts, should significant production shut-ins in non-OPEC countries be required, spot WTI crude oil prices could decline towards \$20/bbl, below industry cash costs and possibly average below \$30/bbl for

a number of months to force extended production shut-ins. While OPEC inaction poses a major downside risk to our price forecast, it would also likely exacerbate a potential oil price rebound at the end of 2009 and in 2010. Forced shut-ins in mature Non-OPEC producer regions could accelerate significantly the rate of depletion in already declining areas, making a future recovery in production from these areas extremely difficult.

Opening long residual fuel oil crack and short heating oil trading recommendations

Long 1% August NYHB residual fuel oil crack

We expect the large OPEC production cuts required to rebalance the oil market in 2009 will likely lead to a decline in heavy crude oil production, reducing the supply of residual fuel and putting upward pressure on residual fuel oil prices. In addition, the anticipated low level of refinery runs in the United States and the OECD countries, combined with the commissioning of new complex refineries in Asia, will likely create spare upgrading capacity, which would further reduce the supply of residual fuel oil. Meanwhile, as residual fuel oil prices have fallen below US natural gas prices on a Btu-equivalent basis, residual fuel demand will likely be supported by increased power generation demand for 1% residual fuel oil in the United States. Consequently, we are recommending a long 1% August NYBH residual fuel oil crack position with an initial price of -\$14.83/bbl.

Short August 2009 NYMEX heating oil contract

We expect heating oil prices to come under pressure as support for diesel demand from industrial activity and power generation in the Non-OECD countries is likely to decline sharply. While heating oil demand has also recently received support from German residential users who have been filling tertiary storage, with their storage now nearly full, this demand is also likely to dissipate. Further, the commissioning of new complex refineries in Asia and the spare upgrading capacity created by low refinery runs in the United States will likely add significantly to diesel production capacity. Consequently, we are recommending a short August 2009 NYMEX heating oil position with an initial price of -\$1.72/gal.

Natural gas: Global recession and more LNG leave the burden on US producers

As global economic activity slows and oil prices approach cash costs, we believe that both US and UK natural gas prices are set for further declines. In the United States, we believe that a massive surplus in the market brought about by reductions in industrial and generation demand on top of production growth will likely add further pressure to already low NYMEX natural gas prices. Accordingly, we are lowering both our 2008/2009 winter and 2009 summer US natural gas forecasts to \$5.35/mmBtu (\$6.20/mmBtu and \$6/mmBtu previously, respectively). An aggressive supply response to low prices will potentially reduce production sufficiently to return the market to balance in 2H2009. This will likely allow for a recovery in prices by the 2009/2010 winter. We therefore maintain our 2009/2010 winter NYMEX natural gas forecast at \$7/mmBtu.

In Europe, most of the downward pressure on UK NBP prices will likely come from its arbitrage against (oil-indexed) Continental prices. As lower oil prices lead Continental natural gas prices down, we expect UK NBP prices to become competitive with US natural gas prices next summer, likely creating incentives to send LNG to the United States rather than to Europe or Asia. We also expect UK NBP prices to rebound in the 2009/2010 winter, as increasing oil prices help lift European Continental natural gas prices. Accordingly, we have revised our European natural gas forecasts according to Exhibit 14, below.

Exhibit 14: We have downgraded our US and UK natural gas price forecasts

\$/mmBtu, unless otherwise noted

Unit		Goldman Sachs forecast						Market forward curve ²		
		2008/2009 winter		2009 summer		2009/2010 winter		2008/2009 winter	2009 summer	2009/2010 winter
1% FO	\$/mmBtu	6.25	3.90	10.45	5.50	14.60	8.60	5.74	6.22	7.16
NYMEX natural gas	\$/mmBtu	6.20	5.35	6.00	5.35	7.00	7.00	5.95	6.28	7.39
Continental Europe ¹	\$/mmBtu	12.00	11.10	9.30	6.30	11.80	7.20	11.16	7.23	7.57
	p/th	79.40	72.20	57.70	36.20	70.90	38.90	74.89	48.93	51.14
UK NBP	\$/mmBtu	13.20	9.10	8.60	5.80	13.10	8.00	8.53	7.31	9.44
	p/th	87.30	59.10	53.20	33.60	78.40	43.10	57.21	49.47	63.79

¹Gasunie proxy.

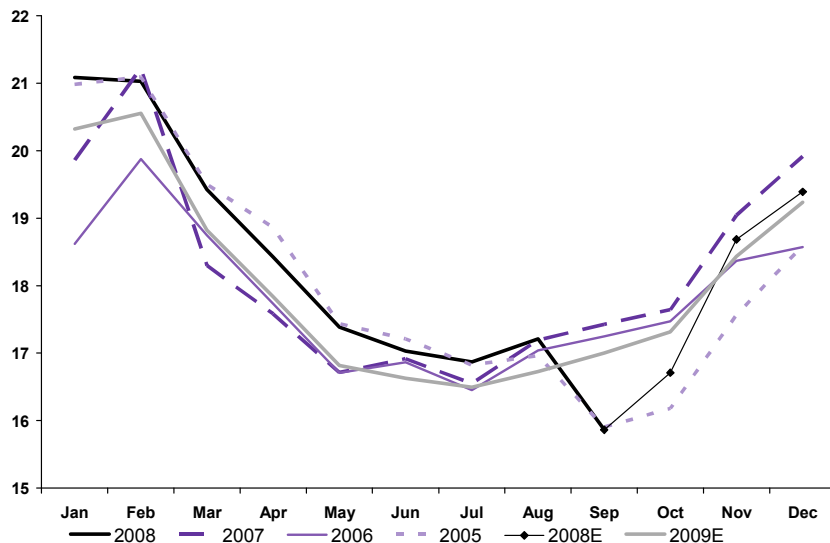
²As of market close on December 10, 2008.

Source: NYMEX, ICE, Platts and GS Global ECS Research.

United States: Excess supply in the market exacerbated by global recession, lower oil

The sharp deceleration in economic activity will likely weigh on natural gas demand in 2009, exacerbating oversupply in the market that we had already expected on production gains. Specifically, Dow Chemicals, one of the largest industrial users of natural gas in the United States, recently announced the closure of 20 plants and the idling of 180 others. As these types of closures multiply amid the severe economic slowdown, we believe that US industrial demand for natural gas, previously expected flat relative to 2008 levels, will likely decline significantly for most of 2009 (see Exhibit 15).

Exhibit 15: US industrial demand for natural gas now expected to be down year-on-year
Bcf/d

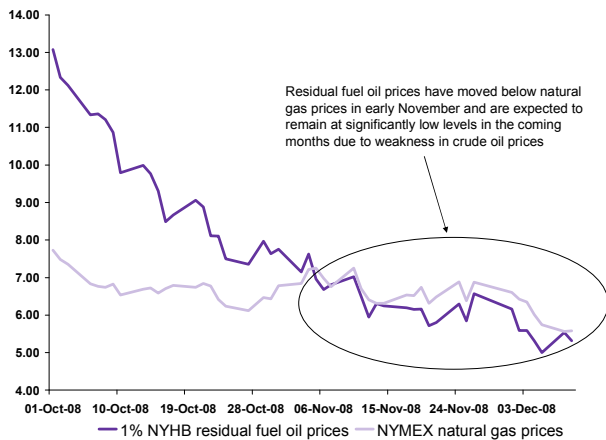


Source: US Department of Energy (DOE) and GS Global ECS Research.

In addition to directly reducing natural gas demand via lower industrial activity, the current global economic slowdown will also likely lead to lower generation demand for natural gas via competition with lower oil prices. Specifically, our expectations of sharply lower oil prices required to rebalance the oil market next year suggest that residual fuel oil, a substitute for natural gas for power generation, will likely continue to price competitively against natural gas, inducing natural gas displacement. Such displacement would increase the surplus in natural gas markets, particularly in 1Q2009, when residual fuel oil prices are expected to realize their largest discount to natural gas prices (see Exhibits 16 and 17).

Exhibit 16: Residual fuel oil prices have collapsed below natural gas prices and are expected to move lower in the near term...

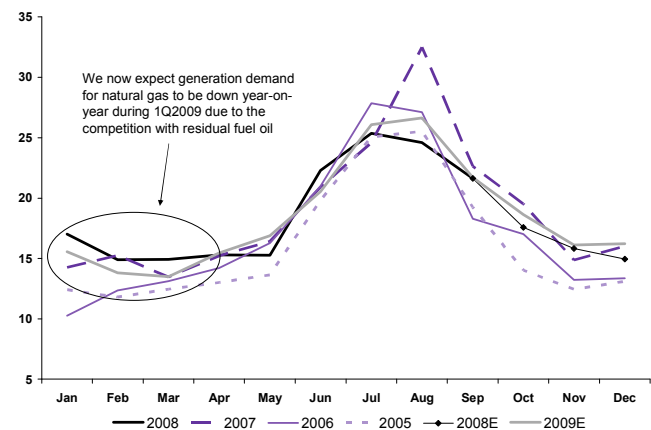
\$/mmBtu



Source: NYMEX and Platts.

Exhibit 17: ...likely displacing some use of natural gas for power generation

US generation demand for natural gas in Bcf/d



Source: DOE and GS Global ECS Research.

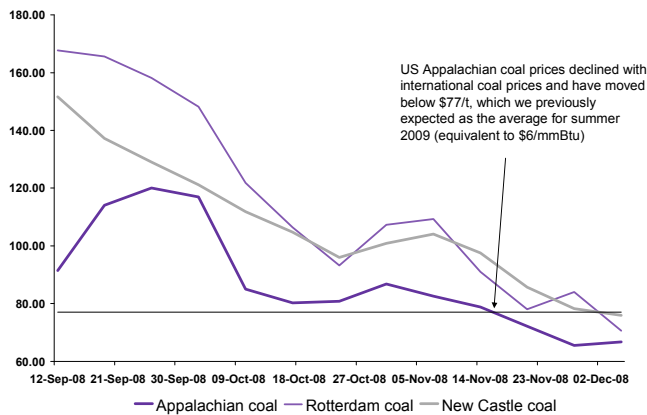
How to rebalance the US natural gas market in 2009? Prices will have to move lower

Such industrial and generation demand paths – all else being equal – would generate a massive surplus that would overwhelm natural gas storage capacity by summer 2009. As a result, we believe that US natural gas prices will need to move lower from current levels for a relatively extended period of time in order to motivate either higher demand or lower supply to absorb the surplus.

We have recently argued that this rebalancing could be achieved through a decline in US natural gas prices to parity with coal prices, creating incentives for coal-to-gas fuel substitution for power generation and subsequent exports of the left-over coal (see our October 3, 2008 Natural Gas Watch). In fact, our previous 2009 summer NYMEX natural gas price forecast of \$6/mmBtu was exactly the parity with Appalachian coal prices expected for 2009. However, like most other commodities, coal prices have recently moved lower, likely owing to the sharp global slowdown in industrial activity that has curtailed demand for power generation, perhaps most clearly evidenced by substantial contraction in Chinese power output in October and November (see Exhibits 18 and 19).

Exhibit 18: Global coal prices have declined sharply in the past few months...

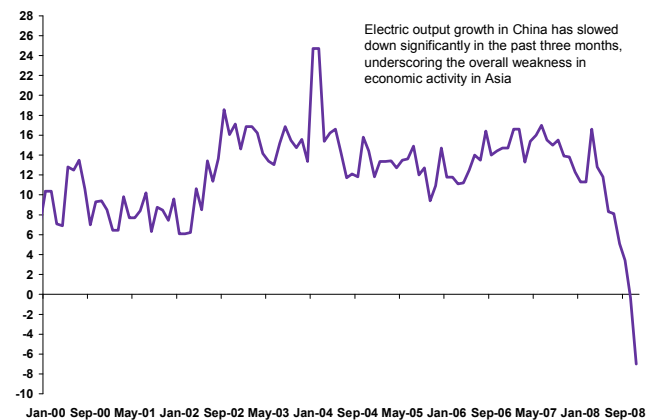
Central Appalachian coal prices in \$/t



Source: NYMEX.

Exhibit 19: ...likely due to reduced economic activity in coal-intensive users, such as China

Year-on-year growth of Chinese electric output in %



Source: National Bureau of Statistics of China.

Our economists' revisions of Chinese and global GDP growth forecasts for 2009 to 6% and 0.6%, respectively, suggest continued deterioration in economic activity that will likely further weigh on coal prices, potentially pushing them toward their own cash costs, in the \$4/mmBtu-\$5/mmBtu range. The likelihood of further weakness in coal prices presents more downside for natural gas prices and also suggests that more of the rebalancing in the natural gas market may take place through production declines – which may be motivated at moderately higher price levels than coal substitution - rather than through substitution in the generation sector.

Accordingly, we now believe that natural gas prices will average \$5/mmBtu between December 2008 and July 2009 – potentially above coal prices but low enough to induce more aggressive declines in drilling that will help return the market to balance. Specifically, we estimate that without coal substitution to help rebalance the market, US gas rig counts, currently down 11% from their September highs, will have to decline further in the coming months and reach approximately 940 rigs or a roughly 40% drop from the peak by April 2010 (see Exhibit 20). Because there is generally a lag time between drilling cuts and the impact on production levels, we believe that the bulk of the effect of such a decline in rig counts will only be felt starting in 2H2009. After embedding such drilling cuts in our balances, we expect US dry natural gas production to average 2 Bcf/d less in 2H2009 than previously thought (see Exhibit 21).

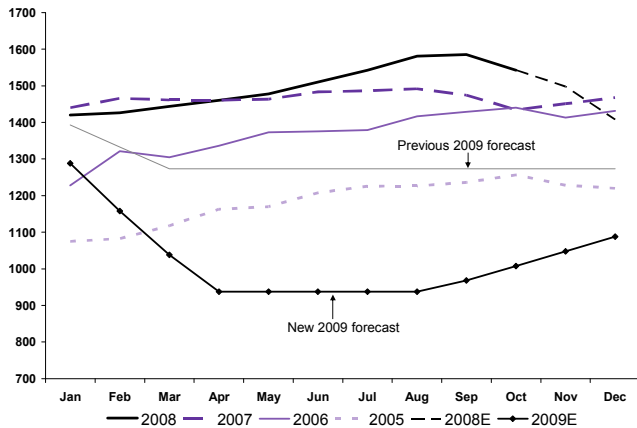
It should be noted that should coal prices hold up better than expected, then more of the rebalancing would likely be accomplished through substitution than through capex reductions and we will follow this situation closely. While the near-term implications on natural gas prices from substitution versus capex reductions are similar, the implications on longer-term natural gas prices may be different. This is because resolving the surplus through greater declines in capex rather than through generation substitution potentially tightens the longer-term natural gas outlook, as less drilling allows natural gas decline rates to set in, reducing production capacity that can only be reversed through renewed investment. In mature fields it is likely that new investment to attempt to reverse the declines won't be worthwhile, leading to a more permanent reduction in capacity.

For now, we anticipate that the capex reductions, combined with some incremental generation demand as oil prices begin to recover in late 2009 – motivating a switch back to natural gas from residual fuel oil – will help rebalance the market in late 2009/2010. As a

result, we maintain our \$7/mmBtu NYMEX natural gas price forecast for the 2009/2010 winter.

Exhibit 20: We believe that US natural gas prices will have to remain low enough to motivate a significant decline in drilling in 2009...

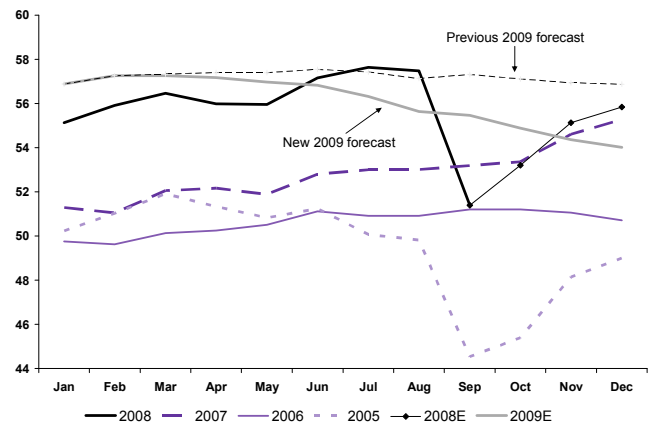
US gas rig counts (number of rigs)



Source: Baker Hughes and GS Global ECS Research.

Exhibit 21: ...in order to reduce production and help rebalance the market

US dry natural gas production in Bcf/d



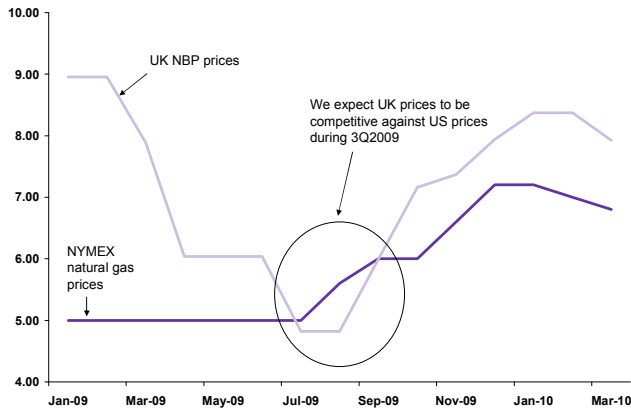
Source: DOE and GS Global ECS Research.

Europe: A soft market and weakness in oil prices will likely drive UK NBP down below US natural gas prices

UK NBP prices have remained at a discount to Continental prices so far this winter, which is unusual for the heating season, when there is typically a supply deficit in the region. We believe that this atypical discount has been driven by a combination of continued healthy pipeline supplies from Norway, increased LNG imports into the Continent, likely driven by a decreased willingness to pay for cargoes from Asia, and a couple of commissioning cargoes testing the newly expanded UK Isle of Grain facilities. As a result, storage remains above 90% of capacity for most of Europe and UK NBP prices remain under pressure. With yet another LNG commissioning cargo expected to arrive in the UK in 1Q2009 (this time for the new South Hook regasification terminal), we believe that UK natural gas prices will likely remain at a discount relative to the Continent, barring extreme weather events. Accordingly, we have lowered our 2008/2009 winter UK NBP prices to \$9.10/mmBtu, a \$2/mmBtu discount from Continental prices (see Exhibit 14).

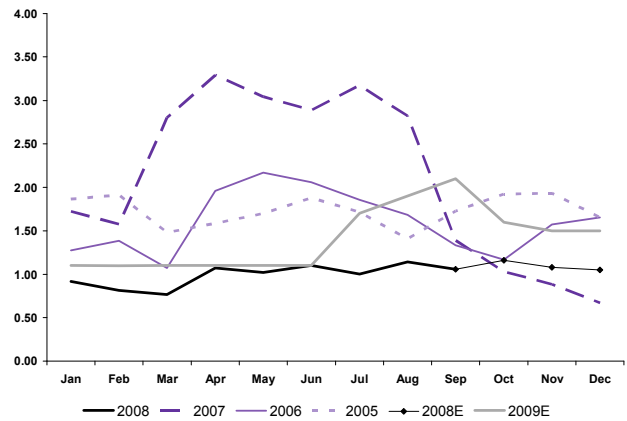
We expect UK NBP prices to remain at a discount to the (oil-indexed) Continental prices during the summer, when demand falls seasonally. Further, as we now expect the oil complex to price lower in 2009, even a 10% discount to Continental prices suggests 2009 summer UK NBP prices will be competitive with US natural gas prices, particularly during 3Q2009 (see Exhibit 22). This convergence between US and UK prices will likely provide incentives for LNG producers to send additional LNG cargoes to the United States, motivating an upward revision to our US LNG import forecasts, which contribute to the anticipated large US surplus next year (see Exhibit 23).

Exhibit 22: US and UK natural gas prices will likely converge next summer...
\$/mmBtu



Source: GS Global ECS Research.

Exhibit 23: ...likely motivating a year-on-year increase in US LNG imports in 2H2009
US LNG imports in Bcf/d



Source: DOE and GS Global ECS Research.

Although we expect crude oil prices to rebound to \$60/bbl by 4Q2009, we are not likely to see a corresponding strengthening of European prices before 2010, as Continental natural gas prices are indexed to backward-looking oil product prices. Therefore, while embedding a recovery in European prices towards 4Q2009, we still expect UK NBP prices to remain relatively close to US natural gas prices through the end of the year.

Opening short summer 2009 UK NBP trading recommendation

Short 3Q2009 UK NBP natural gas swap

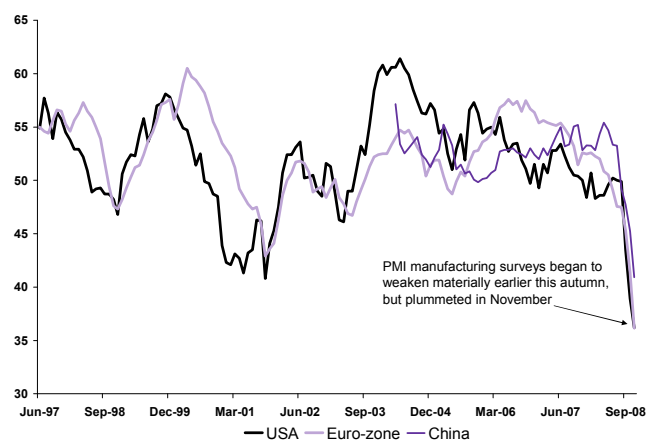
If the weakness we expect in the oil complex in 2009 is realized, oil-indexed Continental natural gas will also price significantly lower. In such an environment, the 10% discount we expect for UK NBP prices relative to Continental prices would likely be enough for 2009 summer UK NBP prices to be competitive with US natural gas prices, particularly during 3Q2009. However, such a downward move in UK natural gas is not currently embedded in the forward market. Therefore, we are opening a trading recommendation to go short 3Q2009 UK NBP natural gas swap with an initial price of 52.77 p/th.

Industrial metals: The rebalancing process is underway, but more cuts are needed

The sharp deterioration in global industrial output and in metals-intensive sectors continues to worsen the demand outlook for industrial metals in 2009. Although the rebalancing process is already underway with deep cuts in mine and smelter production in response to the exceptional price weakness, we expect substantial surpluses across most metals to continue to pressure prices lower from current levels in the near-to-medium term. We anticipate that declining borrowing costs, tightening supplies and some stabilization in demand will lead to sequential improvement in prices by late in the year, but anticipate that large surpluses and high inventories will largely persist, leaving little upside to prices relative to current forward curves across the complex throughout 2009. We believe that fundamentals are strongest for zinc and weakest for aluminum, where inventories are set to climb to extraordinary levels. On net, we are lowering our 2009 average price forecasts for aluminum, copper, nickel and zinc to \$1410/mt, \$2950/mt, \$8980/mt and \$1150/mt, from \$2310/mt, \$5230/mt, \$12735/mt and \$1475/mt, respectively.

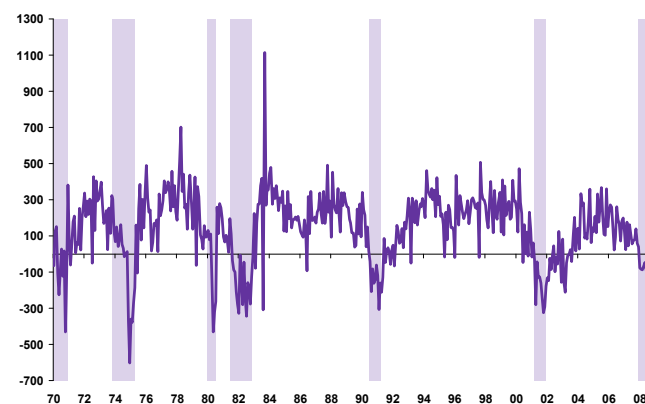
Severe deterioration in global economic indicators in recent weeks continues to worsen the demand outlook for industrial metals in 2009. Surveys of manufacturing conditions around the world have declined to unprecedented territory, industrial production has weakened substantially in most parts of the world and unemployment is rising at an alarming rate, with the US November payroll report in particular marking the largest one-month decline since 1974 (see Exhibits 24 and 25).

Exhibit 24: Manufacturing surveys across the globe have recently collapsed
Index (50+ = expansion)



Source: Haver Analytics.

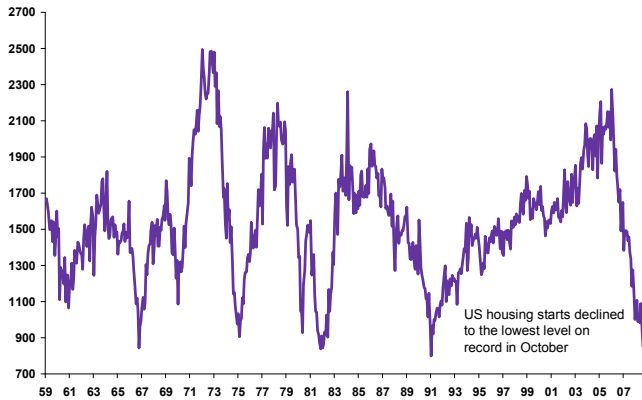
Exhibit 25: US payroll numbers show 530,000 fewer jobs in November, a record decline since 1974
US total non-farm payrolls, in thousands



Source: Haver Analytics.

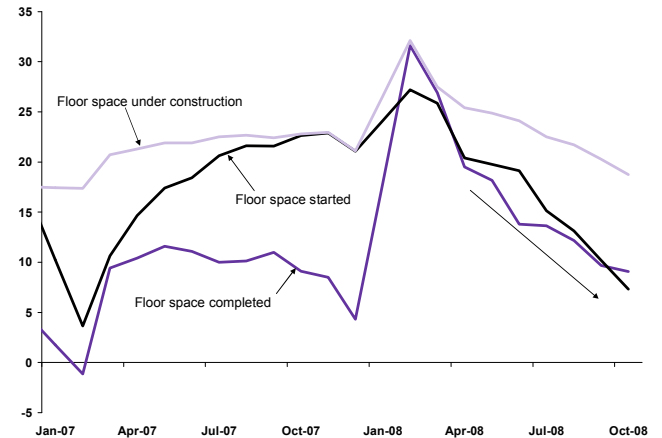
Metals-intensive sectors clearly remain at the epicenter of this weakness with both construction and autos showing further severe deterioration. Despite extreme declines in activity in the US housing sector over the past nearly three years, US housing starts continue to spiral downward, declining to the lowest level in October since the beginning of the reported data in 1959 and down an astonishing 38% year-over-year (see Exhibit 26). Construction activity also continues to soften elsewhere in the world, particularly in China, with floor space under construction showing additional losses in October (see Exhibit 27).

Exhibit 26: US housing starts have steadily declined since 2005, now reaching record-low levels
US housing starts in thousand units



Source: Haver Analytics.

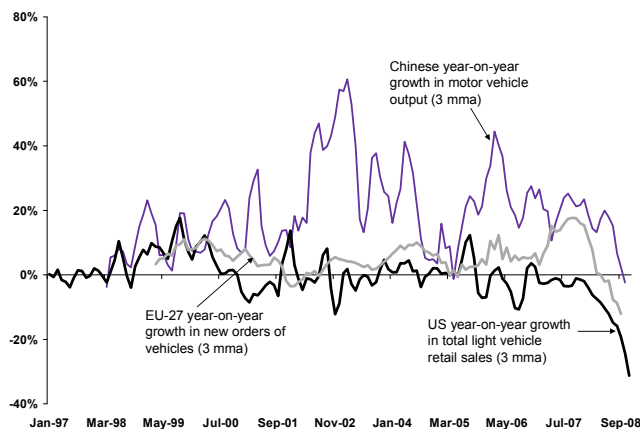
Exhibit 27: The Chinese housing sector is now also slowing down
Year-on-year change in Chinese floor space started, under construction and completed, in %



Source: China National Bureau of Statistics.

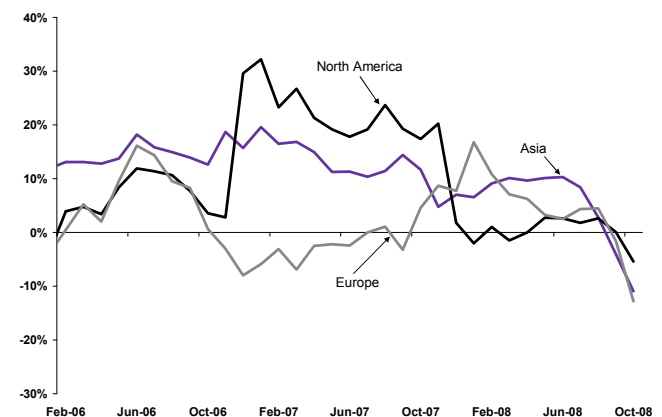
Further, as the US automotive industry faces a deeply uncertain financial future, October US light vehicle sales declined to the lowest level on record – down 37% year over – at the same time that auto activity indicators in most other parts of the world are collapsing (see Exhibit 28). Considerable declines in global crude steel production in response to diminishing demand from these end-use sectors provide further indication of the severity of the slowdown (see Exhibit 29). Although substantial policy action by governments and Federal Reserves globally – including meaningful fiscal stimulus packages already announced by China and likely to be announced by the US and European governments in coming months – should be particularly supportive of infrastructure-related metals usage, the benefits of these policies are unlikely to be felt in the markets much before 2010.

Exhibit 28: Auto sales and output are declining across the board...
Year-on-year change, in %



Source: Haver Analytics.

Exhibit 29: ...as is steel production
Year-on-year growth in steel production, in %

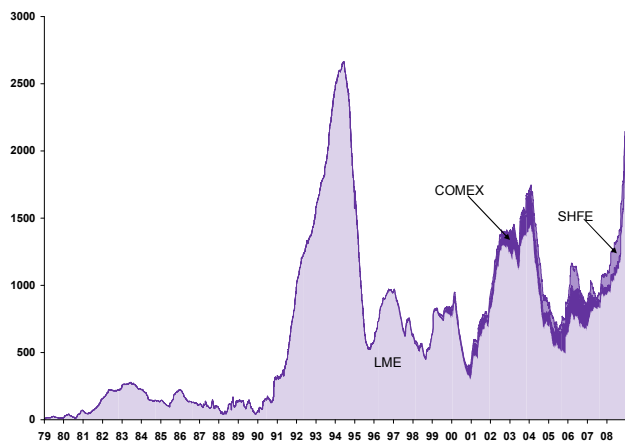


Source: Haver Analytics.

In response to the exceptionally weak demand conditions, sizable production cuts have been made across the metals that are expected to expand in 2009. Specifically, industry sources suggest about 660kt (6% of production) of mine production cuts have so far been announced for zinc in 2009, 2.7mt (7% of production) of smelter cuts in aluminum, 125kt (9% of production) of smelter cuts in nickel and 125 kt (0.7% of production) of mine cuts in

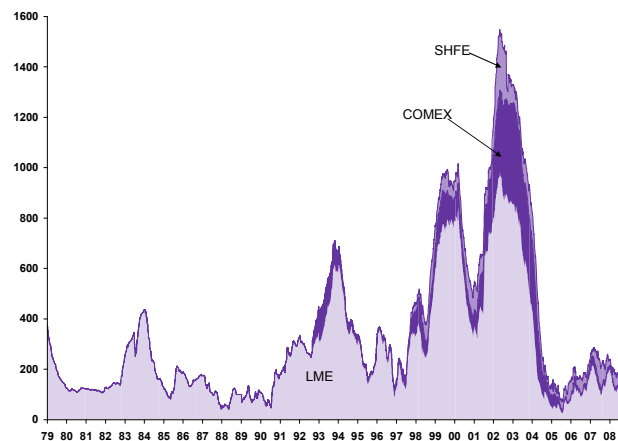
copper, with such cuts potentially increasing as weak conditions persist. Despite this supply response, all of the metals have moved into considerable surpluses in recent months, as evidenced by rapidly rising inventories (see Exhibits 30 and 31). And we anticipate that these surpluses will continue to grow in coming months, pushing inventories close to or even beyond historical highs in all metals. Somewhat consistent with the sharp rise in inventories has been a shift toward steep contango across the complex. In most instances, however, this contango has become severe relative to the level of inventories, likely owing to higher borrowing costs that have increased the cost of carry.

Exhibit 30: Aluminum inventories are already high relative to historical levels and expected to move higher
 Thousand tons



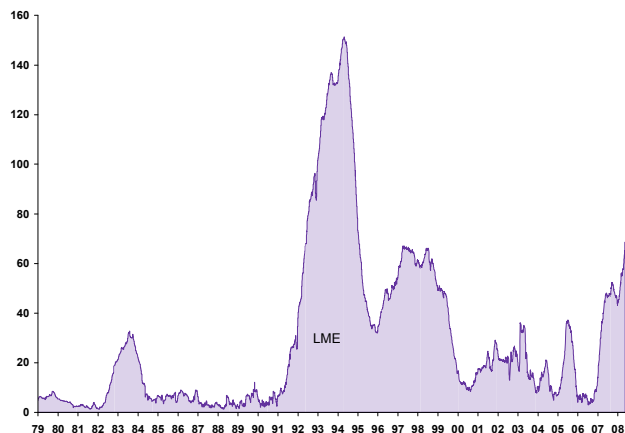
Source: LME, COMEX and SHFE.

Exhibit 31: Copper inventories are still low from a historical perspective, but expected to climb fast
 Thousand tons



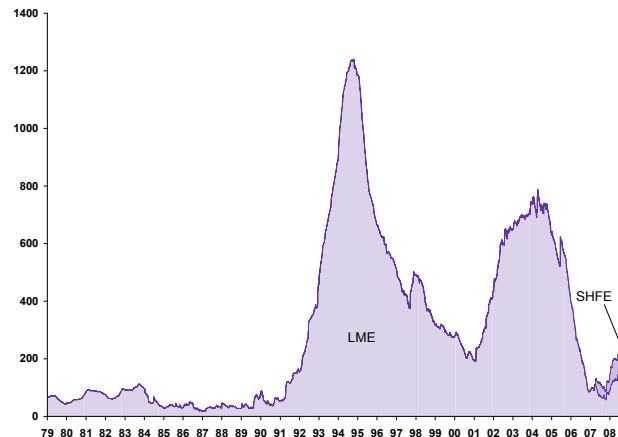
Source: LME, COMEX and SHFE.

Exhibit 32: Nickel inventories have been rising rapidly
 Thousand tons



Source: LME.

Exhibit 33: Like copper, zinc inventories are also low relative to history, but expected to climb significantly
 Thousand tons



Source: LME and SHFE.

We believe that rising inventories and elevated borrowing costs will likely maintain these severe contangos into 2009 at the same time that long-dated prices for the metals will likely continue to decline as further demand deterioration obviates the need for higher-cost supplies and as input costs fall with increasing slack in the system. We therefore believe that spot prices for each of the metals will remain under pressure in the near-to-medium term and that this pressure will indeed be necessary to motivate continued production cuts required to keep the surpluses in check, although, again, the surpluses are still expected to

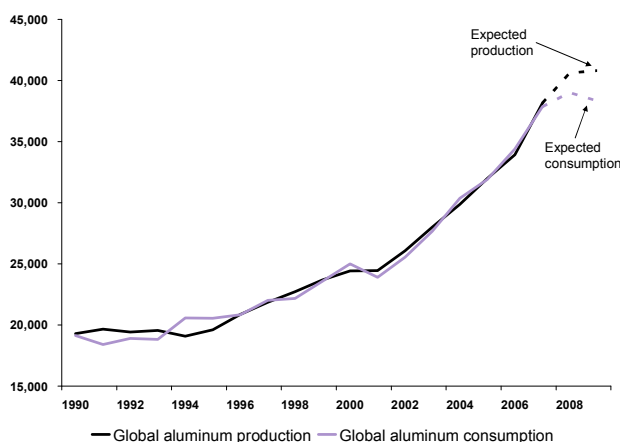
be large. Later in the year, we anticipate that the combination of lowering borrowing costs as credit conditions ease, tightening supplies, and some stabilization of demand will help lift metals prices off their bottoms, but we see little upside in prices relative to the current forward curves throughout 2009.

On net, we are lowering our forecasts across the base metals. In this context, we believe that zinc fundamentals are the tightest and therefore expect less downside for the metal from current levels relative to the rest of the complex, as well as most upside – albeit still limited – on a 12-month horizon. We are most bearish on aluminum, where inventories are expected to rise to unprecedented levels. Broadly, downside risks to these views are even more demand deterioration than we are embedding, although we feel we have been relatively aggressive in our assumptions, or failure to sustain/implement production cuts, which seems most likely in aluminum. We believe that the largest upside risk would come from an earlier and/or stronger rebound in demand, which would most likely occur in the event that fiscal stimulus packages were very large and – most importantly – swiftly and effectively implemented. We will gain more clarity on this issue in the coming months and adjust our forecasts accordingly. For now, our mainline views by metal are the following:

Aluminum. We expect aluminum demand to decline by 1.7% yoy in 2009. Against this demand weakness, we expect only a marginal increase in supply given the announced smelter production cuts, consistent with the sharp decline in prices, which leaves the market in a relatively massive surplus in 2009 from an already large expected surplus in 2008 (see Exhibit 34). As a result, aluminum inventories are likely to climb to unprecedented levels, especially considering that exchange inventories are already at the highest levels in 14 years. Accordingly, we anticipate that further declines across the term structure and continuation of the current large contango in the coming months will result in more spot price weakness in the near-to-medium term (see Exhibit 35). For now, we are expecting some sequential improvement in spot prices later in the year as credit easing lessens the contango and demand stabilizes amid a tighter supply environment.

Exhibit 34: We expect a massive 2.4 mt excess supply in the aluminum market in 2009

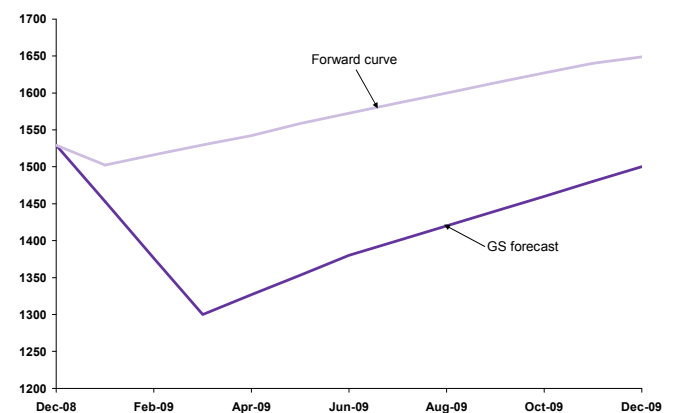
Thousand tons



Source: GS JB Were Research and GS Global ECS Research.

Exhibit 35: Aluminum prices will likely move lower from current levels, with some sequential improvement later in 2009

\$/mt



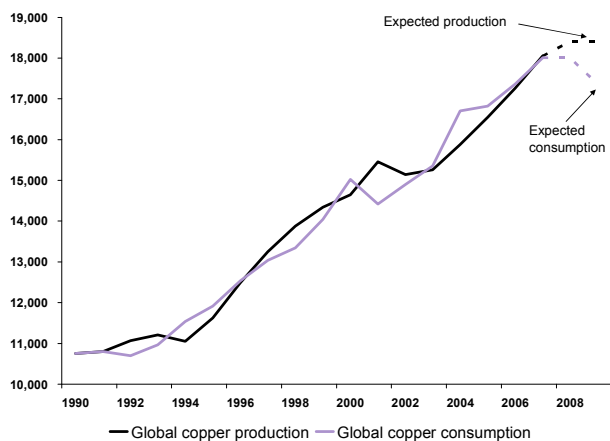
Source: LME and GS Global ECS Research.

Risks to this view are that Chinese producers, which comprise the majority of the announced cuts, fail to sustain cuts owing to falling production costs as alumina and freight costs continue to decline and as local governments in some cases have been offering reduced power rates to absorb the growing power availability as activity slows. In addition, in a shift from prior policies in recent years that had aimed to reduce aluminum exports, the Chinese government has recently reduced export duties on small-diameter

alloyed rod and increased the VAT export rebate on aluminum sheet and plate, adding to the incentives to produce.

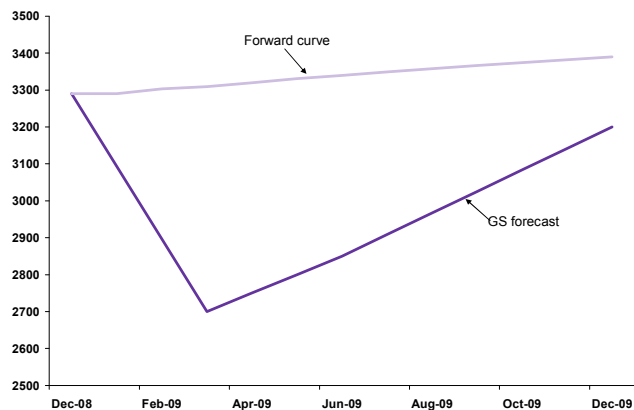
Copper. We expect copper demand to decline by a substantial 3.5% yoy in 2009, similar to the 2001 slowdown, and production growth to be flat, which leaves the market in substantial surplus (see Exhibit 36). The magnitude of the expected inventory build suggests that copper inventories, which thus far still appear low relative to the all-time highs reached earlier this decade, will return to these high levels. Although we maintain that copper supply constraints relative to the rest of the complex may lead copper to outperform the other metals on a longer-term horizon once demand recovers to trend, in the near-to-medium term, the likely inventory rebuild leaves us more cautious the metal. On net, we anticipate further weakening in spot prices into 2009, before lower borrowing costs and a modestly tighter balance lift prices off their bottom later in the year (see Exhibit 37).

Exhibit 36: The expected build in copper inventories in 2009 will likely lead inventories near historical highs
Thousand tons



Source: GS JB Were Research and GS Global ECS Research.

Exhibit 37: A meaningful inventory build will likely put further downward pressure on copper prices in the near-to-medium term
\$/mt

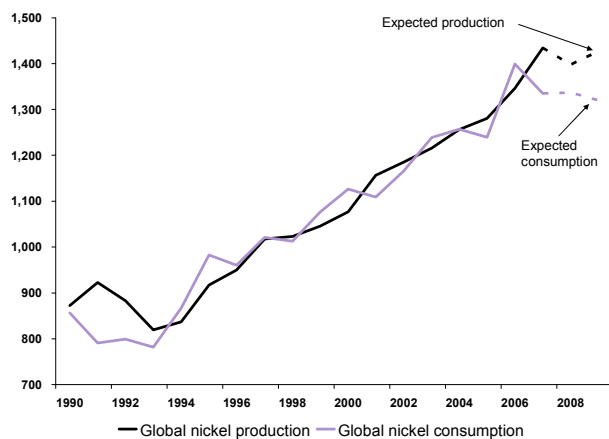


Source: LME and GS Global ECS Research.

Nickel. We expect nickel demand to decline by 1.3% yoy in 2009, matched against a 2.1% increase in supply after embedding supply cuts likely centered in Chinese pig iron. As a result, we anticipate a large nickel surplus in 2009, likely sufficient to push LME inventory levels to new all-time highs (see Exhibit 38). Accordingly, we believe that spot nickel prices will remain under downward pressure into 2009 as the current steep contango persists and as long-dated prices likely also drift lower. Similar to the other metals, for now we are expecting prices to bottom during 1H2009 as lowering borrowing costs ease the contango and as the balance moderately tightens on supply cuts and a more stable demand environment (see Exhibit 39).

Exhibit 38: A significant surplus is also expected in nickel markets in 2009

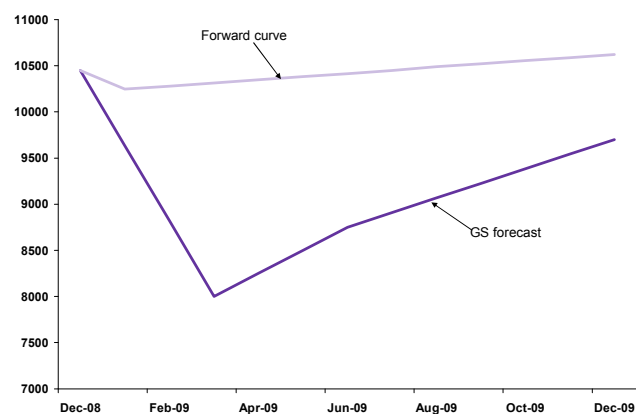
Thousand tons



Source: GS JB Werve Research and GS Global ECS Research.

Exhibit 39: We expect further downward pressure on nickel prices from current levels

\$/mt

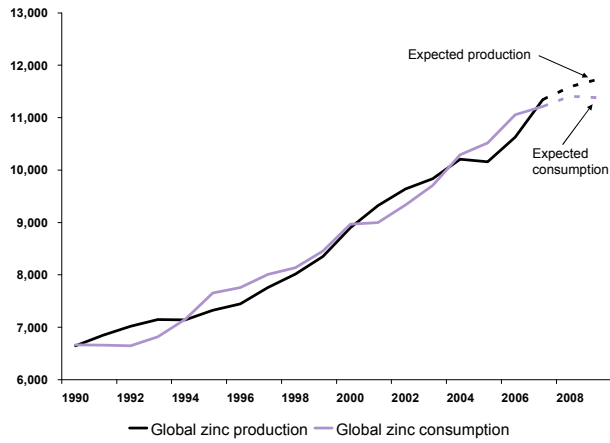


Source: LME and GS Global ECS Research.

Zinc. We expect zinc demand to decline by 0.3% yoy in 2009, which is a substantial deterioration relative to history, but a smaller decline than we expect for other metals. Historically, zinc demand has tended to fair better during economic downturns given its substantial infrastructure-related usage for galvanizing, etc, which governments tend to turn to in order to boost activity. The current environment appears no different. Against this demand, we anticipate a very modest 1.2% increase in production given the large production cuts in response to the low prices, which have declined below estimated operating costs for much of the industry. Nevertheless, these expectations of demand and supply will leave the market in substantial surplus, resulting in a meaningful inventory build (see Exhibit 40).

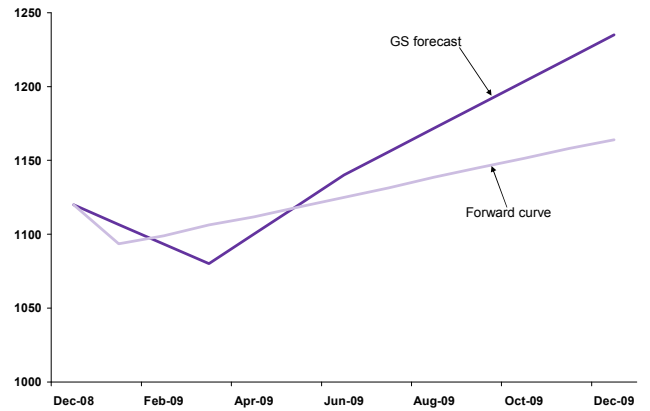
However, adding the expected inventory build to current still-low inventory levels from a historical perspective suggests inventories will approach highs seen earlier this decade but remain far below all-time highs. On net, we expect spot prices to decline moderately lower into 2009, but believe zinc is closer to its bottom given its more-insulated demand base against deep anticipated production cuts. The lower than expected inventory levels for zinc relative to the other metals also suggest zinc outperformance compared to the rest of the complex, but we still anticipate limited absolute upside to zinc prices relative to current forwards throughout 2009 (see Exhibit 41).

Exhibit 40: Zinc markets will also run a surplus in 2009, albeit a more modest one relative to other base metals
 Thousand tons



Source: GS JB Were Research and GS Global ECS Research.

Exhibit 41: With a less negative demand outlook for 2009 compared to other base metals, we expect zinc prices to outperform relative to current forward prices
 \$/mt



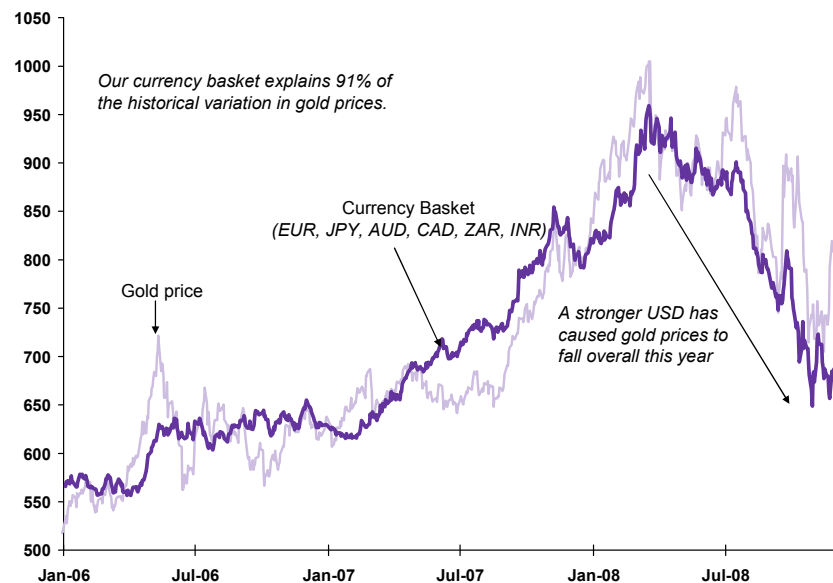
Source: LME and GS Global ECS Research.

Precious metals: Back to the buck for gold prices

Gold price movements have remained exceptionally volatile and have recently again broken away from the currency basket that historically has had tremendous predictive power for gold price action. We believe driving this disconnect has been a resurgence in investor safe haven buying as the financial and economic crisis has deepened. We maintain that these dynamics will likely keep gold price volatility high and could sustain gold prices above their currency-based fair value for periods of time into 2009. However, we believe that the currency driver will ultimately prevail. As a result, we are raising our gold price forecasts in line with Goldman Sachs economists' currency revisions toward a weaker US dollar outlook. These revised currency forecasts suggest an \$795/oz gold price on a 12-month horizon.

We have long held that gold trades inversely with the US dollar, which historically has explained over 90% of gold price movements (see Exhibit 42). Over the last several months, however, gold prices have appeared to disconnect with their currency-based fair value for periods of time. This was particularly the case in the latter half of September following the upheaval in the financial services industry and has again re-occurred in recent weeks as the severity of the economic fallout stemming from the credit crisis has become increasingly apparent with the multitude of extremely weak economic indicators being reported around the world. We believe that the pervasive negative sentiment surrounding most financial assets may continue to support gold prices at the margin, leaving them above their currency-based fair value in the near term and in any case sustaining the exceptionally high volatility in prices relative to history.

Exhibit 42: Gold prices have historically moved in line with US dollar moves
\$/oz



Source: GS Global ECS Research.

However, we maintain that the currency driver will ultimately prevail, as has been the case historically. As deleveraging dynamics that have supported the US dollar in recent months such as dollar hoarding in commercial banks and increased repatriation flows have diminished, Goldman Sachs currency economists now expect that standard drivers of currency movements including rate differentials and current account balances will once

again dominate. As expectations of both of these drivers are dollar negative, the economists have revised their dollar forecasts lower and are now expecting USD/EUR of 1.30, 1.40 and 1.45 on a 3, 6 and 12-month horizon. Accordingly, we are revising our gold forecasts up to \$700/oz, \$785/oz and \$795/oz, from \$690/oz, \$730/oz and \$710/oz, for 3, 6 and 12 months, respectively.

Agriculture: The “defensive” commodities

In contrast to the rest of the commodity complex, in agriculture we believe that a more insulated demand base, along with expected economic and financial challenges to acreage expansion and yield improvement in the upcoming planting seasons, suggests that many of the agricultural commodities are unlikely to realize significant surpluses in the coming year. Further, some agriculture commodities can be viewed as “defensive” including basic cereals like wheat, which are likely to be less sensitive to or even derive benefit from slowing income growth. For this reason, we believe that portions of the agricultural complex will continue to outperform oil and metals in the near term. Nonetheless, we are moderately reducing our agricultural price forecasts on expectations of marginally softer balances and lower production costs, driven primarily by weakening fertilizer prices. We now expect 12-month forward corn, wheat and soybean prices of \$5.25/bu, \$7.70/bu and \$9.50/bu, respectively, suggesting still-meaningful upside relative to the market.

The severity of the ongoing economic slowdown suggests some downside risk to agricultural demand. However, although agricultural demand is not immune to economic slowdowns, it is generally less vulnerable than the rest of the commodity complex. Historically, wheat demand is least sensitive to income relative to other major crops given its primary usage for human nourishment (see Exhibit 43). In contrast, soybeans are typically most exposed to GDP weakness, potentially driven by vegetable oil substitution and consumers trading down from meats and manufactured foods to more basic, grains-based items. Corn also exhibits meaningful sensitivity to income historically, but this has likely been dampened somewhat in the recent period as relatively income-inelastic biofuel demand – driven by government mandates – becomes a larger share of total end-use demand. On top of income sensitivity, demand for all three of these grains/oilseeds is also sensitive to price changes, suggesting a demand boost from weaker expected prices in the coming year, all else being equal. On net, the magnitude of anticipated GDP weakness against the demand boost provided by lower expected prices suggests a modest downward revision to our demand expectations.

Exhibit 43: Income elasticity varies by crop; wheat relatively inelastic (1976-2006)

Regressions of per capita demand growth on price changes and per capita GDP growth

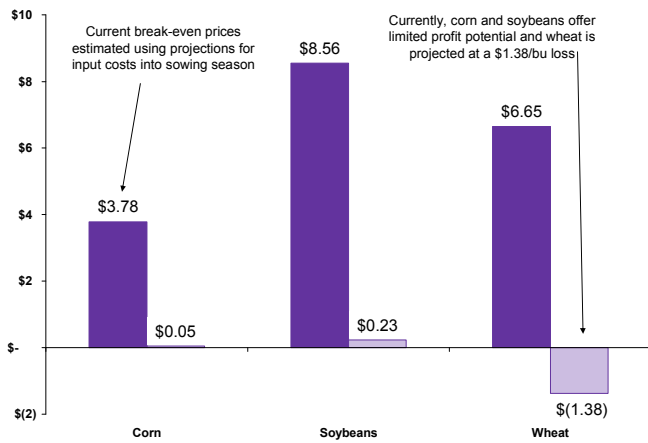
	Regression	Price Elasticity		Income Elasticity	
	R2	Coefficient	T-Stat	Coefficient	T-Stat
Corn	0.26	(0.03)	(1.26)	1.02	3.14
Wheat	0.51	(0.06)	(4.10)	0.68	3.09
Soybeans	0.19	(0.10)	(1.93)	1.84	2.51

Note: Wheat regression includes a dummy variable (1 during 1976-1989, 0 during 1990-2006).

Source: USDA and GS Global ECS Research.

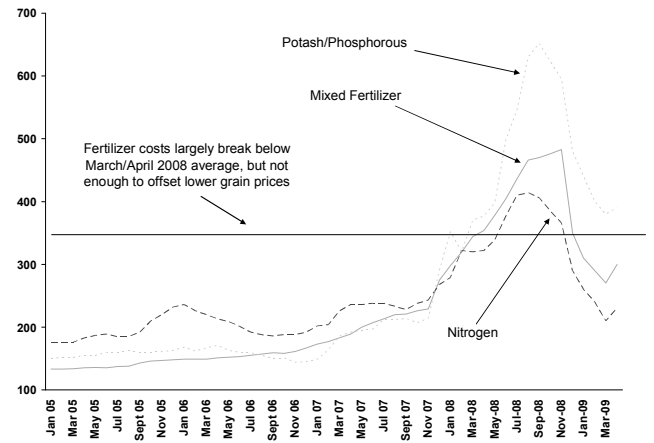
However, global output challenges driven by tighter financing standards, credit limitations and falling grain prices will likely weigh on 2009 acreage expansion and yield potential. Limited working capital and higher priced fertilizer have already impacted Latin American planting decisions and 2Q2009 output growth potential. In many Northern Hemisphere regions, financing issues won't be fully realized until spring 2009, but similar headwinds are expected. Given closing prices at December 10, 2008, current estimates of 2009/10 US profitability are limited, even assuming a sharp decline in fertilizer prices from the September 2008 peak into planting season at March 2009 (see Exhibits 44 and 45). While a great deal can change prior to spring planting, current expectations of input cost paths and relative economics suggest a 2009 decline in global wheat output, modestly higher corn output and a meaningful increase in soybean output.

Exhibit 44: 2009/10E US crop break-even costs
 Current futures prices indicate US wheat losses (\$/bu)



Source: USDA, CBOT, GS Global ECS Research.

Exhibit 45: Steep fertilizer declines expected from Sept. 2008 peak, but not enough to offset lower crop prices
 US fertilizer cost index



Note: Incorporates blend of mixed fertilizer, nitrogen, potash/phosphate, indexed to 100 at 1990-1992.

Source: USDA, GS Global ECS Research.

The relatively tight supply outlook suggests that global balances will only be modestly softer despite our downward demand revisions. Nonetheless, we also believe that falling input costs – particularly for fertilizer – will also reduce price support. Overall, we are lowering our 3, 6 and 12-month forecasts across the grains, but still expect substantial upside relative to current forward curves, with upside most pronounced for wheat and corn. For soybeans, upside price risks are present, but greater vulnerability to economic weakness and expectations for another year of rising global output limits upside potential.

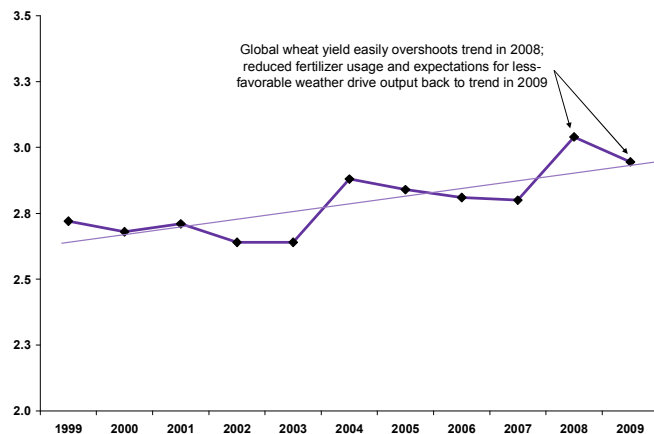
Wheat: Likely best positioned to weather the economic storm

As mentioned above, wheat demand exhibits the least sensitivity to shifts in income, consistent with its relatively solid food demand base as human consumption comprises 82% of total wheat demand. Although the relationship between wheat consumption and income is still positive overall – suggesting that as income falls, consumption of wheat falls – anecdotally, demand for grains-based foods is potentially boosted during economic downturns, as grains-based foods become a common choice for cash-strapped consumers. In the current environment, ample supplies following record harvests are likely providing a further boost to global wheat demand as lower cash prices and increased availability induces greater wheat usage by livestock feeders. On net, we are lowering our 2008/09 crop year wheat demand growth expectations for the US and the world to 19% and 4% from 21% and 7%, respectively, and expect above-trend growth in 2009/10.

On the supply side, following the strong rebound in harvests this year, owing to increased acreage expansion prompted by record-high wheat price levels and optimal growing conditions, the outlook for the 2009/10 crop season is considerably tighter. Specifically, we expect global wheat output to decline by 6% in 2009/10, driven by credit-induced acreage and yield constraints (see Exhibits 46 and 47).

Exhibit 46: Favourable 2008 weather drives global yield well-above trend; a difficult follow-up act for 2009

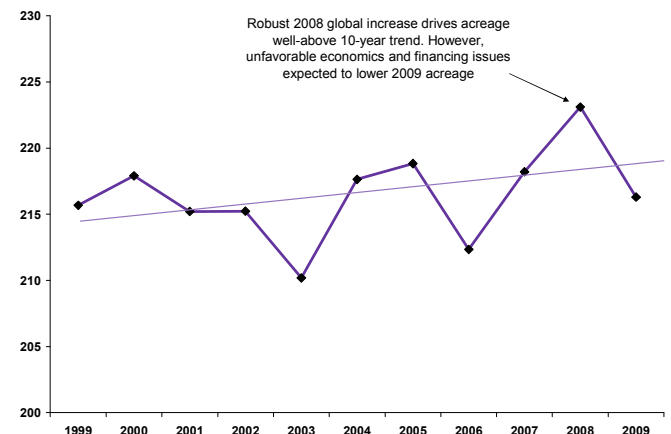
Global wheat yield, MT/ha



Source: GS Global ECS Research.

Exhibit 47: 2007's sharp global price spike drives acreage increase; but unfavorable economics and financing issues unlikely to maintain area in 2009

Global wheat harvested acreage, mm ha

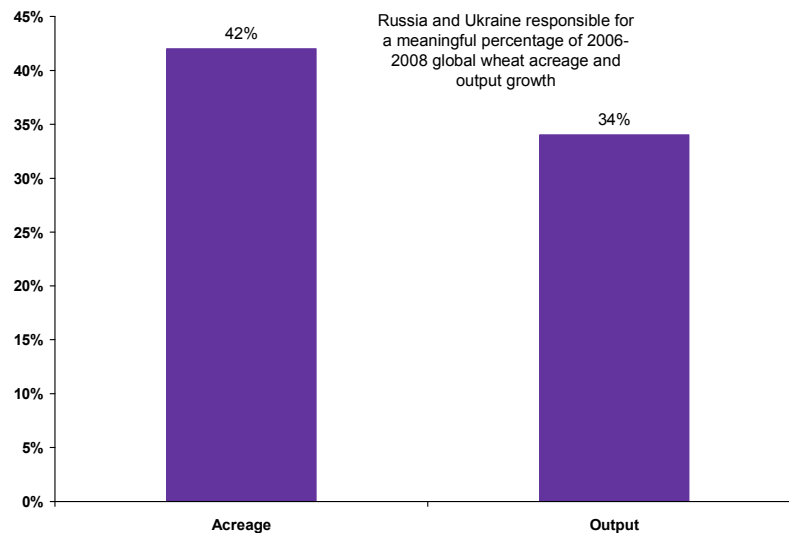


Source: GS Global ECS Research.

In Russia and Ukraine, material sources of recent global wheat output growth (see Exhibit 48), financing issues are likely to be a key constraint to 2009 acreage expansion. Recent Russian growth has been driven by an aggressive plan to expand production eastward and more than double grain exports between 2007 and 2011 with Asian markets a primary focus. Central to the plan's realization is rising inflow of private investment. However, heightened investor risk aversion, reduced leverage and declining land values/crop prices present significant challenges to attracting fresh capital in time for the 2009 planting season. In fact, with local wheat prices in some regions having touched break-even levels as early as October (5000 rubles/mt or \$184.77/mt), billions of dollars of incremental expansion into Siberia have already been postponed.

Exhibit 48: Russia and Ukraine account for a material amount of recent global growth; a limiting factor in 2009

Percentage of global growth, acreage and output, 2006-2008



Source: USDA, GS Global ECS Research.

Industry estimates suggest that Russian agricultural re-financings of up to R300b (\$11 billion) may be necessary during 4Q2008 and lending constraints are already affecting access to both capital investment and working capital. In addition to tighter lending standards driven by declining collateral values, spiking interest rates (up +50% over the past few months, in some cases, to 20%) are likely to complicate debt roll-overs. On top of acreage constraints, conservative fertilizer usage will likely weigh on output potential. In Ukraine, financing issues are also of concern. While downside acreage risks may not be as large relative to Russia, working capital constraints are expected to materially impact fertilizer usage. Industry sources suggest October financing flows may have fallen up to 80% below normal levels.

Outside of Europe, production will also likely be stressed. In North America, delayed autumn 2008 US corn and soybean harvests limited the planting window and suggests modest downside risk to winter wheat acreage, with unfavorable economics likely to further reduce acreage during spring 2009. In addition, Statistics Canada estimates a sharp 18% decline in the recently-planted western Canadian winter wheat crop. The Northern Hemisphere crop also remains subject to winter-kill risks, dependent on forthcoming winter temperatures and precipitation. In the Southern Hemisphere, Australian acreage may also face downside risk. Although farmers planted near-record acreage this year, late-season weather and yield deterioration may translate into lost area in the year ahead; the sub-soil impact of drought in both Australia and Argentina may augur further yield challenges.

On net, moderately weaker demand expectations, on top of the sharp rebound in supply that has already largely been realized, suggest the global wheat market will remain in a substantial surplus in the 2008/09 crop year. However, improvement in demand and a tighter supply outlook for the 2009/10 crop year suggest the market will return to deficit, as global stocks/use decline to 20.7% vs. 2008/09E's 24.5% and a 27% 10-year average. Forecast 2009/10 US stocks/use is also expected to decline meaningfully to 16.7% from 2008's 27.0% and a 28.4% 10-year average. Overall, a softer anticipated 2008/09 balance and substantial declines in fertilizer prices drive a decline in our wheat price expectations to \$5.25/bu, \$6.00/bu and \$7.70/bu, down from our prior forecasts of \$6.50/bu, \$7.00/bu and

\$7.70/bu, which still leaves price risk skewed to the upside relative to the current forward curve. In general, we believe that despite ample wheat supply in the market today, fundamentals will likely leave wheat prices best-positioned to outperform over the next year.

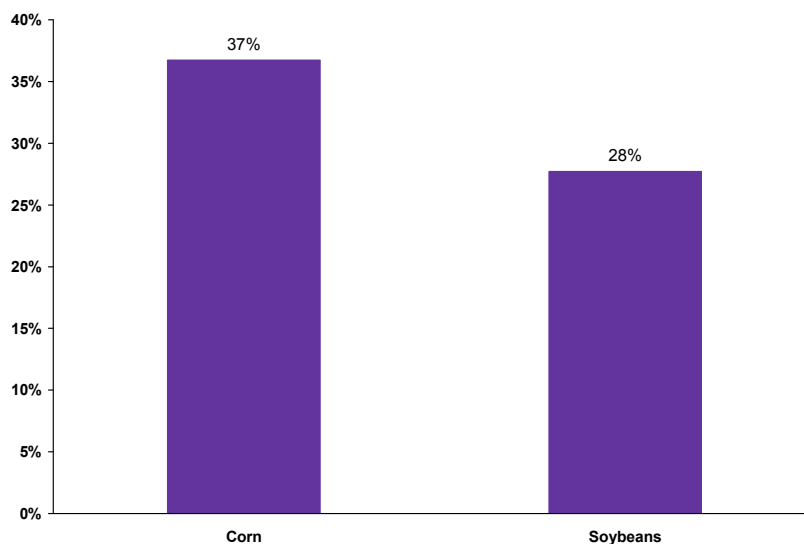
Corn: Fundamental outlook tightens in 2009/10.

As stated above, corn demand exhibits more sensitivity to income shifts, consistent with the greater usage of corn for livestock feed, which tends to decline during economic slowdowns as consumers choose less feed-intensive beef in favor of cheaper proteins and grains-based foods. However, increasingly offsetting this vulnerability is income-inelastic demand for biofuel production, which is driven by government mandates. On net, we have lowered our expectations for year/year corn demand in the 2008/09 crop year to a 0.1% decline and 0.9% increase for the US and the world, from prior increases of 2.6% and 2.9%, respectively, and anticipate moderate growth in 2009/10.

On top of moderate demand growth, global corn acreage is expected to see little expansion in 2009. Planting decisions and corn output challenges are already apparent, beginning with the 2008/09 crop's tail-end in Latin America. As planting season began in August, timing was likely too soon to materially benefit from fertilizer price declines beginning in earnest during mid-October. This created a significant drag as fertilizer costs represent a larger share of production costs for corn compared to soybeans (see Exhibit 49). However, it wasn't too soon to be impacted by the global financial crisis. As such, the combination of pricey inputs, limited working capital availability and uncertain Argentine export policy likely shifted acreage from corn into soybeans, with yields also impacted by dry weather.

Exhibit 49: Fertilizer costs larger for corn vs. soybeans

Estimated Brazil fertilizer cost as percentage of production cost, corn and soybeans



Source: CONAB.

In the Northern Hemisphere, although a great deal can change prior to spring 2009 planting season, relative crop characteristics are also expected to limit corn acreage expansion when sowing commences during 2Q2009. Our profit estimates for the 2009 US harvest suggest that soybeans currently offer the only profit/bu when compared to corn and wheat. This, combined with volatile input costs (primarily fertilizer) and farmers' heightened risk aversion in the wake of 2008's summer flooding are expected to favor

increased soybean acreage at the expense of corn (soybean development renders it better-equipped to handle weather stress relative to corn). On an aggregate basis, little contribution is expected from the USDA's Conservation Reserve Program (CRP); a limited 1.2mm acres were recently released from the program this fall and of this, just 375k are located in prime corn/soybean-growing regions.

On net, our demand and supply assumptions suggest the global corn market will maintain a modest deficit in the 2009/10 crop year – resulting in further erosion of 2009/2010 global stocks/use to 14.0% from 2008's 15.6% and the 20.5% 10-year average). For the US balance, we expect a similar deterioration in 2009/10 stocks/use to 7.5% from 2008's 11.4% and the 14.7% 10-year average. Softer anticipated 2008/09 balances, combined with more aggressive assumptions on fertilizer price declines, lower our 3, 6, and 12 month price forecasts to \$4.00/bu, \$4.50/bu and \$5.25/bu respectively, down from \$5.00/bu, \$5.50/bu and \$5.75/bu previously.

It should be mentioned that we are acutely aware that our corn price expectations matched against our oil and natural gas price forecasts suggest severely negative ethanol margins during 1H2009, which raises concerns over the sustainability of corn-based demand for ethanol driven by government mandates. Even with current slightly positive margins, the ethanol industry is facing an extremely challenging operating environment as highlighted by the recent VeraSun bankruptcy. Further, the resiliency of ethanol prices relative to RBOB prices has also reversed economic incentives to blend ethanol.

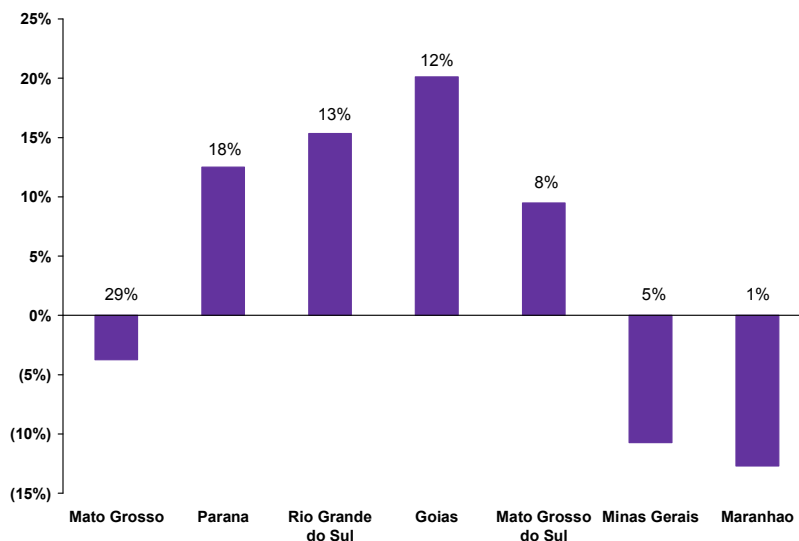
In the face of these poor industry economics, biofuel mandates could be waived, which poses a downside risk to our demand expectations. However, given the focus of the Obama Administration on the industry and on energy independence, we believe that this action will be unlikely. A more likely scenario, in our view, will be passing on losses to end-use consumers through retail margins as well as raising subsidies to blenders. Overall, we believe fundamentals will likely be supportive of price relative to the current forward curve, but the uncertainty in the ethanol industry leaves us slightly more cautious on corn relative to wheat.

Soybeans: Fundamentals look the weakest.

As mentioned above, soybean demand is the most vulnerable of the major grains/oilseeds to economic deterioration and potentially driven by vegetable oil substitution and consumers trading down from more feed-intensive beef to cheaper proteins as well as from manufactured foods to more basic, grains-based items. Given the more negative economic outlook, we are lowering our US and world soybean demand expectations for the 2008/09 crop year to a 0.3% decline and a 0.5% year/year increase from a prior 0.3% increase and 2.4% increase, respectively, followed by moderately higher demand growth in 2009/10.

On top of this softer demand, we continue to believe that global soybean output is likely to increase in the current crop year and again in the 2009/2010 crop year, in sharp contrast to next year's supply outlook for wheat and corn. As discussed above, Latin American farmers likely expanded soybean acreage at the expense of corn acreage in the current growing season given soybean's smaller reliance on fertilizer and lower crop development risk. Nevertheless, it should be mentioned that Latin American farmers are also suffering from financing and credit issues, which we expect will limit output gains. Presenting the largest challenges have been reduced financing from agricultural vendors, which typically comprises 30-40% of farmer credit and tighter standards from traditional banks that are hesitant to roll-over existing loans from indebted farmers. Declining collateral values as prices fall have further limited the desire to extend fresh credit. Reflecting these issues, Brazil's top soybean-growing state, Mato Grosso, is estimated to be facing negative producer margins (see Exhibit 50).

Exhibit 50: Estimated soybean producer margins across key Brazilian regions are negative
 Producer margin by state, including average. share of output



Source: CONAB, ESALQ, GS Global ECS Research.

As economic and financing headwinds are also likely to be substantial during the Northern Hemisphere's spring 2009 planting season, as discussed above, we believe that US farmers will similarly favor soybean planting over corn planting, driving our expectations for further soybean output gains in the 2009/10 crop year. It should be emphasized, however, that the dynamics could shift meaningfully before sowing commences in 2Q2009, and we will adjust our views accordingly.

For now, our revised demand and supply assumptions reinforce our expectations for a balanced 2008/09 global soybean market to move into surplus during 2009/10, raising global stocks/use to 23.9% in 2009/10 relative to 2008/09's 22.3% and the 22.2% 10-year average. For the US, surplus is expected to widen in 2009, driving 2009/10 stocks/use of 10.0% vs. 2008's 6.0% and the 9.3% 10-year average. These expectations, along with more aggressive assumptions on declines in fertilizer prices, are leading our 3, 6 and 12 month soybean prices revisions down to \$8.25/bu, \$8.75/bu and \$9.50/bu, respectively, down from \$10.00/bu, \$11.00/bu and \$11.25/bu previously. These price expectations suggest only modest gains relative to the current forward curve, consistent with our less positive view on soybean fundamentals.

Opening long agriculture, short energy trade

Buy S&P GSCI agricultural enhanced strategy, excess return Sell S&P GSCI energy index, excess return

Given the "defensive" nature of some of the major agricultural commodities, we believe that they will outperform commodities that are more leveraged to the economic downturn. As a result, we are recommending a long position in agricultural commodities against a short position in energy.

Livestock: Hogs to outperform in the near term, cattle over the longer term

Potential improvement in demand for cheaper pork products in the slowing economic environment will likely continue to generate lean hog outperformance relative to cattle and the rest of the commodity complex in the near term despite slowing export demand and a less constructive supply outlook. Although beef demand will likely take a hit amid the economic downturn, on a 12-month horizon, a tighter supply outlook suggests some potential price upside as demand stabilizes. We are raising our 3 month and 6 month lean hog price forecasts to 70 cents/lb and 75 cents/lb from 60 cents/lb and 70 cents/lb, respectively, and on a 12 month horizon, lowering our forecast to 70 cents/lb from 85 cents/lb. For live cattle, we are lowering our 3-, 6-, and 12 month price forecasts to 85 cents/lb, 90 cents/lb and 100 cents/lb from 100 cents/lb, 105 cents/lb and 105 cents/lb, respectively.

As global GDP growth slows, demand for lower-cost proteins such as chicken and pork stand to benefit, while demand for higher-cost beef stands to suffer. An analysis of changes in food expenditure as a share of total expenditures as income deteriorates supports this view. Specifically, Exhibit 51 shows that as consumers shift into a lower income quintile, their share of total expenditures on beef (and alcohol and eating away from home) tends to decline while their share of expenditures on pork, fish and poultry increases. While chicken may be best-positioned, relative price dynamics also likely support a favorable trade-down to pork – retail spreads for beef/pork and beef/chicken are at all-time highs (see Exhibit 52). These dynamics have likely been a key driver of lean hog outperformance relative to cattle and the rest of the commodity space in recent months as the economic environment has turned increasingly negative.

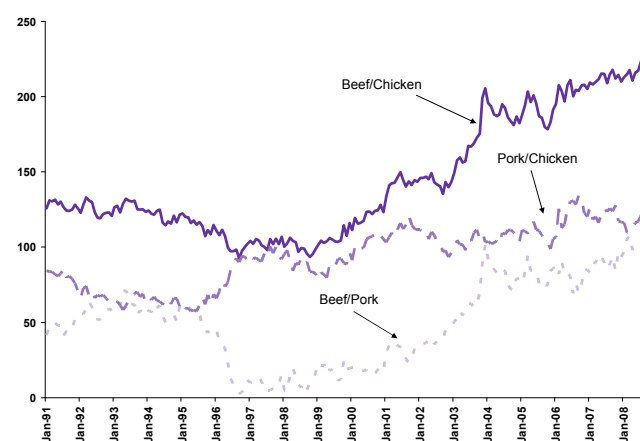
Exhibit 51: US income elasticity of expenditure share suggests beef demand at largest near-term negative risk
Expenditure elasticity by pre-tax income quintile

Category	Expenditure elasticity calculated by				
	Q1-Q5	Q1-Q2	Q2-Q3	Q3-Q4	Q4-Q5
Food	0.63	0.31	0.73	0.74	0.60
Food at Home	0.33	(0.33)	0.35	0.45	0.44
Cereals and bakery products	0.33	(0.07)	0.14	0.60	0.39
Meat, poultry, fish, and eggs	0.22	(0.65)	0.23	0.40	0.38
Beef	0.34	0.23	0.26	0.29	0.39
Pork	(0.01)	(1.25)	0.34	0.04	0.20
Other meats	0.35	(0.14)	0.72	0.25	0.34
Poultry	0.13	(1.07)	(0.31)	1.12	0.28
Fish	0.36	(1.47)	0.37	0.41	0.88
Eggs	(0.15)	(0.92)	(0.05)	0.22	(0.08)
Dairy	0.30	(0.07)	0.42	0.33	0.32
Fruits and Vegetables	0.37	(0.23)	0.20	0.32	0.62
Other Food at Home	0.38	(0.33)	0.56	0.53	0.43
Food Away from Home	1.04	1.45	1.29	1.10	0.78
Alcoholic Beverages	0.99	0.48	1.85	0.03	1.17
Non-Alcoholic Beverages	0.29	(0.11)	0.19	0.66	0.27

Note: Pre-tax income by quintile, Q1: < \$10,000, Q2: < \$27,000, Q3: < \$45,000, Q4: < \$71,000, Q5: < \$150,000.

Source: Bureau of Labor Statistics, GS Global ECS Research.

Exhibit 52: Retail price spreads reflect substitution risk
Retail meat prices, cents/lb – beef, pork, chicken



Source: USDA.

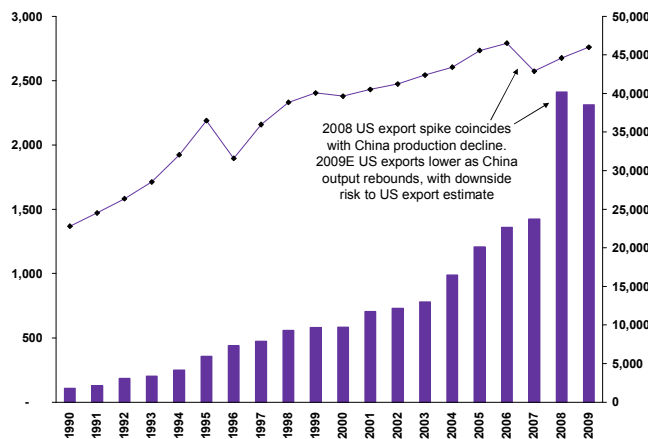
In the near term, we believe that this demand profile will likely sustain lean hog outperformance. However, additional demand and supply factors suggest a less constructive lean hog view over a longer horizon. Specifically, we believe that the strong demand for US pork exports that helped generate a substantial price rally earlier this year is unlikely to continue in 2009. Indeed, US pork exports have already slowed meaningfully in recent months. Outbreaks of hog disease in China in 2006/2007, along with similar

issues in important exporter Brazil, enabled recent US export acceleration (see Exhibit 53). However, China is in the midst of rebuilding its domestic herd and is diversifying its import base by raising volume from the EU and potentially Brazil. Russia is also seeking to build its domestic output capabilities and expectations of a stronger Brazilian presence there in 2009 may further weigh on US export potential.

The potential for more ample pork supply also weighs on the longer-term outlook. Specifically, hog producers reacted strongly to sharp financial losses during 1H2009 as sow slaughter accelerated to drive herd liquidation. However, as losses have moderated, so have slaughter rates (see Exhibit 54). In particular, hog raising costs have dropped a sharper-than-usual 20% from late July through mid-November, removing the major catalyst for herd liquidation. As financial hardships have moderated and with a return to profitability likely on the horizon, producers' output restraint will be tested.

Exhibit 53: US pork export spike in 2008 coincides with lower China output; as output recovers, export demand likely to soften

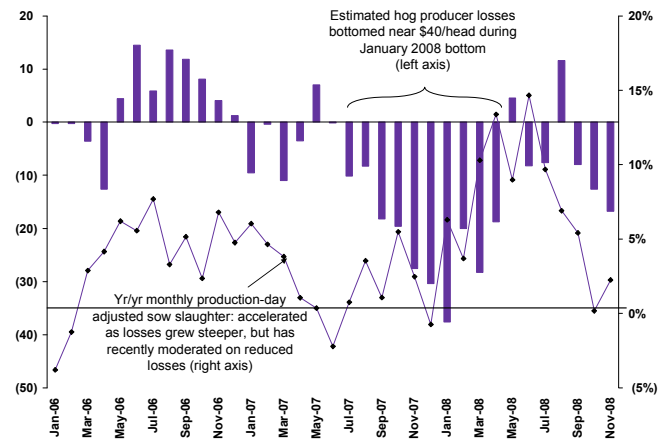
Annual US pork exports and China pork production, mm lbs



Source: USDA.

Exhibit 54: Sow slaughter accelerates with worsening producer losses, then decelerates on moderating losses

Monthly hog producer profit/head, year/year sow slaughter



Source: USDA, GS Global ECS Research.

To reflect these views, we are raising our 3 and 6 month lean hog price forecasts to 70 cents/lb and 75 cents/lb from 60 cents/lb and 70 cents/lb, respectively, and are lowering our 12 month forecast to 70 cents/lb from 85 cents/lb.

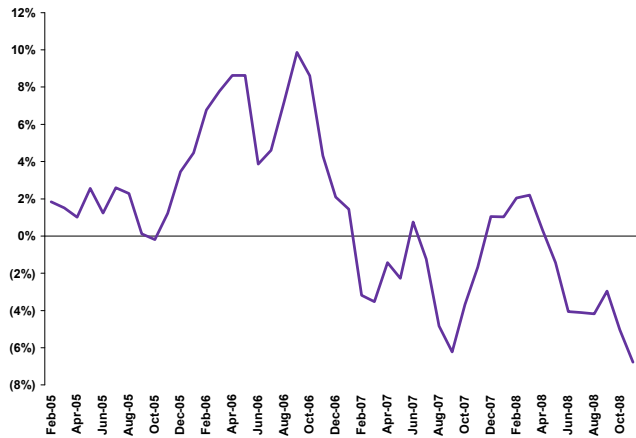
Although near-term demand for beef remains vulnerable in the current economic downturn, on a 12 month horizon, we believe that live cattle prices have more upside than lean hogs owing to a tighter supply outlook, potential for stronger export demand and less of a drag from consumer preferences as macro conditions begin to stabilize. On the supply side, consistent feed lot losses have resulted in steady year/year declines in cattle placements (see Exhibit 55). With feed lot losses likely still being incurred and improved pasture conditions inducing prolonged cattle grazing, we believe that feed lot placement acceleration risks are limited. Further, current beef cold storage levels are relatively low. Monthly inventory has been tracking below year-ago levels since June 2008 and stands at a manageable 3% above the 5-year average as cattle inventory tightens.

On the demand side, any potential near-term domestic weakness on consumer trade-down is expected to improve by late 2009, coincident with expectations for an initial improvement in economic growth. On the export front, volume expansion is expected, particularly as available supply from competitors Australia and Argentina is limited (see Exhibit 56). With demand likely to gradually improve and supply limited by smaller feed lot

inventories, finished cattle prices are expected to find support from a processing industry still in the midst of overcapacity. On net, given the deterioration in the economic growth outlook, we are lowering our 3-, 6-, and 12 month live cattle forecasts to 85 cents/lb, 90 cents/lb and 100 cents/lb, respectively, from 100 cents/lb, 105 cents/lb and 105 cents/lb.

Exhibit 55: Cattle feed inventories decline on poor feeder margins

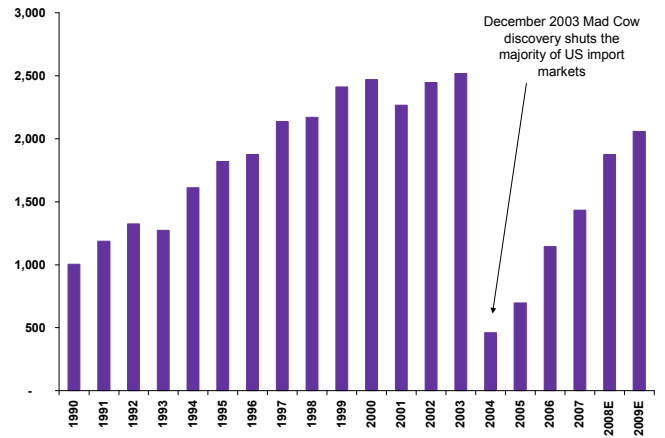
Year/year Cattle on Feed inventories, 1st of month



Source: USDA.

Exhibit 56: US beef export volumes drop, post-BSE, but gradual recovery expected

Annual US beef exports, mm lb



Source: USDA.

Commodities in a nutshell

Commodities	Recent events/outlook and key issues	12m price forecasts
Energy		
WTI Crude Oil	While strong oil demand from China and the Non-OECD countries helped propel WTI crude oil prices to over \$145/bbl in the first half of 2008, the collapse in world oil demand in the fourth quarter of 2008 as the global credit crunch intensified now threatens to push oil prices below \$40/bbl in the near-term as the impact of the global economic recession has swung the oil market from pricing demand destruction in 2008 to pricing supply destruction in 2009. We now expect oil demand to decline by 1.7 million b/d in 2009, driven by a 1.0 million b/d decline in the OECD countries. While oil supply cuts are unlikely to prevent OECD inventories from building to full storage by February, as inventories reach full storage either further OPEC cuts will be required to balance the market or prices will need to decline further to force Non-OPEC producers to shut-in production. Net, we expect that an additional 2 million b/d of OPEC supply cuts will be required in 2009, along with a 600 thousand b/d reduction in Non-OPEC production, in order to rebalance the oil market. Consequently, we are lowering our 3-month WTI target to \$30/bbl, our 6-month to \$42/bbl, and our 12 month target to \$65/bbl, with our calendar 2009 average price forecast reduced to \$45/bbl from \$80/bbl previously.	\$65.00/bbl
Brent Crude Oil	While similar dynamics to WTI crude oil will drive Brent crude oil prices in 2009, because the majority of the expected supply cuts will come from the Middle East, Russia, and the North Sea, we expect that the Brent crude oil market will tighten relative to the WTI crude oil market. Further, should the expected inventory build push Cushing inventories to full storage, Brent prices would likely further outperform WTI prices.	\$63.50/bbl
RBOB Gasoline	We expect weakening US transportation demand, poor industrial demand for naphtha in Europe and Asia, and higher ethanol and NGL output will continue to weigh on the gasoline market. However, the current record-low price levels are not sustainable, in our view. We expect broader refinery production cuts to provide some support to prices from current levels.	\$1.58/gal
USGC Heating Oil	We expect heating oil prices to come under pressure as support for diesel demand from industrial activity and power generation in the Non-OECD countries is likely to decline sharply. While heating oil demand has recently received support from German residential users who have been filling tertiary storage, with their storage now nearly full, this demand is also likely to dissipate. Further, the commissioning of new complex refineries in Asia and the spare upgrading capacity created by low refinery runs in the United States will likely add significantly to diesel production capacity.	\$1.90/gal
NYMEX Nat. Gas	We believe that massive excess supply in the market brought about by reductions in industrial and generation demand for natural gas as economic growth slows on top of production growth will likely add further pressure to already low NYMEX natural gas prices. Accordingly, we are lowering both our 2008/2009 winter and 2009 summer US natural gas forecasts to \$5.35/mmBtu. An aggressive supply response to low prices will potentially reduce production sufficiently to return the market to balance in 2H2009. This will likely allow for a recovery in prices by the 2009/2010 winter. We therefore maintain our 2009/2010 winter NYMEX natural gas forecast at \$7/mmBtu.	\$7.20/mmBtu
UK NBP Nat. Gas	UK NBP prices will likely move lower given its arbitrage against (oil-indexed) Continental prices. As lower oil prices lead Continental natural gas prices down, we expect UK NBP prices to become competitive with US natural gas prices next summer, likely creating incentives to send LNG to the United States rather than to Europe or Asia. We also expect UK NBP prices to rebound in the 2009/2010 winter, as increasing oil prices help lift European Continental natural gas prices.	42.70 p/th
Industrial Metals		
LME Aluminum	We expect aluminum demand to decline 1.7% in 2009 year over year, similar to the decline that occurred in 2001. Against this demand weakness, we expect only a marginal increase in supply given the announced smelter production cuts, which leaves the market in a relatively massive surplus in 2009 from an already large expected surplus in 2008. As a result, aluminum inventories are likely to climb to unprecedented levels. Accordingly, we anticipate that further declines across the term structure and continuation of the current large contango in the coming months will result in more spot price weakness during in the near term. For now, we are expecting some sequential improvement in spot prices later in the year as credit easing lessens the contango and demand stabilizes amid a tighter supply environment.	\$1500/mt
LME Copper	We expect copper demand to decline by a substantial 3.5% in 2009, similar to the 2001 slowdown, and production growth to be flat, which leaves the market in substantial surplus. The magnitude of the expected inventory build suggests that copper inventories, which thus far still appear low relative to the all-time highs reached earlier this decade, will return to these high levels. Although we maintain that copper supply constraints relative to the rest of the complex may lead copper to outperform the other metals on a longer-term horizon once demand recovers to trend, in the near-to-medium term, the likely inventory rebuild leaves us more cautious the metal. On net, we anticipate further weakening in spot prices into 2009, before lower borrowing costs and a modestly tighter balance lift prices off their bottom later in the year.	\$3200/mt
LME Nickel	We expect nickel demand to decline by 1.3%, matched against a 2.1% increase in supply after embedding supply cuts likely centered in Chinese pig iron. As a result, we anticipate a large nickel surplus in 2009 likely sufficient to push LME inventory levels to new all-time highs. Accordingly, we believe that spot nickel prices will remain under pressure into 2009 as the current steep contango persists and as long-dated prices likely also drift lower. Similar to the other metals, for now we expect a sequential improvement in prices by late 2009 as lower borrowing costs ease the contango and as the balance moderately tightens on supply cuts and a more stable demand environment.	\$9700/mt
LME Zinc	We expect zinc demand to decline by 0.3% in 2009, which is a substantial deterioration relative to history, but a smaller decline than we expect for other metals, given its substantial infrastructure-related usage. Against this demand, we anticipate a modest 1.2% increase in production given the large production cuts in response to the low prices. Nevertheless, these expectations of demand and supply will leave the market in substantial surplus, resulting in a large inventory build. On net, we expect spot prices to decline moderately into 2009, but believe zinc is closer to its bottom.	\$1235/mt

Commodities in a nutshell

Commodities	Recent events/outlook and key issues	12m price forecasts
Precious Metals		
London Gold	Gold price movements have remained exceptionally volatile and have recently again broken away from the currency basket that historically has had tremendous predictive power for gold price action. We believe driving this disconnect has been a resurgence in investor safe haven buying as the financial and economic crisis has deepened. We maintain that these dynamics will likely keep gold price volatility high and could sustain gold prices above their currency-based fair value for periods of time into 2009. However, we believe that the currency driver will ultimately prevail. As a result, we are raising our gold price forecasts in line with Goldman Sachs currency economists' revisions toward a US weaker dollar outlook. These revised currency forecasts suggest an \$795/oz gold price on a 12 month horizon.	\$795/toz
London Silver	Over the longer run, silver prices tend to track gold prices. However, the gold to silver price ratio has recently been elevated with gold outperforming silver as it received additional transient support as a safe haven against risk. We continue to believe that silver and gold prices will trade inversely with the US dollar.	\$10.30/toz
Agriculture		
CBOT Corn	We maintain that corn prices should be more insulated from the economic slowdown as income-inelastic biofuels have become a meaningful demand source, lower prices are expected to support consumption and 2009 output growth prospects are limited. Although near-term demand softness and lower fertilizer prices drive lowered 3, 6, and 12 mo price forecasts to 400 cents/bu, 450 cents/bu and 525 cents/bu from 500 cents/bu, 550 cents/bu and 575 cents/bu, price risks remain skewed to the upside relative to the forward curve.	525 cents/bu
CBOT Soybean	Soybeans are typically most exposed to GDP weakness, potentially driven by vegetable oil substitution and consumers trading down from meats and manufactured foods to more basic, grains-based items. In addition, 12 mo acreage rotation into soybeans is expected, which further softens global demand balances. As such, we're lowering our 3, 6 and 12 mo forecasts to 825 cents/bu, 875 cents/bu and 950 cents/bu from 1000 cents/bu, 1100 cent/bu and 1125 cents/bu.	950 cents/bu
CBOT Wheat	Recent price weakness reflects global oversupply following 2008's record harvest. However, wheat is relatively income-inelastic among major grains and with financing and credit issues expected to impact 2009 global acreage and yields, we anticipate a much-tighter 12 mo carry-out. We lower our 3 and 6 mo price forecasts to 525 cents/bu and 600 cents/bu from 650 cents/bu and 700 cents/bu on lower fertilizer prices and robust near-term supply. However, expectations for a 2009 global output shortfall and much-tighter carry-out drive substantial upside price risks; we maintain our 12 mo forecast of 770 cents/bu.	770 cents/bu
NYBOT Cotton	Negative demand risks attributed to cotton's industrial properties (use in clothing and home furnishings) limit near-term upside price risks as global macro growth deterioration weighs on consumers. Given anecdotes suggesting a sharp decline to the global cotton trade and that some China textile manufacturers have reduced raw material inventories by one-third, the market is unlikely to find support from negative Egyptian output risks and prices below the US cost of production. We're lowering our 3-, 6- and 12 mo price forecasts to 45 cents/lb, 50 cents/lb and 55 cents/lb from 55 cents/lb, 55 cents/lb and 65 cents/lb, respectively.	55 cents/lb
NYBOT Coffee	Price risks remain skewed to the upside as Brazil enters the lower-yielding portion of its output cycle in 2009, sparse fertilizer usage further limits output prospects and Vietnamese yields are revised lower on poor weather. Given that lighter 12 mo output and generally stable base demand growth may drive a production deficit, we maintain our 3-, 6- and 12 mo price forecasts of 115 cents/lb, 130 cents/lb and 150 cents/lb, respectively.	150 cents/lb
NYBOT Cocoa	Near-term upside price risks are limited as consumer demand potentially moderates in the wake of recent retail global chocolate price increases. However, prospects for lower 2009 yields given emerging markets financing issues and still-elevated fertilizer costs suggest modest 12 mo upside price risks. We maintain our 3 mo price forecast of \$2250/mt and lower our 6 mo and 12 mo forecasts to \$2250/mt and \$2450/mt from \$2500/mt and \$2500/mt.	\$2450/mt
NYBOT Sugar	With crude oil prices still weak, uncertainty persisting over the global macro outlook and Brazilian financing and credit challenges intensifying, forward curve price risks are likely limited as the market seeks direction. We continue to anticipate a 60/40 ethanol/sugar split from Brazil during 2009, but acknowledge the negative biofuel demand risks inherent in a slowing world economy. We maintain our 3-, 6-, and 12 mo price forecasts at 13 cents/lb in anticipation of a range-bound near-term price path.	13 cents/lb
CME Live Cattle	Consumption of high-cost beef is likely to suffer as economic growth deteriorates, likely leaving near-term cattle prices under pressure. However, gradually-improving economic fundamentals, tighter supply, and brighter export prospects relative to pork support favorable 12 mo upside live cattle price risks. We lower our 3-, 6- and 12 mo forecasts to 85 cents/lb, 90 cents/lb and 100 cents/lb from 100 cents/lb, 105 cents/lb and 105 cents/lb, respectively.	100 cents/lb
CME Lean Hog	Although significant production cuts have yet to be incurred and exports have dropped sharply, stronger near-term pork consumption on beneficial trade-down amid economic weakness suggests relative livestock outperformance. However, upside risks weaken over the 12 mo horizon. Recovering macros may drive some demand rotation back into beef and 2009 export prospects are uninspiring. We're raising our 3 mo and 6 mo forecasts to 70 cents/lb and 75 cents/lb from 60 cents/lb and 70 cents/lb, but lower our 12-mo forecast to 70 cents/lb from 85 cents/lb.	70 cents/lb

Exhibit 57: Global oil balance table – supply
 Million b/d

	1Q07	2Q07	3Q07	4Q07	1Q08	2Q08	3Q08E	4Q08E	1Q09E	2Q09E	3Q09E	4Q09E	2007	2008E	2009E	08 yoy	09 yoy	08 yoy %	09 yoy %
OPEC	35.7	35.6	36.0	36.8	37.3	37.2	37.5	36.7	35.5	34.9	35.2	35.4	36.0	37.2	35.2	1.2	-2.0	-0.8%	-5.3%
Total OPEC Crude	30.9	30.8	31.3	32.0	32.4	32.3	32.4	31.4	30.1	29.4	29.5	29.6	31.3	32.1	29.7	0.9	-2.5	2.8%	-7.7%
Saudi Arabia	8.7	8.7	8.8	9.1	9.2	9.3	9.5	8.9	7.7	7.0	7.0	7.0	8.8	9.2	7.2	0.4	-2.0	4.5%	-22.0%
Iran	4.0	4.0	4.0	4.0	4.0	3.8	3.9	3.9	3.9	3.9	3.9	3.9	4.0	3.9	3.9	-0.1	-0.1	-1.6%	-1.8%
Iraq	1.9	2.0	2.1	2.3	2.4	2.5	2.3	2.3	2.4	2.4	2.4	2.4	2.1	2.4	2.4	0.3	0.0	13.4%	1.6%
Kuwait	2.4	2.4	2.5	2.5	2.6	2.6	2.6	2.5	2.3	2.3	2.3	2.3	2.4	2.6	2.3	0.1	-0.3	5.8%	-11.9%
United Arab Emirates	2.6	2.6	2.6	2.4	2.6	2.7	2.6	2.5	2.4	2.4	2.4	2.4	2.5	2.6	2.4	0.1	-0.2	2.7%	-7.3%
Qatar	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.9	0.0	0.0	4.6%	2.2%
Algeria	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	0.0	0.0	1.0%	-0.1%
Angola	1.6	1.6	1.7	1.8	1.8	1.9	1.8	1.8	1.9	1.9	2.0	2.0	1.7	1.9	1.9	0.2	0.1	11.8%	4.5%
Nigeria	2.2	2.0	2.2	2.1	2.1	1.8	2.0	1.9	1.9	2.0	2.0	2.1	2.1	1.9	2.0	-0.2	0.1	-8.6%	3.6%
Libya	1.7	1.7	1.7	1.7	1.8	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	0.0	0.0	0.7%	-1.2%
Indonesia	0.8	0.8	0.8	0.8	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.8	0.0	-0.1	2.1%	-6.4%
Ecuador	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.0	0.0	-0.2%	-0.8%
Venezuela	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	0.0	0.0	-1.5%	-0.3%
OPEC NGLs	4.7	4.7	4.8	4.8	4.9	4.9	5.1	5.3	5.4	5.5	5.7	5.8	4.8	5.1	5.6	0.3	0.5	6.1%	10.3%
Total Non-OPEC	50.0	49.7	49.1	49.6	49.7	49.6	48.9	49.5	49.7	48.9	48.8	48.7	49.6	49.4	49.0	-0.2	-0.4	-0.3%	-0.3%
Total North America	10.8	10.8	10.8	10.8	10.9	10.9	10.6	10.9	11.0	10.7	10.8	11.1	10.8	10.8	10.9	0.0	0.1	0.1%	0.9%
Canada	3.4	3.3	3.4	3.3	3.3	3.1	3.3	3.4	3.4	2.9	3.2	3.3	3.3	3.3	3.2	-0.1	-0.1	-1.5%	-1.8%
United States	7.4	7.6	7.4	7.5	7.7	7.8	7.3	7.5	7.7	7.7	7.6	7.8	7.5	7.5	7.7	0.1	0.2	0.9%	2.1%
<i>of which biofuels:</i>	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	0.5							
Total Latin America	7.4	7.4	7.3	7.2	7.2	7.1	7.2	7.3	7.2	7.2	7.1	6.9	7.3	7.2	7.1	-0.1	-0.1	-1.8%	-1.7%
Argentina	0.8	0.8	0.7	0.7	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.8	0.0	0.0	-0.7%	3.2%
Brazil	2.2	2.1	2.1	2.1	2.2	2.3	2.3	2.4	2.4	2.5	2.5	2.5	2.1	2.3	2.5	0.1	0.2	6.2%	8.2%
<i>of which biofuels:</i>	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4							
Colombia	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.0	0.0	9.1%	2.7%
Mexico	3.6	3.6	3.4	3.3	3.3	3.2	3.1	3.1	3.0	2.9	2.8	2.6	3.5	3.2	2.8	-0.3	-0.3	-8.7%	-11.0%
Other LAM	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.0	0.0	-1.7%	0.0%
Total EMEA	22.4	22.0	21.7	22.2	22.1	22.0	21.5	21.5	21.5	21.1	20.9	20.8	22.1	21.8	21.1	-0.3	-0.7	-1.4%	-3.1%
Europe	5.4	5.0	4.8	5.1	5.0	4.9	4.6	4.7	4.5	4.3	4.1	4.1	5.1	4.8	4.1	-0.3	-0.6	-5.9%	-13.4%
Russia	10.1	10.0	10.1	10.1	10.0	10.0	10.0	10.0	9.8	9.7	9.5	9.4	10.1	10.0	9.6	-0.1	-0.4	-0.8%	-4.1%
Caspian	2.7	2.7	2.7	2.7	2.8	2.9	2.6	2.5	3.0	3.1	3.1	3.1	2.7	2.7	3.1	0.0	0.4	1.2%	13.1%
Middle East	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.6	1.5	0.0	-0.1	-1.9%	-6.9%
West Africa	1.2	1.1	1.1	1.2	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	0.0	0.0	0.7%	0.8%
Other Africa	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.5	0.1	0.0	5.0%	1.0%
Total Pacific	7.0	7.0	6.9	6.9	6.9	6.9	7.0	7.2	7.1	7.2	7.1	7.1	6.9	7.0	7.1	0.1	0.1	1.0%	2.0%
Australia	0.5	0.6	0.6	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.6	0.6	0.0	0.1	2.3%	11.6%
China	3.7	3.8	3.7	3.7	3.8	3.8	3.8	3.9	3.8	3.8	3.8	3.8	3.7	3.8	3.8	0.1	0.0	2.3%	0.2%
India	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.0	0.0	-1.2%	1.1%
Malaysia	0.7	0.7	0.7	0.8	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.8	0.8	0.0	0.0	2.6%	3.8%
Other Asia	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	0.0	0.0	-3.7%	3.1%
Other Biofuels	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.3	0.5	0.6	0.1	0.1	40.0%	21.1%
Refinery Gain	2.1	2.2	2.2	2.2	2.2	2.2	2.2	2.3	2.3	2.3	2.3	2.3	2.2	2.2	2.3	0.1	0.0	2.8%	1.2%
World Supply	85.6	85.3	85.2	86.5	87.1	86.8	86.4	86.2	85.1	83.8	83.9	84.1	85.6	86.6	84.2	1.0	-2.4	1.2%	-2.8%

Source: IEA and GS Global ECS Research.

Exhibit 58: Global oil balance table – demand

Million b/d

	1Q07	2Q07	3Q07	4Q07	1Q08	2Q08	3Q08E	4Q08E	1Q09E	2Q09E	3Q09E	4Q09E	2007	2008E	2009E	08 yoy	09 yoy	08 yoy %	09 yoy %
Total North America	23.6	23.3	23.5	23.3	22.7	22.4	21.6	21.9	21.3	21.5	21.3	21.7	23.4	22.2	21.5	-1.2	-0.7	-5.6%	-3.3%
Canada	2.4	2.3	2.4	2.4	2.4	2.3	2.4	2.4	2.3	2.2	2.3	2.4	2.4	2.4	2.3	0.0	0.0	-0.5%	-1.0%
United States	21.2	21.0	21.1	21.0	20.4	20.1	19.3	19.5	19.0	19.3	19.0	19.3	21.0	19.8	19.1	-1.2	-0.7	-6.2%	-3.6%
Total Latin america	7.5	7.7	7.8	7.9	8.0	8.3	8.2	7.9	7.7	8.0	7.9	7.9	7.7	8.1	7.9	0.4	-0.2	4.3%	-2.8%
Argentina	0.6	0.6	0.6	0.6	0.6	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.0	-0.1	5.6%	-11.8%
Brazil	2.2	2.3	2.3	2.4	2.4	2.5	2.4	2.5	2.4	2.5	2.4	2.5	2.3	2.4	2.4	0.1	0.0	5.1%	-0.7%
Chile	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.1	-0.1	33.6%	-43.3%
Mexico	2.1	2.1	2.1	2.2	2.1	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	0.0	0.0	-0.1%	-2.1%
Other LAM	2.4	2.5	2.5	2.5	2.5	2.6	2.5	2.5	2.5	2.6	2.6	2.5	2.4	2.5	2.5	0.1	0.0	2.5%	1.2%
Total EMEA	29.6	29.2	30.0	30.2	30.1	29.9	30.5	30.4	30.1	29.8	30.4	30.4	29.8	30.2	30.2	0.5	-0.1	1.6%	-0.3%
Europe	16.0	15.7	16.1	16.4	16.0	15.6	16.1	16.3	15.9	15.5	16.0	16.2	16.0	16.0	15.9	0.0	-0.1	-0.3%	-0.6%
FSU	4.1	3.9	4.2	4.3	4.1	4.1	4.4	4.3	4.0	4.0	4.2	4.3	4.1	4.2	4.1	0.1	-0.1	2.5%	-3.0%
Middle East	6.4	6.5	6.7	6.4	6.8	7.0	7.0	6.7	7.0	7.1	7.1	6.9	6.5	6.9	7.0	0.4	0.1	5.1%	2.0%
Africa	3.1	3.1	3.0	3.1	3.2	3.2	3.1	3.1	3.2	3.2	3.1	3.1	3.1	3.1	3.1	0.1	0.0	2.4%	0.1%
Total Pacific	25.5	25.0	24.7	26.0	26.7	25.8	25.3	25.6	25.5	24.6	24.8	25.6	25.3	25.8	25.1	0.5	-0.7	2.1%	-2.9%
Australia	1.0	0.9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.3%	0.4%
China	7.4	7.8	7.6	7.7	8.0	8.3	8.2	7.8	7.6	7.7	8.1	8.0	7.6	8.0	7.9	0.4	-0.2	5.0%	-2.2%
India	3.1	3.1	2.8	3.1	3.3	3.3	3.1	3.1	3.2	3.1	2.9	3.0	3.0	3.2	3.1	0.1	-0.1	4.6%	-4.5%
Japan	5.4	4.6	4.7	5.3	5.4	4.6	4.3	4.9	5.1	4.4	4.2	4.7	5.0	4.8	4.6	-0.2	-0.2	-4.4%	-4.5%
Korea	2.4	2.1	2.1	2.3	2.3	2.1	2.1	2.3	2.2	2.1	2.1	2.3	2.2	2.2	2.2	0.0	0.0	-1.0%	-0.8%
Other Asia	6.2	6.4	6.5	6.6	6.7	6.6	6.7	6.6	6.5	6.3	6.5	6.5	6.4	6.6	6.5	0.2	-0.2	3.4%	-2.9%
World Demand	86.2	85.2	86.0	87.5	87.5	86.3	85.7	85.8	84.7	83.8	84.4	85.6	86.2	86.3	84.6	0.1	-1.7	0.2%	-2.0%
World Supply	85.6	85.3	85.2	86.5	87.1	86.8	86.4	86.2	85.1	83.8	83.9	84.1	85.6	86.6	84.2				
Balance	-0.5	0.1	-0.8	-1.0	-0.4	0.5	0.7	0.4	0.5	0.0	-0.4	-1.5	-0.6	0.3	-0.4				

Source: IEA and GS Global ECS Research.

Exhibit 59: Oil price forecasts

	Unit	Forecasts				
		4Q08	1Q09	2Q09	3Q09	4Q09
Crude Oil						
WTI	\$/bbl	58.00	30.00	40.00	49.00	60.00
Brent	\$/bbl	55.60	28.50	38.50	47.50	58.50
Product						
RBOB	cents/gal	120.00	79.00	114.00	129.00	146.00
USGC Heating Oil	cents/gal	148.00	105.00	126.00	151.00	179.00
NYHB Res. Fuel Oil	cents/gal	35.00	18.00	28.00	37.00	49.00
London Gasoil	\$/bbl	65.00	46.00	55.00	66.00	77.00
Cracks						
RBOB	\$/bbl	-7.60	3.18	7.88	5.48	1.32
USGC Heating Oil	\$/bbl	4.16	14.10	12.92	14.72	15.18
NYHB Res. Fuel Oil	\$/bbl	-23.00	-12.00	-12.00	-11.70	-11.00
London Gasoil	\$/bbl	9.40	17.50	16.50	18.80	18.50

Source: GS Global ECS Research.

Exhibit 60: US natural gas balance table

Bcf/d unless otherwise indicated

	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08E	Nov-08E	Dec-08E	Jan-09E	Feb-09E	Mar-09E	Apr-09E	May-09E	Jun-09E	Jul-09E	Aug-09E	Sep-09E	Oct-09E	Nov-09E	Dec-09E	
Supply																						
Production	55.98	55.95	57.16	57.63	57.47	51.39	53.20	55.13	55.83	56.88	57.25	57.26	57.17	56.97	56.82	56.31	55.63	55.46	54.89	54.36	54.01	
Pipeline imports	9.63	8.50	8.41	9.26	9.33	9.14	9.18	9.75	10.24	10.07	10.19	9.80	8.80	8.42	8.49	8.86	8.85	8.84	8.63	9.20	9.69	
LNG imports	1.07	1.02	1.10	1.00	1.14	1.06	1.16	1.08	1.05	1.10	1.10	1.10	1.10	1.10	1.10	1.70	1.90	2.10	1.60	1.50	1.50	
Balancing term	2.88	0.64	0.45	0.35	-0.04	0.89	-2.18	-3.61	-4.48	-2.07	2.30	1.96	3.39	1.23	1.15	1.05	0.84	0.54	-2.78	-3.71	-4.58	
Demand																						
Pipeline exports	2.48	2.21	2.02	1.83	1.92	2.08	2.25	2.30	2.60	2.86	2.72	2.34	2.24	2.16	2.16	2.22	2.27	2.35	2.43	2.46	2.52	
LNG exports	0.13	0.15	0.16	0.15	0.21	0.14	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	
Residential demand	13.27	7.51	4.85	3.85	3.58	3.91	6.81	14.29	23.78	28.81	26.99	21.07	13.90	7.45	5.11	4.00	3.72	4.16	7.26	14.14	23.82	
Commercial demand	8.54	5.78	4.48	4.11	4.07	4.30	5.40	9.19	13.10	15.63	15.06	12.07	8.80	5.70	4.64	4.20	4.19	4.57	5.75	9.05	13.00	
Industrial demand	18.42	17.39	17.03	16.87	17.21	15.86	16.71	18.69	19.39	20.32	20.56	18.82	17.83	16.82	16.62	16.49	16.73	17.00	17.31	18.43	19.24	
Power generation demand	15.29	15.26	22.28	25.35	24.59	21.64	17.57	15.83	14.96	15.55	13.82	13.48	15.44	16.90	20.55	26.07	26.65	21.72	18.62	16.11	16.22	
Vehicle fuel consumption	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	
Lease and plant fuel consumption	3.39	3.39	3.46	3.49	3.48	3.10	3.11	3.23	3.27	3.33	3.35	3.35	3.35	3.33	3.33	3.30	3.26	3.25	3.21	3.18	3.16	
Pipeline and distribution use	1.64	1.37	1.45	1.49	1.47	1.36	1.29	1.61	1.98	2.24	2.13	1.82	1.56	1.31	1.31	1.41	1.43	1.32	1.36	1.61	2.01	
Stock change (Bcf)	188	400	335	345	350	296	247	-91	-517	-714	-394	-97	212	427	406	308	270	369	189	-118	-609	
Inventory level (Bcf)	1436	1836	2171	2516	2867	3163	3410	3319	2802	2088	1694	1597	1809	2236	2642	2951	3220	3589	3778	3660	3052	

*Actual through September 2008.

Source: US DOE and GS Global ECS Research.

Exhibit 61: Base metals balance table

Thousand tons

		2006	2007	2008E	2009E
Aluminum	Global production	33913	38126	40600	40800
	Global consumption	34392	37838	38996	38321
	Balance	-479	288	1604	2479
Copper	Global production	17261	18050	18405	18400
	Global consumption	17367	18011	18000	17364
	Balance	-106	39	405	1036
Nickel	Global production	1346	1434	1398	1427
	Global consumption	1399	1335	1337	1320
	Balance	-53	99	61	107
Zinc	Global production	10630	11345	11591	11728
	Global consumption	11054	11213	11409	11380
	Balance	-424	132	182	348

Source: GS JB Were Research and GS Global ECS Research.

Exhibit 62: Global wheat balance table

Metric tons, millions

Global Wheat Supply/Demand Balance										December WASDE			
	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	USDA 2007/08E	USDA 2008/09E	GS 2008/09E	GS 2009/10E	
Planting Analysis													
Area Harvested (mm ha)	215.7	217.9	215.2	215.2	210.2	217.6	218.8	212.3	218.2	224.0	223.0	215.8	
Harvested Yield (MT/ha)	2.72	2.68	2.71	2.64	2.64	2.88	2.84	2.81	2.80	3.05	3.04	2.95	
Total Supply (mm MT)	903.8	892.5	896.9	876.1	821.8	868.1	882.3	857.2	850.0	925.0	924.0	913.9	
Production	586.7	582.9	583.1	568.7	553.8	625.7	620.9	596.3	610.6	684.0	678.9	635.7	
Imports	109.2	100.1	106.4	104.0	101.1	110.3	110.5	113.2	112.4	121.7	125.8	120.9	
Total Domestic Use (mm MT)	580.8	583.6	587.8	603.7	581.2	605.9	618.2	619.0	615.3	654.3	641.2	657.0	
Feed and Residual	98.9	104.4	107.8	112.1	96.3	105.6	111.6	106.3	95.0	124.4	119.1	118.0	
Food, Seed, Industrial	481.9	479.1	480.0	491.6	484.9	500.3	506.6	512.7	520.3	529.9	522.1	539.0	
Exports	113.4	101.5	105.7	105.6	108.6	111.2	116.7	111.2	115.4	123.4	125.5	120.9	
Inventory Change (mm MT)	2	(2)	(4)	(37)	(35)	19	(4)	(21)	(8)	28	38	(21)	
Beginning Stocks	207.8	209.5	207.5	203.4	166.8	132.1	150.9	147.6	127.0	119.4	119.4	157.3	
Ending Stocks	209.5	207.5	203.4	166.8	132.1	150.9	147.6	127.0	119.4	147.3	157.3	136.0	
Days of Forward Coverage	132	130	126	101	83	91	87	75	71	82	90	76	
Stocks/Use Ratio	36.1%	35.5%	34.6%	27.6%	22.7%	24.9%	23.8%	20.5%	19.4%	22.5%	24.5%	20.7%	

Source: USDA and GS Global ECS Research.

Exhibit 63: US wheat balance table

Bushels, millions

U.S. Wheat Supply/Demand Balance										December WASDE			
	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	USDA 2007/08E	USDA 2008/09E	GS 2008/09E	GS 2009/10E
Planting Analysis													
Area Planted (mm acres)	65.8	62.7	62.6	59.6	60.3	62.1	59.7	57.2	57.3	60.4	63.0	63.0	60.2
Abandonment Rate	10.4%	14.3%	15.3%	18.7%	24.0%	14.6%	16.2%	12.4%	18.4%	15.5%	11.6%	11.6%	14.8%
Area Harvested (mm acres)	59.0	53.8	53.1	48.5	45.8	53.1	50.0	50.1	46.8	51.0	55.7	55.7	51.3
Harvested Yield (bu./acre)	43.2	42.7	42.0	40.2	35.0	44.2	43.2	42.0	38.7	40.5	44.9	44.9	41.5
Total Supply (mm bu)	3,372	3,335	3,267	2,930	2,460	2,898	2,775	2,725	2,504	2,635	2,915	2,916	2,814
Production	2,547	2,295	2,228	1,947	1,605	2,344	2,158	2,104	1,812	2,066	2,499	2,500	2,128
Imports	103	94	90	108	77	63	71	81	122	113	110	110	90
Total Domestic Use (mm bu)	1,381	1,299	1,329	1,191	1,118	1,194	1,169	1,152	1,140	1,065	1,292	1,270	1,224
Food and Seed	990	1,020	1,029	1,009	1,003	991	987	992	1,019	1,035	1,032	1,035	1,024
Feed and Residual	391	279	300	182	116	203	182	160	121	31	260	235	200
Exports	1,045	1,086	1,062	962	850	1,158	1,066	1,002	908	1,264	1,000	1,050	1,200
Total Disposition (mm bu)	2,426	2,386	2,391	2,153	1,968	2,352	2,235	2,154	2,048	2,329	2,291	2,320	2,424
Inventory Change (mm bu)	223	4	(74)	(99)	(286)	55	(6)	31	(115)	(150)	317	290	(206)
Beginning Stocks	722	946	949	876	777	491	546	540	571	456	306	306	596
Ending Stocks	946	949	876	777	491	546	540	571	456	306	623	596	390
Days of Forward Coverage	149	151	139	139	95	87	91	101	86	50	104	98	61
Stocks/Use Ratio	40.7%	41.4%	38.1%	38.0%	26.0%	23.9%	25.0%	27.5%	23.7%	13.8%	28.6%	27.0%	16.7%

Source: USDA and GS Global ECS Research.

Exhibit 64: Global corn balance table

Metric tons, millions

Global Corn Supply/Demand Balance											December WASDE			
	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	USDA 2007/08E	USDA 2008/09E	GS 2008/09E	GS 2009/10E	
Planting Analysis														
Area Harvested (mm ha)	139.3	139.0	137.2	137.9	137.9	142.3	145.1	145.9	149.3	160.6	157.5	157.1	156.4	
Harvested Yield (MT/ha)	4.3	4.4	4.3	4.4	4.4	4.4	4.9	4.8	4.8	4.9	5.0	4.9	5.0	
Total Supply (mm MT)	838.6	870.0	859.6	847.4	829.9	830.6	897.7	910.0	928.1	997.6	993.4	982.9	985.1	
Production	605.9	608.0	590.8	600.3	603.6	627.6	715.8	698.5	712.4	792.3	785.9	776.1	781.5	
Imports	66.5	71.0	75.0	72.5	75.1	76.4	76.7	79.5	90.9	96.5	79.7	79.0	81.3	
Total Domestic Use (mm MT)	580.7	600.5	608.3	621.6	626.6	648.1	688.0	704.4	725.7	774.4	789.2	781.5	792.7	
Food, Seed, Industrial	162.8	162.8	164.5	167.2	169.3	172.1	175.7	180.1	185.7	194.9	191.1	193.7	197.4	
Total Feed	408.6	427.4	432.7	441.8	440.5	454.5	486.0	491.7	496.7	522.5	521.5	511.3	514.3	
Corn Feed	404.6	423.0	427.9	436.3	433.2	445.2	474.5	477.4	477.8	497.7	488.1	478.0	479.1	
DDG	4.0	4.5	4.8	5.5	7.3	9.4	11.5	14.3	18.9	24.8	33.4	33.4	35.3	
Fuel (mm MT)	13	15	16	18	24	31	38	47	62	82	110	110	116	
Exports	66.9	75.8	76.8	74.6	76.7	77.3	77.6	81.0	93.8	95.3	80.4	79.0	81.3	
Inventory Change (mm MT)	25	3	(19)	(23)	(25)	(21)	27	(7)	(16)	19	(4)	(6)	(11)	
Beginning Stocks	166.3	191.0	193.7	174.5	151.2	126.6	105.2	132.1	124.8	108.8	127.8	127.8	122.3	
Ending Stocks	191.0	193.7	174.5	151.2	126.6	105.2	132.1	124.6	108.7	127.8	123.8	122.3	111.1	
Days of Forward Coverage	120	118	105	89	74	59	70	65	55	60	57	57	51	
Stocks/Use Ratio	32.9%	32.3%	28.7%	24.3%	20.2%	16.2%	19.2%	17.7%	15.0%	16.5%	15.7%	15.6%	14.0%	

Source: USDA and GS Global ECS Research.

Exhibit 65: US corn balance table

Bushels, millions

U.S. Corn Supply/Demand Balance											December WASDE			
	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	USDA 2007/08E	USDA 2008/09E	GS 2008/09E	GS 2009/10E	
Planting Analysis														
Area Planted (mm acres)	80.2	77.4	79.5	75.8	79.1	78.7	80.9	81.8	78.3	93.6	85.9	85.9	86.7	
Abandonment Rate	9.4%	8.9%	8.9%	9.2%	12.3%	9.9%	9.0%	8.1%	9.8%	7.5%	9.0%	9.0%	7.5%	
Area Harvested (mm acres)	72.6	70.5	72.4	68.8	69.3	70.9	73.6	75.1	70.6	86.5	78.2	78.2	80.2	
Harvested Yield (bu./acre)	134.4	133.8	136.8	138.1	129.3	142.2	160.3	147.9	149.1	151.1	153.8	152.5	154.0	
Total Supply (mm bu)	11,082	11,229	11,636	11,409	10,575	11,187	12,772	13,233	12,510	14,397	13,660	13,558	13,741	
Production	9,756	9,428	9,912	9,500	8,964	10,086	11,804	11,111	10,532	13,074	12,020	11,918	12,343	
Imports	19	15	7	10	14	14	11	9	12	20	15	15	15	
Total Domestic Use (mm bu)	7,312	7,576	7,797	7,908	7,901	8,330	8,842	9,133	9,082	10,336	10,384	10,325	10,879	
Food, Seed, Industrial	1,325	1,334	1,333	1,331	1,400	1,362	1,305	1,299	1,271	1,337	1,335	1,325	1,324	
Total Feed	5,624	5,839	6,030	6,079	5,846	6,150	6,576	6,663	6,266	6,892	6,473	6,423	6,592	
Corn Feed	5,466	5,663	5,840	5,863	5,561	5,793	6,157	6,153	5,593	5,974	5,350	5,300	5,300	
DDG	158	176	189	217	285	357	419	510	673	919	1,123	1,123	1,292	
Fuel (mm bu)	521	578	623	714	939	1,175	1,380	1,681	2,218	3,026	3,700	3,700	4,255	
Exports	1,984	1,936	1,941	1,904	1,587	1,899	1,818	2,133	2,125	2,436	1,800	1,850	1,900	
Total Disposition (mm bu)	9,296	9,512	9,738	9,813	9,488	10,229	10,659	11,267	11,207	12,772	12,184	12,175	12,779	
Inventory Change (mm bu)	479	(69)	182	(303)	(510)	(129)	1,156	(147)	(663)	321	(150)	(242)	(421)	
Beginning Stocks	1,307	1,786	1,717	1,899	1,596	1,086	958	2,113	1,967	1,304	1,625	1,625	1,383	
Ending Stocks	1,786	1,717	1,899	1,596	1,086	958	2,113	1,967	1,303	1,625	1,476	1,383	962	
Days of Forward Coverage	70	66	71	59	42	34	72	64	42	47	44	42	28	
Stocks/Use Ratio	19.3%	18.1%	19.5%	16.3%	11.5%	9.4%	19.8%	17.5%	11.6%	12.7%	12.1%	11.4%	7.5%	

Source: USDA and GS Global ECS Research.

Exhibit 66: Global soybean balance table

Metric tons, millions

Global Soybean Supply/Demand Balance										December WASDE			
	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08E	2008/09E	GS 2008/09E	GS 2009/10E	
Planting Analysis													
Area Harvested (mm HA)	71.9	75.4	79.5	82.3	88.4	93.2	92.9	94.1	90.8	98.0	98.0	101.6	
Harvested Yield (mt/Ha)	2.23	2.33	2.33	2.39	2.11	2.32	2.37	2.51	2.43	2.39	2.34	2.41	
Total Supply (mm MT)	235.2	259.0	272.9	295.3	283.5	317.1	332.1	358.7	362.1	363.8	360.5	375.6	
Production	160.3	175.8	184.8	196.9	186.6	215.8	220.5	236.6	220.9	234.7	229.0	245.1	
MY Imports	45.6	53.1	54.4	62.9	54.0	63.5	64.0	69.0	78.6	76.1	78.4	79.0	
Total Domestic Use (mm MT)	159.3	171.6	184.5	191.5	189.5	204.8	215.2	224.5	229.6	232.6	230.7	239.4	
Crush	135.1	146.6	158.0	165.6	163.8	175.6	185.2	195.4	201.7	202.2	201.6	209.5	
Food/Seed/Residual	24.3	25.0	26.5	25.8	25.7	29.1	30.0	29.1	27.9	30.4	29.1	29.8	
Exports	45.6	53.8	52.9	61.0	56.2	64.8	63.6	71.5	79.5	77.1	78.4	79.0	
Inventory Change (mm MT)	1.0	3.5	1.8	7.3	(5.0)	9.7	5.8	9.6	(9.6)	1.1	(1.6)	5.7	
Beginning Stocks	29.2	30.2	33.7	35.5	42.9	37.8	47.5	53.1	62.7	53.1	53.1	51.5	
Ending Stocks	30.2	33.7	35.5	42.9	37.8	47.5	53.4	62.6	53.1	54.2	51.5	57.2	
Days of Forward Coverage	69	72	70	82	73	85	90	102	84	85	81	87	
Stocks/Use Ratio	19.0%	19.6%	19.3%	22.4%	20.0%	23.2%	24.8%	27.9%	23.1%	23.3%	22.3%	23.9%	

Source: USDA and GS Global ECS Research.

Exhibit 67: US soybean balance table

Bushels, millions

U.S. Soybean Supply/Demand Balance										December WASDE			
	1998/99	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08E	2008/09E	GS 2008/09E	GS 2009/10E
Planting Analysis													
Area Planted (mm acres)	72.0	73.7	74.3	74.1	74.0	73.4	75.2	72.0	75.5	64.7	75.9	75.9	79.1
Abandonment Rate	2.2%	1.7%	2.5%	1.5%	2.0%	1.3%	1.7%	1.0%	1.2%	0.9%	2.0%	2.0%	1.4%
Area Harvested (mm acres)	70.4	72.4	72.4	73.0	72.5	72.5	74.0	71.3	74.6	64.1	74.4	74.4	77.9
Harvested Yield (bu./acre)	38.9	36.6	38.1	39.6	38.0	33.8	42.2	43.0	42.7	41.7	39.3	39.0	41.3
Total Supply (mm bu)	2,943	3,006	3,051	3,140	2,968	2,637	3,241	3,321	3,646	3,259	3,132	3,114	3,398
Production	2,740	2,653	2,757	2,890	2,755	2,453	3,123	3,062	3,187	2,675	2,921	2,902	3,216
Imports	3	4	4	2	5	6	6	3	9	10	7	7	7
Total Domestic Use (mm bu)	1,790	1,741	1,807	1,869	1,746	1,638	1,888	1,933	1,956	1,893	1,878	1,888	2,042
Crushings	1,589	1,577	1,639	1,699	1,614	1,529	1,696	1,738	1,807	1,801	1,715	1,725	1,875
Soybean Meal	1,259	1,253	1,312	1,343	1,273	1,210	1,357	1,374	1,435	1,408	1,358	1,359	1,485
Soybean Oil	301	297	307	315	307	285	323	340	341	343	326	328	356
Seed	88	90	91	90	89	92	88	93	80	93	90	90	94
Food/Residual	113	74	77	79	42	17	105	101	69	(1)	72	72	72
Exports	804	975	996	1,063	1,044	886	1,097	940	1,116	1,161	1,050	1,050	1,050
Total Disposition (mm bu)	2,595	2,716	2,803	2,932	2,790	2,524	2,985	2,872	3,072	3,054	2,928	2,938	3,092
Inventory Change (mm bu)	149	(58)	(42)	(40)	(30)	(66)	143	194	124	(369)	(0)	(29)	131
Beginning Stocks	200	348	290	248	208	178	112	256	449	574	205	205	176
Ending Stocks	348	290	248	208	178	112	256	449	574	205	205	176	307
Days of Forward Coverage	49	39	32	26	23	16	31	57	68	25	26	22	36
Stocks/Use Ratio	13.4%	10.7%	8.8%	7.1%	6.4%	4.5%	8.6%	15.7%	18.7%	6.7%	7.0%	6.0%	10.0%

Source: USDA and GS Global ECS Research.

Exhibit 68: Performance of S&P GSCI Enhanced Commodity Index and strategies through November 28, 2008

Index and strategies	Dollar Weight	Base Date = 100	28-Nov-08 Level	Total Returns (%)					
				2006	2007	2008 YTD	1-Month Change	3-Month Change	12-Month Change
S&P GSCI Enhanced Index	100.00	Dec-69	572.1	0.9	36.2	-35.4	-13.0	-44.5	-31.5
Energy	69.49	Dec-82	1256.7	-8.1	44.8	-37.8	-16.2	-48.8	-33.1
Petroleum	61.37	Dec-82	1268.3	-2.6	53.8	-39.0	-17.2	-50.6	-34.0
Industrial Metals	6.42	Dec-76	155.6	62.0	-5.3	-42.7	-12.7	-44.6	-45.8
Precious Metals	3.15	Dec-72	221.1	24.1	28.0	-7.1	13.0	-4.5	-1.1
Agricultural	15.57	Dec-69	109.8	19.5	36.6	-28.4	-4.2	-32.6	-23.2
Livestock	5.37	Dec-69	193.3	4.0	1.2	-24.7	-2.2	-14.0	-25.3
Commodities									
Energy									
WTI	34.87	Dec-86	1511.1	0.5	55.4	-40.1	-17.9	-51.4	-34.9
Brent	12.91	Jan-99	1312.2	4.9	48.2	-36.4	-15.5	-49.1	-31.9
Unlead/RBOB Gas	3.45	Dec-87	953.3	-18.3	60.5	-52.9	-21.1	-57.5	-47.9
Heating Oil	5.16	Dec-82	858.0	-8.3	49.7	-29.8	-14.6	-45.1	-24.0
Gasoil	4.98	Jan-99	1006.4	-9.0	59.4	-34.0	-16.8	-49.5	-29.4
Natural Gas	8.12	Dec-93	631.5	-34.3	-12.5	-26.7	-7.7	-27.6	-25.2
Industrial Metals									
Aluminum	2.65	Dec-90	80.1	24.6	-15.0	-30.3	-13.9	-36.2	-33.2
Copper	2.42	Dec-76	317.2	55.1	12.3	-43.2	-11.8	-51.7	-45.8
Lead	0.32	Jan-95	296.1	66.9	66.2	-57.2	-27.2	-44.7	-64.3
Nickel	0.53	Dec-92	205.6	186.0	-12.5	-61.8	-15.9	-50.2	-62.9
Zinc	0.50	Dec-90	93.1	138.2	-41.0	-50.7	7.4	-34.5	-55.0
Precious Metals									
Gold	2.89	Dec-77	219.5	21.7	30.0	-3.8	13.8	-1.9	2.5
Silver	0.27	Dec-72	213.6	44.9	14.2	-32.3	4.9	-25.4	-28.5
Agriculture									
CBOT Wheat	4.27	Dec-69	124.0	42.3	81.2	-31.3	0.9	-32.3	-29.9
KBOT Wheat	1.01	Jan-99	93.6	24.7	71.5	-43.0	-1.3	-32.5	-42.4
Corn	3.96	Dec-69	103.1	54.4	17.3	-22.5	-12.0	-37.8	-12.1
Soybeans	2.57	Dec-69	240.6	4.0	62.2	-28.9	-5.3	-34.2	-21.2
Cotton	0.93	Dec-76	19.7	-13.9	1.6	-46.4	-1.0	-37.1	-42.4
Sugar	1.65	Dec-72	153.2	-23.6	-12.6	-20.9	-1.0	-18.0	-12.0
Coffee	0.83	Dec-80	46.3	6.0	-2.2	-23.6	-1.4	-23.4	-19.2
Cocoa	0.34	Dec-83	102.0	2.5	20.8	8.7	10.7	-21.1	11.8
Livestock									
Live Cattle	3.06	Dec-69	181.4	6.6	6.3	-20.4	-5.3	-16.3	-19.1
Feeder Cattle	0.55	Jan-02	120.5	-11.7	6.4	-23.1	-6.4	-16.3	-24.1
Lean Hogs	1.76	Dec-75	233.4	6.9	-9.2	-33.0	4.8	-9.2	-36.5

Note: All data as of November 28, 2008 close

Source: Standard and Poor's.

Exhibit 69: Performance of equity and bond total returns indices through November 28, 2008

Indices	28-Nov-08 Level	Total Returns in USD (%)					
		2006	2007	2008ytd	1-Month Change	3-Month Change	12-Month Change
Equity Indices (Quoted)							
US S&P 500	1,438	15.80	5.49	(37.66)	(4.36)	(30.61)	(37.58)
Canada S&P/TSX Composite	23,591	17.71	29.50	(45.28)	6.12	(42.35)	(44.04)
UK FTSE 100	2,596	30.45	9.20	(46.63)	8.29	(35.11)	(47.45)
France CAC 40	5,942	35.12	15.49	(47.55)	7.26	(36.42)	(47.53)
Germany DAX	4,669	36.36	35.58	(49.76)	(1.53)	(37.31)	(48.02)
Japan Topix	1,007	2.04	(5.15)	(32.42)	6.98	(20.76)	(33.44)
HK/China Hang Seng	27,341	38.55	43.00	(47.96)	11.11	(32.37)	(47.19)
Australia S&P ASX 200	24,870	33.48	29.31	(54.22)	3.53	(43.59)	(54.59)
Singapore STI	1,794	42.75	30.59	(50.60)	3.98	(39.10)	(48.34)
MSCI Equity Indices							
Region (USD)							
All Country World Index	344	21.53	12.18	(43.91)	1.16	(34.46)	(43.74)
The World Index (DM)	2,828	20.65	9.57	(42.22)	0.45	(33.23)	(42.27)
EAFE	3,439	26.86	11.63	(46.29)	5.63	(34.61)	(46.61)
Europe	510	34.43	15.17	(49.80)	5.72	(38.42)	(49.99)
Emerging Markets (EM)	896	32.59	39.78	(56.58)	8.81	(44.60)	(55.03)
Country (USD)							
USA	2,964	15.32	6.03	(37.94)	(4.19)	(31.20)	(37.79)
Canada	3,454	18.35	30.24	(43.59)	7.09	(41.25)	(42.53)
France	4,287	35.42	14.03	(47.23)	7.31	(36.75)	(47.20)
Germany	3,521	36.79	35.93	(51.68)	(4.23)	(39.94)	(50.21)
Italy	906	34.07	7.26	(52.44)	10.59	(37.98)	(52.76)
Netherlands	8,031	32.45	21.14	(52.29)	6.23	(42.73)	(51.77)
Spain	3,351	50.17	24.69	(47.02)	16.48	(33.48)	(48.47)
Switzerland	6,354	28.23	6.06	(35.50)	0.45	(27.98)	(37.40)
United Kingdom	4,038	30.66	8.39	(46.79)	8.21	(35.21)	(47.69)
Japan	3,486	6.33	(4.14)	(34.44)	6.48	(22.41)	(35.14)
Hong Kong	20,155	30.35	41.20	(53.00)	8.18	(34.43)	(50.50)
Singapore	4,842	46.73	28.38	(50.67)	3.43	(39.92)	(48.68)
China	53	82.87	66.24	(55.50)	22.54	(34.96)	(55.23)
Korea	226	13.19	32.58	(62.50)	5.30	(45.52)	(61.49)
Citigroup World Government Bond Total Return Indices (USD)							
Region							
World	759	6.66	10.38	3.93	3.63	1.04	2.95
European Union	172	10.65	13.98	(5.50)	5.83	(7.69)	(7.24)
G7	741	4.78	10.37	6.16	2.23	3.22	3.92
Country							
USA	651	3.03	8.64	10.09	4.03	5.39	9.73
Canada	871	4.03	24.54	(15.07)	6.95	(13.24)	(13.06)
United Kingdom	1,061	13.82	6.93	(16.39)	3.42	(11.50)	(18.83)
France	1,260	10.65	13.89	(4.17)	6.61	(6.58)	(5.94)
Germany	947	10.73	14.19	(3.55)	6.69	(6.27)	(5.40)
Italy	1,248	10.38	13.80	(7.88)	4.42	(9.51)	(9.57)
Netherlands	993	10.90	14.15	(4.40)	6.37	(6.85)	(6.12)
Switzerland	662	6.71	7.39	1.50	(0.92)	(3.95)	(1.97)
Japan	769	(0.54)	7.91	20.63	(1.69)	15.84	16.13

Note: All data as of November 28, 2008 close

Source: FactSet and FAME.

Reg AC

We, Jeffrey Currie, Allison Nathan, David Greely, Giovanni Serio, Samantha Dart and John J. Baumgartner, CFA, hereby certify that all of the views expressed in this report accurately reflect our personal views, which have not been influenced by considerations of the firm's business or client relationships.

Disclosures

Distribution of ratings/investment banking relationships

Goldman Sachs Investment Research global coverage universe

	Rating Distribution			Investment Banking Relationships		
	Buy	Hold	Sell	Buy	Hold	Sell
Global	26%	57%	17%	52%	47%	37%

As of October 1, 2008, Goldman Sachs Global Investment Research had investment ratings on 3,165 equity securities. Goldman Sachs assigns stocks as Buys and Sells on various regional Investment Lists; stocks not so assigned are deemed Neutral. Such assignments equate to Buy, Hold and Sell for the purposes of the above disclosure required by NASD/NYSE rules. See 'Ratings, Coverage groups and views and related definitions' below.

Disclosures required by United States laws and regulations

See company-specific regulatory disclosures above for any of the following disclosures required as to companies referred to in this report: manager or co-manager in a pending transaction; 1% or other ownership; compensation for certain services; types of client relationships; managed/co-managed public offerings in prior periods; directorships; market making and/or specialist role.

The following are additional required disclosures: **Ownership and material conflicts of interest:** Goldman Sachs policy prohibits its analysts, professionals reporting to analysts and members of their households from owning securities of any company in the analyst's area of coverage.

Analyst compensation: Analysts are paid in part based on the profitability of Goldman Sachs, which includes investment banking revenues. **Analyst as officer or director:** Goldman Sachs policy prohibits its analysts, persons reporting to analysts or members of their households from serving as an officer, director, advisory board member or employee of any company in the analyst's area of coverage. **Distribution of ratings:** See the distribution of ratings disclosure above. **Price chart:** See the price chart, with changes of ratings and price targets in prior periods, above, or, if electronic format or if with respect to multiple companies which are the subject of this report, on the Goldman Sachs website at <http://www.gs.com/research/hedge.html>. Goldman, Sachs & Co. is a member of SIPC(<http://www.sipc.org>).

Additional disclosures required under the laws and regulations of jurisdictions other than the United States

The following disclosures are those required by the jurisdiction indicated, except to the extent already made above pursuant to United States laws and regulations. **Australia:** This research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act. **Canada:** Goldman Sachs Canada Inc. has approved of, and agreed to take responsibility for, this research in Canada if and to the extent it relates to equity securities of Canadian issuers. Analysts may conduct site visits but are prohibited from accepting payment or reimbursement by the company of travel expenses for such visits. **Hong Kong:** Further information on the securities of covered companies referred to in this research may be obtained on request from Goldman Sachs (Asia) L.L.C. **India:** Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (India) Securities Private Limited; **Japan:** See below. **Korea:** Further information on the subject company or companies referred to in this research may be obtained from Goldman Sachs (Asia) L.L.C., Seoul Branch. **Russia:** Research reports distributed in the Russian Federation are not advertising as defined in Russian law, but are information and analysis not having product promotion as their main purpose and do not provide appraisal within the meaning of the Russian Law on Appraisal. **Singapore:** Further information on the covered companies referred to in this research may be obtained from Goldman Sachs (Singapore) Pte. (Company Number: 198602165W). **Taiwan:** This material is for reference only and must not be reprinted without permission. Investors should carefully consider their own investment risk. Investment results are the responsibility of the individual investor. **United Kingdom:** Persons who would be categorized as retail clients in the United Kingdom, as such term is defined in the rules of the Financial Services Authority, should read this research in conjunction with prior Goldman Sachs research on the covered companies referred to herein and should refer to the risk warnings that have been sent to them by Goldman Sachs International. A copy of these risks warnings, and a glossary of certain financial terms used in this report, are available from Goldman Sachs International on request.

European Union: Disclosure information in relation to Article 4 (1) (d) and Article 6 (2) of the European Commission Directive 2003/126/EC is available at http://www.gs.com/client_services/global_investment_research/europeanpolicy.html

Japan: Goldman Sachs Japan Co., Ltd. is a Financial Instrument Dealer under the Financial Instrument and Exchange Law, registered with the Kanto Financial Bureau (Registration No. 69), and is a member of Japan Securities Dealers Association (JSDA) and Financial Futures Association of Japan (FFJAJ). Sales and purchase of equities are subject to commission pre-determined with clients plus consumption tax. See company-specific disclosures as to any applicable disclosures required by Japanese stock exchanges, the Japanese Securities Dealers Association or the Japanese Securities Finance Company.

Ratings, coverage groups and views and related definitions

Buy (B), Neutral (N), Sell (S) -Analysts recommend stocks as Buys or Sells for inclusion on various regional Investment Lists. Being assigned a Buy or Sell on an Investment List is determined by a stock's return potential relative to its coverage group as described below. Any stock not assigned as

a Buy or a Sell on an Investment List is deemed Neutral. Each regional Investment Review Committee manages various regional Investment Lists to a global guideline of 25%-35% of stocks as Buy and 10%-15% of stocks as Sell; however, the distribution of Buys and Sells in any particular coverage group may vary as determined by the regional Investment Review Committee. Regional Conviction Buy and Sell lists represent investment recommendations focused on either the size of the potential return or the likelihood of the realization of the return.

Return potential represents the price differential between the current share price and the price target expected during the time horizon associated with the price target. Price targets are required for all covered stocks. The return potential, price target and associated time horizon are stated in each report adding or reiterating an Investment List membership.

Coverage groups and views: A list of all stocks in each coverage group is available by primary analyst, stock and coverage group at <http://www.gs.com/research/hedge.html>. The analyst assigns one of the following coverage views which represents the analyst's investment outlook on the coverage group relative to the group's historical fundamentals and/or valuation. **Attractive (A).** The investment outlook over the following 12 months is favorable relative to the coverage group's historical fundamentals and/or valuation. **Neutral (N).** The investment outlook over the following 12 months is neutral relative to the coverage group's historical fundamentals and/or valuation. **Cautious (C).** The investment outlook over the following 12 months is unfavorable relative to the coverage group's historical fundamentals and/or valuation.

Not Rated (NR). The investment rating and target price, if any, have been removed pursuant to Goldman Sachs policy when Goldman Sachs is acting in an advisory capacity in a merger or strategic transaction involving this company and in certain other circumstances. **Rating Suspended (RS).** Goldman Sachs Research has suspended the investment rating and price target, if any, for this stock, because there is not a sufficient fundamental basis for determining an investment rating or target. The previous investment rating and price target, if any, are no longer in effect for this stock and should not be relied upon. **Coverage Suspended (CS).** Goldman Sachs has suspended coverage of this company. **Not Covered (NC).** Goldman Sachs does not cover this company. **Not Available or Not Applicable (NA).** The information is not available for display or is not applicable. **Not Meaningful (NM).** The information is not meaningful and is therefore excluded.

Ratings, coverage views and related definitions prior to June 26, 2006

Our rating system requires that analysts rank order the stocks in their coverage groups and assign one of three investment ratings (see definitions below) within a ratings distribution guideline of no more than 25% of the stocks should be rated Outperform and no fewer than 10% rated Underperform. The analyst assigns one of three coverage views (see definitions below), which represents the analyst's investment outlook on the coverage group relative to the group's historical fundamentals and valuation. Each coverage group, listing all stocks covered in that group, is available by primary analyst, stock and coverage group at <http://www.gs.com/research/hedge.html>.

Definitions

Outperform (OP). We expect this stock to outperform the median total return for the analyst's coverage universe over the next 12 months. **In-Line (IL).** We expect this stock to perform in line with the median total return for the analyst's coverage universe over the next 12 months. **Underperform (U).** We expect this stock to underperform the median total return for the analyst's coverage universe over the next 12 months.

Coverage views: Attractive (A). The investment outlook over the following 12 months is favorable relative to the coverage group's historical fundamentals and/or valuation. **Neutral (N).** The investment outlook over the following 12 months is neutral relative to the coverage group's historical fundamentals and/or valuation. **Cautious (C).** The investment outlook over the following 12 months is unfavorable relative to the coverage group's historical fundamentals and/or valuation.

Current Investment List (CIL). We expect stocks on this list to provide an absolute total return of approximately 15%-20% over the next 12 months. We only assign this designation to stocks rated Outperform. We require a 12-month price target for stocks with this designation. Each stock on the CIL will **automatically** come off the list after 90 days unless renewed by the covering analyst and the relevant Regional Investment Review Committee.

Global product; distributing entities

The Global Investment Research Division of Goldman Sachs produces and distributes research products for clients of Goldman Sachs, and pursuant to certain contractual arrangements, on a global basis. Analysts based in Goldman Sachs offices around the world produce equity research on industries and companies, and research on macroeconomics, currencies, commodities and portfolio strategy.

This research is disseminated in Australia by Goldman Sachs JBWere Pty Ltd (ABN 21 006 797 897) on behalf of Goldman Sachs; in Canada by Goldman Sachs Canada Inc. regarding Canadian equities and by Goldman Sachs & Co. (all other research); in Germany by Goldman Sachs & Co. oHG; in Hong Kong by Goldman Sachs (Asia) L.L.C.; in India by Goldman Sachs (India) Securities Private Ltd.; in Japan by Goldman Sachs Japan Co., Ltd.; in the Republic of Korea by Goldman Sachs (Asia) L.L.C., Seoul Branch; in New Zealand by Goldman Sachs JBWere (NZ) Limited on behalf of Goldman Sachs; in Singapore by Goldman Sachs (Singapore) Pte. (Company Number: 198602165W); and in the United States of America by Goldman, Sachs & Co. Goldman Sachs International has approved this research in connection with its distribution in the United Kingdom and European Union.

European Union: Goldman Sachs International, authorised and regulated by the Financial Services Authority, has approved this research in connection with its distribution in the European Union and United Kingdom; Goldman, Sachs & Co. oHG, regulated by the Bundesanstalt für Finanzdienstleistungsaufsicht, may also be distributing research in Germany.

General disclosures in addition to specific disclosures required by certain jurisdictions

This research is for our clients only. Other than disclosures relating to Goldman Sachs, this research is based on current public information that we consider reliable, but we do not represent it is accurate or complete, and it should not be relied on as such. We seek to update our research as appropriate, but various regulations may prevent us from doing so. Other than certain industry reports published on a periodic basis, the large majority of reports are published at irregular intervals as appropriate in the analyst's judgment.

Goldman Sachs conducts a global full-service, integrated investment banking, investment management, and brokerage business. We have investment banking and other business relationships with a substantial percentage of the companies covered by our Global Investment Research Division.

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies to our clients and our proprietary trading desks that reflect opinions that are contrary to the opinions expressed in this research. Our asset management area, our

proprietary trading desks and investing businesses may make investment decisions that are inconsistent with the recommendations or views expressed in this research.

We and our affiliates, officers, directors, and employees, excluding equity analysts, will from time to time have long or short positions in, act as principal in, and buy or sell, the securities or derivatives (including options and warrants) thereof of covered companies referred to in this research.

This research is not an offer to sell or the solicitation of an offer to buy any security in any jurisdiction where such an offer or solicitation would be illegal. It does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice. The price and value of the investments referred to in this research and the income from them may fluctuate. Past performance is not a guide to future performance, future returns are not guaranteed, and a loss of original capital may occur. Fluctuations in exchange rates could have adverse effects on the value or price of, or income derived from, certain investments.

Certain transactions, including those involving futures, options, and other derivatives, give rise to substantial risk and are not suitable for all investors. Investors should review current options disclosure documents which are available from Goldman Sachs sales representatives or at <http://www.theocc.com/publications/risks/riskchap1.jsp>. Transactions cost may be significant in option strategies calling for multiple purchase and sales of options such as spreads. Supporting documentation will be supplied upon request.

Our research is disseminated primarily electronically, and, in some cases, in printed form. Electronic research is simultaneously available to all clients.

Disclosure information is also available at <http://www.gs.com/research/hedge.html> or from Research Compliance, One New York Plaza, New York, NY 10004.

Copyright 2008 The Goldman Sachs Group, Inc.

No part of this material may be (i) copied, photocopied or duplicated in any form by any means or (ii) redistributed without the prior written consent of The Goldman Sachs Group, Inc.