

The New Perspectives Series

Credit Suisse realizes that in the current geopolitical environment, investing opportunities are not always easily categorized by industry sectors. Emerging issues and macroeconomic trends often involve companies across sectors and regions of the world. In this "New Perspectives" Series, research analysts join together, often times with the help of our equity strategists, to craft in-depth thematic analysis highlighting the issues at hand and the companies poised to benefit

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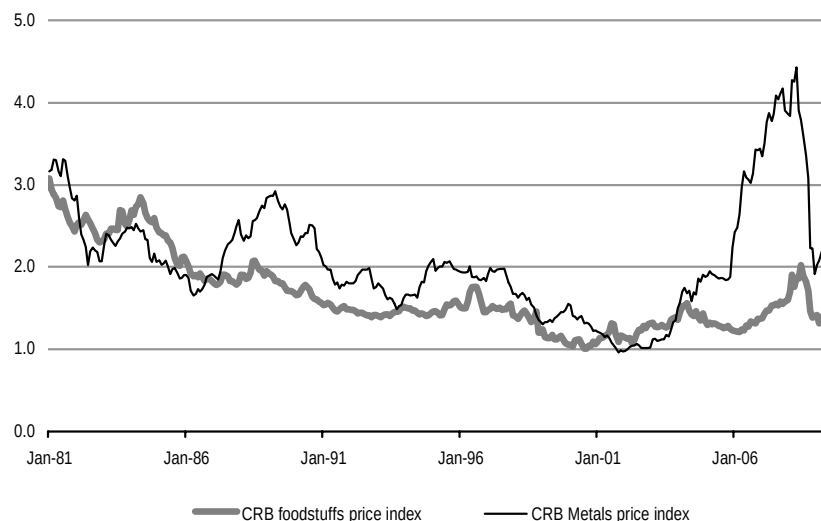
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Agriculture – a structural story

THEME

Figure 1: CRB foodstuffs and metals prices (in real terms)



Source: CRB, Credit Suisse research

We first highlighted the imbalance in supply and demand for global agricultural products, and specifically the prospect for rising prices, in our report *'Higher agricultural prices: Opportunities and risks'* (November 2007). Much of what we said in this report is still relevant today and we are keen to revisit what we believe is a structural bull story in the agricultural sector. The bottom line is that we think agricultural prices are more likely to rise than fall.

While we recognise global demand for agricultural produce will likely suffer a cyclical downturn this year (we expect a contraction of 1–2% in 2009) as both food and biofuel demand falls, we believe the degree of the likely supply-side contraction will outstrip this.

We calculate falling planted acreage, lower fertiliser application and adverse weather conditions may drive a 3–4% fall in crop production over the next 12 months. This is in contrast to the optimistic view of supply held by the USDA.

We highlight 20 stocks within our global coverage that should ultimately benefit from this ongoing theme: AGCO, BrasilAgro, Bunge, China Yurun, Deere, Dupont, Illovo Sugar, Indofood Agri, Israel Chemicals, Kroger, London Sumatra, Marfrig, Nissin Food Holdings, Perdigao, SLC Agricola, Syngenta, Taiwan Fertilizer, Tesco, Wilmar, Yara International. (*Credit Suisse offers a Delta One basket based around this list.*) We also remind readers of the barometer of this theme provided by the Credit Suisse Agriculture Index (powered by HOLT).

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This report has been prepared and coordinated with the input of Mary Curtis. Mary has 15 years' experience as an equity strategist in the investment banking industry. She has also worked on previous Credit Suisse *New Perspectives* themed research, as detailed below. We thank her once again for her invaluable contribution.

Previous Credit Suisse *New Perspectives* reports:

Water, 7 June 2007 – Garthwaite, Curtis, Kersley, Balter, et al.

Higher Agricultural Prices: Opportunities and Risks, 6 November 2007 – Garthwaite, Curtis, Moskow, Mills, et al.

Embracing China's consumption boom, 3 March 2008 – Chan, Tao, Xiao Jia Zhi.

Africa – The Commodity Warrant, 14 April, 2008 – Kersley, Curtis, Gray, Flannery, et al.

Obesity and Investment Implications, 26 June 2008 – Arnold, Rochon, et al.

Intangible Infrastructure: Building on the Foundations, 8 December 2008 – Kersley, Rochon, Curtis, et al.

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Executive summary

We originally wrote on the outlook for the Global Agricultural industry in November 2007 (*Higher agricultural prices: Opportunities and Risks, dated 6 November 2007*). Back then, we highlighted the relatively strong demand outlook for global agricultural produce in the wake of growing emerging market demand for foodstuffs coupled with a burgeoning market for biofuels.

Following significant market turmoil over the past year as the global recession has taken its toll, we revisit the forces at work in global supply and demand for agricultural produce.

We find that much of what we said in our last report is still relevant today. However, there are two major differences:

- (a) Demand growth looks set to suffer a downturn this year as both food and biofuel demand contracts (we calculate a 1–2% contraction in global agricultural demand this year). Over the medium term, we *conservatively* anticipate that global food and biofuels will add 2.3–2.6% growth pa to aggregate demand.
- (b) On the supply side, contrary to much more optimistic forecasts from the USDA, we estimate a *fall* in crop production of 3–4% (on the back of falling planted acreage, lower fertiliser application and adverse weather conditions) over the next 12 months. Over the medium term, we estimate recovery in supply growth in agricultural produce to c2.4% pa.

Market impact

The bottom line is that we think agri-prices are more likely to rise than fall:

- Compared with consensus, we think the short-term outlook looks more problematic for agricultural supply than it does for demand.
- In the medium term (next five years), we think the supply/demand balance is fairly well matched. However, the risks to our demand-side forecasts are arguably to the upside (as we have been deliberately conservative in estimating biofuel demand) and the risks to our supply-side forecasts are probably to the downside (as growth in arable acreage has to improve considerably versus history in order to meet our forecasts). More on this below.

So far, this year, their performance has been relatively lacklustre (YTD the CRB global foodstuffs index is up just 9% versus the CRB metals index up 41% in real terms).

This scenario presents a mixed picture for the players in the food and agricultural sector. We think the beneficiaries are:

- (1) The crop processors and producers that should benefit from the rise in prices. Clearly, higher prices (in our central scenario) only come at the expense of lower agri-volumes, but much of the listed sector (given relatively sound finances) look to be fairly immune to these trends. Rather, we find that it is unlisted crop producers, predominantly in emerging markets, that look set to account for the brunt of the supply shortfall. Our key recommendations within the sector are **Indofood Agri, and London Sumatra (both rated Outperform)**. **SLC Agricola, Bunge and BrasilAgro** (all rated Neutral) look well-positioned for a longer-term recovery in the sector.
- (2) Companies throughout the supply-chain with low levels of indebtedness that are:
 - (a) likely to benefit from market-share gains as weaker competitors are forced to cut back; and/or
 - (b) can acquire assets (such as land) at low prices in the wake of the prevailing financial disruption. Several stocks meet these criteria: **Marfrig** (Brazilian beef producer) has clearly benefited from the demise of six of its competitors (Marfrig sales were up 9% in Q1 this year despite an overall decline

in Brazilian beef exports of 34%). **SLC Agricola** has been able to accumulate more Brazilian farmland at low prices. **People's Food** (the Singapore-listed, Chinese pork company) is backed by net cash of S\$0.23 per share, which provides some relative safety in the face of loss-making hog prices.

- (3) Low end food retailers. Value is at the heart of the strategy of our favoured food retail stocks—**Tesco, Ahold and Morrison**. We think a strategy focused on top-line growth and constantly delivering high quality at the lowest possible price ('Value') is key to long-term and sustained success.
- (4) Crop protection and seeds are having a surprisingly strong year. Q1 sales were up an average of 8% across the six majors, with a strong price development of 4–8% and single-digit volume progression (with the exception of **Syngenta**, which saw some seed volume pullback). We see three main reasons for this: (i) rapid introduction of attractive new seed technology; (ii) partnerships with winning farms—the more sophisticated crop protection companies tend to deal with the more sophisticated (and profitable) farmers. Modern large-scale farms, especially in the Western world, are currently cash rich after two years of bumper harvests and strong prices; and (iii) smaller portion of spend—we estimate that chemicals (c10–15%) and seeds (c1–5%) are a smaller portion of overall cost than items like fertiliser and transport. **DuPont** (26% of 2008 sales from the Ag & Nutrition division, rated Outperform) and **Syngenta** (78% of 2008 sales from crop protection and 22% from seeds, rated Neutral) are two stocks that we believe should benefit from these trends in the long term.

Enduring a more challenging short-term outlook are:

- (5) Fertiliser companies. Demand in this sector is clearly very pro-cyclical. In the last downturn in 2000, total fertiliser demand dropped close to 5% year on year. This time the downturn looks to be more severe. Consensus numbers show a contraction in EBITDA for the sector of 12% and EPS growth down 17% for CY 2009E before recovery in 2010 (consensus EBITDA growth of 13% and EPS growth of 18%). However, reports from several companies suggest we may have already passed the absolute low in demand: Q1 sequential growth up 40% at Yara, for instance. We like **Yara International, ICL-Israel Chemicals, Taiwan Fertilizer and Incitec Pivot** for their combination of (relatively) low-cost production, improving net debt and cheap valuations.
- (6) Agri machinery producers. Big ticket capital investment is often hardest hit in a recession and this time looks like it will not be any different. Consensus earnings growth for the agri-machinery sector (-40% 2009E) is forecast to be worse than for any other supply-side provider in the agricultural space. Nevertheless, the valuations arguably reflect a lot of this pessimism. We rate **AGCO** and **Deere** as Outperform. We are more cautious on **Kubota** (Neutral) given its greater relative exposure to small tractor sales and hence the US housing market (although we note the growing contribution of the Asian business to overall sales and earnings).

Finally, we note the Credit Suisse Agriculture Index (powered by HOLT) has more than made up for its underperformance of Q4 2008. Since inception (March 2008), the index has only marginally outperformed the MSCI Global equity index but YTD has outperformed by 25%. See Appendix 2 for more details on this index.

Stock picks

The Credit Suisse Top 20 picks on the agricultural outlook

We highlight 20 stocks that: (a) play a role in the agricultural industry; and (b) we expect to outperform over the medium term.

Figure 2: Credit Suisse Top 20 picks on the agricultural outlook

Company	Main listing	Description	Recommendation	Analyst	Mkt Cap (US\$mn)	2009E P/E	2009E DY
AGCO	US	Ag machinery	OUTPERFORM	Jamie Cook	2,667	13.7	0.0
BrasilAgro	Brazil	Crop producers	NEUTRAL	Luiz Otavio Campos	232	NA	NA
Bunge	US	Crop processors	NEUTRAL	Robert Moskow	8,721	14.0	1.1
China Yurun	China	Meat producer	NEUTRAL	Catherine Lim	2,149	15.6	1.6
Deere	US	Ag machinery	OUTPERFORM	Jamie Cook	18,418	17.1	2.5
Dupont	US	Crop protection and seeds	OUTPERFORM	John McNulty	25,784	16.6	5.7
Illovo Sugar	South Africa	Crop producers	OUTPERFORM	Brendan Grundlingh	1,166	12.0	4.1
Indofood Agri	Indonesia	Crop producers	OUTPERFORM	Teddy Oetomo	1,353	14.2	0.0
Israel Chemicals	Israel	Fertilizers	OUTPERFORM	Semyon Mironov	14,168	14.7	3.9
Kroger	US	Food retail	OUTPERFORM	Edward Kelly	14,932	11.2	1.5
London Sumatra	Indonesia	Crop producers	OUTPERFORM	Teddy Oetomo	763	13.6	1.6
Marfrig	Brazil	Meat producer	OUTPERFORM	Marcel Moraes	1,940	11.2	1.7
Nissin Food Holdings	Japan	Food processors	OUTPERFORM	Yoshiyasu Okihira	4,042	21.2	1.7
Perdigao	Brazil	Meat producer	OUTPERFORM	Marcel Moraes	4,009	18.8	1.6
SLC Agricola	Brazil	Crop producers	NEUTRAL	Luiz Otavio Campos	780	22.2	0.1
Syngenta	Switzerland	Crop protection and seeds	NEUTRAL	Rhian Tucker	22,362	15.1	2.4
Taiwan Fertilizer	Taiwan	Fertilizers	OUTPERFORM	Sidney Yeh	3,127	45.6	1.9
Tesco	UK	Food retail	OUTPERFORM	Andrew Kasoulis	46,844	12.0	3.5
Wilmar	Malaysia	Crop producers	NEUTRAL	Tingmin Tan	22,070	15.7	1.2
Yara International	Norway	Fertilizers	OUTPERFORM	Lars Kjellberg	9,652	12.6	2.3

Source: I/B/E/S consensus estimates, Credit Suisse research

Supply/demand balance in summary

Supply

Our main conclusions are:

- **Cyclically weak:** Over the next 12 months it looks likely, in our view, that global crop production will fall. We see three main factors behind this development: (1) falling planted acreage (in the US, Brazil, Argentina, CIS); (2) sharp reduction in fertiliser application (our fertiliser analysts estimate an average fall in nitrogen application in 2008/09 of c.10% and 30–40% for potash and phosphate in the US and Europe); and (3) adverse weather in some areas (Argentina, northern China and parts of the US). Financing problems are partly to blame for some of these developments (particularly in Latin America and the CIS) but faced with a more uncertain demand scenario, farmers across Europe and the US appear to have deliberately curtailed production. **We estimate a fall in crop supply of between 3% and 4% over the next 12 months.**
- **This is not a view shared by the USDA.** Its crop production forecasts (last updated 12 May 2009) suggest higher global production in most of the major grains this season compared with last. They suggest total world grain production will be up 4.9% in 2008/2009 versus the record production of 2007/2008 and up 3.1% in the 2009/2010 season compared with 2007/2008. If this is correct, it would be remarkable in so far as this would be the first global recession to coincide with increased crop production. FAO data show that the beginning of all previous post-war recessions has coincided with a fall in total crop production. Indeed, the nature of this recession, driven, as it is, by a sharp withdrawal of credit from the system, means it is particularly unlikely that any of the mainstream industries can avoid some sort of contraction in production.
- Meanwhile, there is increasing evidence pointing towards a contraction in supply:
 - Poor weather has meant a particularly slow start to the pace of US corn planting. By late May, according to the USDA, only 82% of the estimated acreage was planted compared with the five-year average of 93%.
 - Combining soy, corn and wheat, we estimate the total harvested acreage decline in the US this year is 5.3m acres to 203.1m (a drop of 2.8%).
 - Data from the Brazilian National Fertiliser Association (ANDRA) show that in the first quarter of this year Brazilian fertiliser consumption fell 24% compared with the same period in 2008. The decline in annual demand over the past six months is now worse than that recorded in the Argentine/Brazilian currency crisis of 2000/2001.
 - The Ukrainian Ministry of Finance had recently (3 June 2009) forecast a 21% fall in grain production this season compared with last on the back of financing problems and poor weather.
 - In China, the authorities recently announced a state-wide audit of grain reserves (which began on 1 April). Arguably this signals some concern over production this season given the severe drought that affected the country's major wheat-producing regions in January and February this year.
- **Structurally challenged: Global arable acreage** is likely to see small net growth over the longer term as contractions in some markets (eg, China) are offset by expansion in South America, Indonesia and the Black Sea region. If we assume that half of the total potential in Indonesia, South America and Russia can be realised over the next ten years, it still only equates to 1.0% pa. Reducing the amount of land tied up in the US

CRP could also add to global arable acreage, but this is quite small in a global context. We note, also, that global arable acreage has only averaged growth of 0.2% pa over the past 44 years, hence it will be a considerable improvement if arable acreage can increase at 1.0% pa as encapsulated in our base-case scenario. **On the productivity front**, FAO data show that over the past 47 years, world cereal yields have grown by 1.9% pa on average. However, over the past 20 years, the rate of growth has slowed to just 1.4% pa, despite the introduction of GM crops.

- In total, therefore, we estimate medium to long-term supply growth in agricultural products of c.2.4% pa, but we see the risks to this forecast as probably to the downside.
- **Inventories of primary agricultural crops are generally low** compared with their long-term history, albeit these are likely to climb as excess further up the foodchain (for instance high soy oil inventories) is run down in the face of weaker end demand.

Demand

The short-term picture is one of demand-side weakness:

- FAO data show that calorie consumption per head typically contracts in a recession. We do not expect this time to be any different. We calculate a contraction in global food demand of between 0.5% and 1.5% in 2009. Biofuel demand is also likely to be weak but since the industry still accounts for a relatively small proportion of global arable acreage, its impact is likely to be fairly muted. If we conservatively assume a 10% fall in US and Brazilian ethanol production and a 40% fall in EU biodiesel production this year, we estimate it would take c.0.5% off global agri-demand. **In total, we estimate a contraction in global agri-demand of 1–2% in 2009.**

However, we anticipate that global food and biofuels will add 2.3–2.6% growth pa to aggregate demand over the medium term. This demand can be broadly broken down into:

- growth in the global population equal to 1.2% growth pa over the next five years;
- continued increase in calorific intake and shift in dietary trends (greater meat consumption), which adds a further 1.0% pa to global food demand;
- biofuels expansion is likely to be slower than previous forecasts given the recession, lower aggregate fuel demand, continued profitability problems in the sector and some (apparent) loss of political appetite in the face of higher food prices and environmental lobbying. However, even in the worst-case scenario (ie, assuming the European biodiesel industry is phased out), we still estimate growth in biofuel demand of some 10bps pa over the next five years. In the best-case scenario, additional demand from the global biofuel industry could be in excess of 40bps pa.

Finally, regarding market speculation, involvement in corn is still low compared with the past three years. Speculative positions in soy and sugar have, however, been substantially rebuilt.

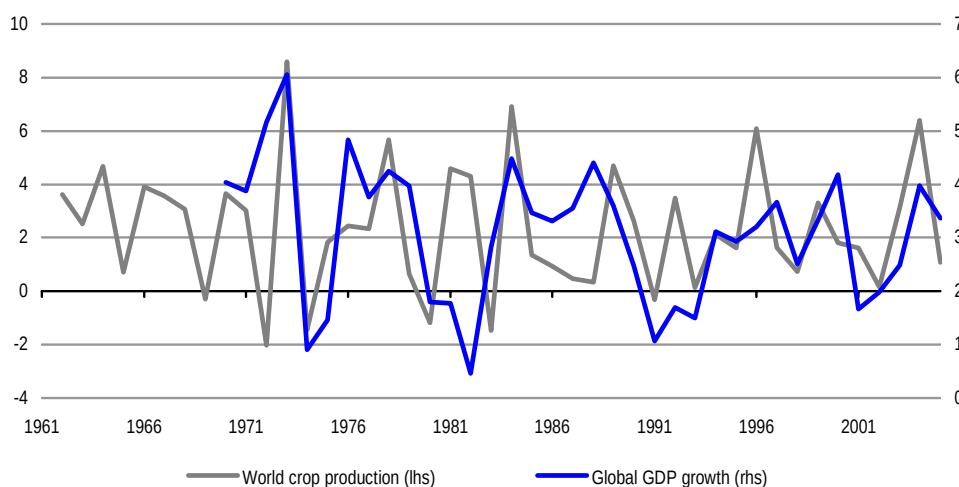
Supply of agricultural products

(1) Supply growth: Cyclically weak

Over the next 12 months it looks likely, in our view, that lower planted acreage and fertiliser usage, on the back of financing problems (particularly in parts of Brazil, Argentina, the Ukraine and other parts of Eastern Europe), will reduce agricultural production. Weather-related problems (in Argentina, northern China and parts of the US) also look likely to contribute to short-term supply problems.

This is not a view shared by the USDA. Their crop production forecasts (last updated 12 May 2009) suggest *higher* global production in most of the major grains this season compared with last. They suggest total world grain production will be up 4.9% in 2008/2009 versus the record production of 2007/2008 and up 3.1% in the 2009/2010 season compared with 2007/2008. If this is correct, it would be remarkable in so far as this would be the first global recession to coincide with increased crop production. FAO data show that the beginning of all previous post-war recessions has coincided with a fall in total crop production.

Figure 3: World crop production and GDP growth (% y/y)



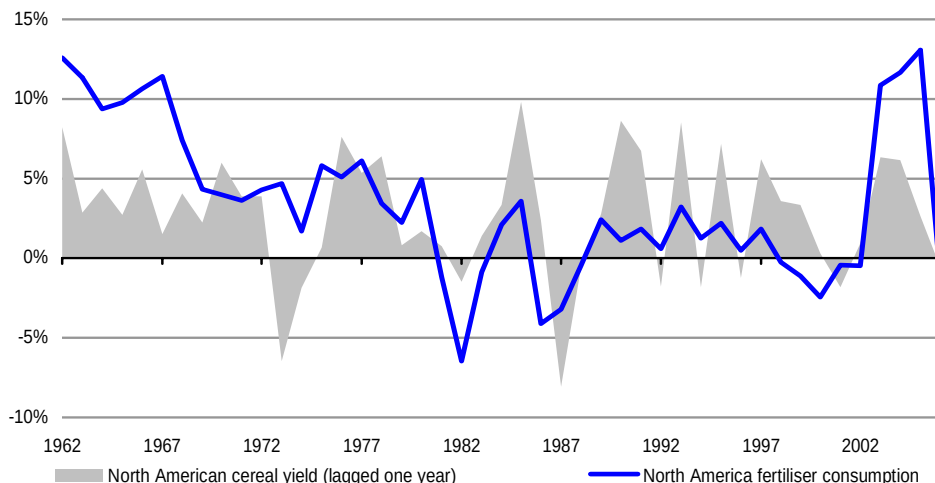
Source: FAO, USDA, Credit Suisse research

Lower acreage, less fertiliser and poor weather are (anecdotally, at least) characteristic of most of the major crop-producing markets this season:

- In the US, it is widely recognised that weather is negatively affecting wheat production. However, the impact of lower fertiliser application rates or other crops does not appear to have been factored into USDA forecasts. For instance, for corn, latest USDA predictions put US corn ending stocks for 2009/2010 down by 28% to 1.1bn bushels. On USDA estimated consumption, this implies a low stocks-to-use ratio of 9.1% versus USDA's February estimate of just over 13%. We believe there could still be downside risk to production estimates. By late May, according to the USDA, only 82% of the estimated acreage was planted compared with the five-year average of 93%. Poor weather explains planting delays. In addition, the USDA report appears not to have taken into account lower fertiliser application rates in its forecast. The USDA's forecast corn yield for the 2009/2010 season is 155.4 bushels per acre, 1.5 bushels below 1990–2008 trend but above yields in 2008/2009. We estimate a fall in nitrogen application in 2008/09 around 10% and 30–40% for potash and phosphate, which will have a negative impact on production in the first half of the 2009/2010 season. If our estimate of falling application rates is correct, yields could come in appreciably lower than the USDA's forecast.

Historically, the relationship between fertiliser usage and yields in the US has been fairly strong: lower fertiliser usage means lower yields.

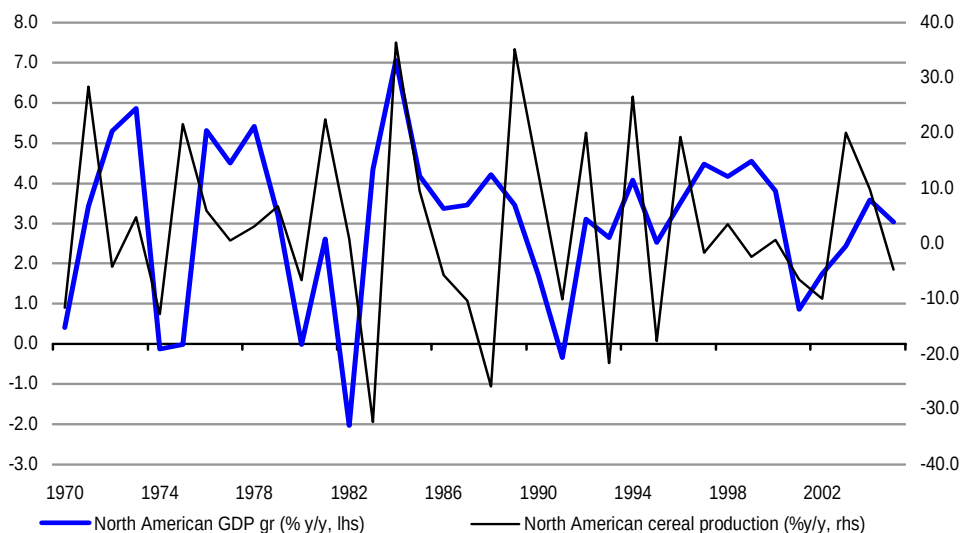
Figure 4: Cereal yields and fertiliser consumption (% y/y)



Source: FAOSTAT, Credit Suisse research

Ultimately, this means that cereal production (and by extension the production of any non-permanent field crops) is very sensitive to the GDP cycle.

Figure 5: GDP growth and cereal yields (% y/y)



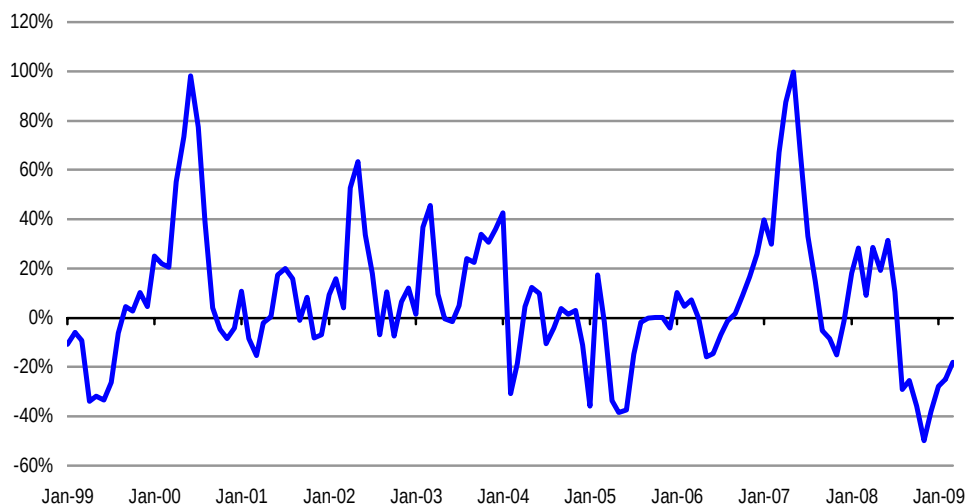
Source: FAOSTAT, USDA, Credit Suisse research

- Combining soy, corn and wheat, we estimate the total harvested acreage decline in the US this year is 5.3m acres to 203.1m (a drop of 2.8%). The acreage reduction reflects a more cautious US farmer, especially given the significant drop in wheat prices. We expect limited aggregate change in yields this season (higher yields in soy offset by much lower wheat yields and slightly lower corn yields). In aggregate, therefore, we expect aggregate US soy, corn and wheat production to drop c.3%.
- In Europe, planted acreage is likely to be relatively stable compared with previous seasons but from a bottom-up perspective we expect similar declines in fertiliser application to those seen in the US (ie, a fall in nitrogen application in 2008/09 around

10% and 30–40% for potash and phosphate). At our recent conference ('Global Agricultural Productivity', 10–11 March 2009), various companies described a weaker demand environment:

- Mosaic said it expected phosphate volumes to fall sharply this year owing to the recession.
 - Agrium noted very poor demand for fertiliser towards the end of 2008 and a slow start to 2009.
- In Brazil, our agri-analyst, Luiz Campos, recently completed a field trip around the Mapito region. His follow-up report (*Brazilian agribusiness: a view from the ground*, dated 10 March 2009) notes significant anecdotal evidence that credit lines appear to be very tight. "Trading companies, which have historically been big financiers in Brazil, have not been active and local banks (e.g., Banco do Brasil and Banco do Nordeste) have stricter financing conditions in place, not lending any additional money to producers with outstanding past-due debts.... we passed through a 9,000ha area where the owner did not plant one single hectare because of lack of capital." Luiz notes that, despite continued high diesel prices, truck freight prices have declined reflecting weak demand.
- Nevertheless, Luiz also notes that lower fertiliser application in Brazil should not result in significant reductions in yields this year. Farmers in the Mapito region reported that the weather has been very good in most areas, offsetting the lower input application. However, it is clear that there has been a significant slump in fertiliser application and this is likely to affect yields in future years. Data from the Brazilian National Fertiliser Association (ANDA) shows that in the first quarter of this year fertiliser consumption fell 24% compared with the same period in 2008. The decline in annual demand over the past six months is now worse than that recorded in the Argentine/Brazilian currency crisis of 2000/2001.

Figure 6: Brazil: Fertiliser demand (% change y/y in tonnes of product)



Source: ANDA (Brazilian national fertilizer association)

- The Brazilian agriculture association (Conab) estimates that, despite the financing difficulties, harvested acreage in Brazil will be up slightly (0.4%) in market year 2008/09 compared with 2007/08, but that yields will decline by 4.9% taking total crop production down 4.5% this year compared with last. This looks optimistic, in our opinion.
- In Argentina, the wheat crop, harvested in November through January, has been severely disrupted by the ongoing La Niña-related drought. The harvest is at a 20-year low of c.8.4m tons (compared with 16.8m tons in 2007/08) according to the USDA. With domestic demand at 6m tons, the National Agriculture and Livestock Commercial Control Office

blocked wheat exports at the end of January 2009. The uncertainty caused by this disruption has had a negative impact on farmers' planting decisions. We expect Argentinean production to remain under pressure over the 2009/2010 season. Relatively better weather should mean yields revert to close to normal but planted acreage is likely to decline given the (severe) financial distress of several producers.

- In the Ukraine, First Deputy Agriculture Minister Yuriy Luzan has said the global crisis may have a negative effect on the financing of projects in Ukraine's farming sector, where agriculture accounts for roughly 20% of total outstanding credit (compared with just 3% in 2000). Lack of capital (and frost in April) has lead the Ministry of Agriculture to forecast (3 June 2009) a 21% fall in grain volumes this season compared with last. The Ukraine accounts for 2.3% of global arable land, according to the Food and Agriculture Organization (FAO).
- In Russia, according to the Ministry of Agriculture, winter grains were sown on a reported 17.1m hectares in autumn 2008, compared with approximately 16.9m in the previous season. This small increase in planted acreage occurred despite a slide in wheat prices prior to the start of the autumn sowing campaign but was largely initiated prior to the slide in the Russian ruble. The impact of the financial crisis has been more obvious in the slump in fertiliser and crop protection sales since late 2008. In late 2008, the Russian government announced that it would provide subsidies for both fuel and fertiliser and also reduce fertiliser export subsidies in order to try to mitigate the farming financing problems. We believe this is necessary in order to offset significant financing difficulties faced by small and large-scale agro producers alike in the wake of the credit crunch. To quote one example of the financing problems facing Russian producers, Black Earth Farming notes "the competition for land in recent months has disappeared and a lot of assets are up for sale." At our March conference, Black Earth Farming's CEO raised concerns over financing issues that could reduce planting in the spring season and especially in the critical winter wheat season. 2008/09 seeds were put into the ground right before the credit crunch. BEF's CEO suggested the real acreage and yield effect from the credit crunch will be felt in the 2009/2010 season.
- In China, severe drought in the major wheat-producing regions was a significant cause for concern in the first months of this year. According to the USDA, at its peak in February, almost 11m hectares (out of 24m planted hectares) of wheat in northern China were affected by drought. China's government employed aggressive measures to fight the drought, enlisting millions of people to irrigate the dry fields and launching thousands of shells containing silver iodide pellets in order to induce precipitation. Drought conditions improved considerably from early/mid February and by 5 March the State Grain Administration reported that the crop had largely escaped damage from the drought and was growing well. However, with some 46% of China's wheat suffering from the drought conditions in February, we doubt yields can have improved on last year. We presume China's authorities are also concerned about the crop yields given the recently announced state-wide audit of grain reserves (which began on 1 April).

In Figure 7 we summarise some of the potential short-term supply-side issues. As a ballpark estimate of the impact of the prevailing financing problems facing the farming community, we expect supply growth in cereals to contract by roughly 3–4% over the coming year.

Figure 7: Short-term supply summary by market

Issues		% of world agri- production	% of world cereal production	% of world arable acreage	Production forecast
Argentina	Drought impact on a major wheat-producing market plus lack of financing post the credit crunch.	1.9	1.4	2.0	-10.0%
Australia	Long-term drought conditions look set to continue to ease over the next planting season. Total grain production should recover 28% in 2008/09 and a further 6% in 2009/10, according to the USDA, albeit this is off the very low base set in 2007/08.	1.0	1.6	3.5	6.0%
Brazil	Financing difficulties probably mean a fall in both acreage planted and yields (as fertiliser application declines—in the year to March Brazilian fertiliser demand is down 24%).	5.2	2.3	4.2	-5.0%
China	Drought conditions have ameliorated in the past couple of months but it seems unlikely that yields have not been dented given that some 46% of China's aggregate wheat crop was classified as severely drought affected as of February this year.	23.2	20.5	10.1	-5.0%
Europe	Planted acreage may be stable compared with last season but yields are likely to suffer given the apparent fall in fertiliser application. We estimate a fall in nitrogen application in 2008/09 around 10% and 30–40% for potash and phosphate.	17.5	16.2	19.7	-2.0%
Russia	Financing problems look set to have dented both fertiliser application and crop protection sales.	2.5	3.0	8.6	-2.0%
Ukraine	Major financing problems are likely to mean a significant shortfall in seeded area and fertiliser application.	1.1	1.4	2.3	-20.0%
US	Planted area is estimated by the USDA to have declined by 2.8% for the major crops in 2009/10. Bottom-up data suggest a similar decline in fertiliser application as in Europe.	10.9	13.2	12.3	-3.3%
Total		63.3	59.5	62.6	-3% to 4%

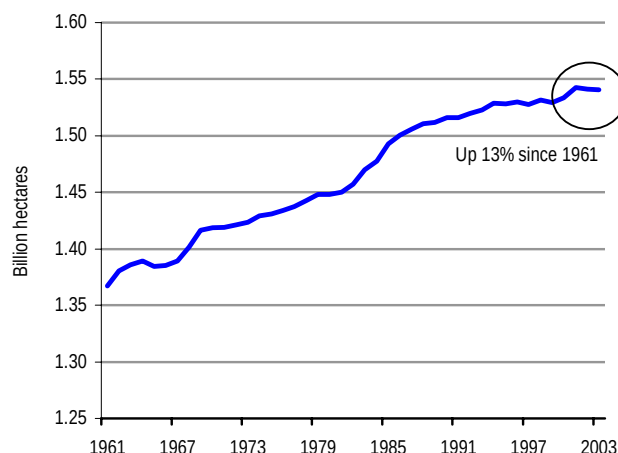
Source: FAO, USDA, Conab, Credit Suisse research and estimates

(2) Supply growth: Relatively muted longer term

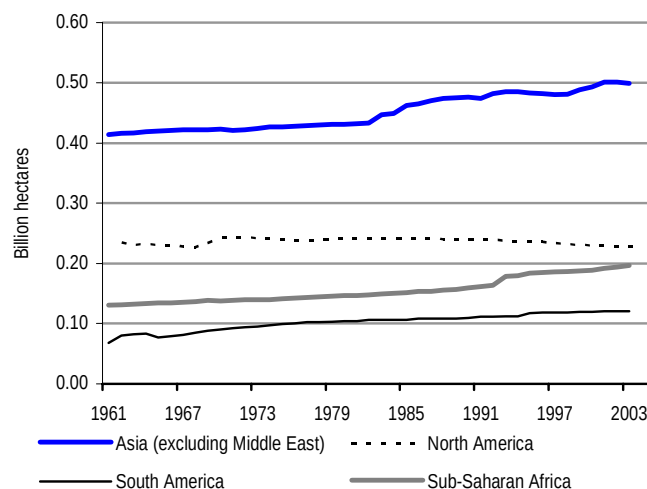
As we have previously noted (see 'Higher Agricultural Prices: Opportunities and risks', dated 6 November 2007), there are two key drivers of agricultural supply: acreage and productivity growth. Various factors look likely to prevent significant growth in either.

(i) Acreage: Growth hampered by infrastructure bottlenecks

Cultivated acreage has expanded by 13% globally since 1961, according to the FAO. Most of this increase can be attributed to South America (Brazilian cropland has increased by 135% since 1961 and now accounts for 4.2% of the world's agricultural land).

Figure 8: World total: Arable and permanent cropland

Source: FAO

Figure 9: Regional totals: Arable and permanent cropland

Source: FAO

More recently, the rate of growth in arable land has slowed to close to zero on aggregate. Negative growth rates in Europe and North America have been offset by expansion in Africa and South America.

Soil quality, the length of the growing season and rainfall are the biggest drivers of agricultural productivity and therefore the biggest barriers to acreage expansion. That aside, other factors are also weighing on the expansion of arable land, such as:

■ Initiatives to counter deforestation

The International Energy Agency (IEA) estimates that, in the 1990s, the carbon dioxide released as a result of deforestation averaged 1.6 GtC (Gigaton of Carbon) pa and accounted for 20% of the total rise in CO₂ concentration in the atmosphere. With this backdrop, various environmental initiatives (including Kyoto and the Intergovernmental Panel on Climate Change (IPCC)) have called for a complete reversal and shift to *reforestation*. The rate of deforestation has reversed in many of the developed markets (the US, UK and Germany to name a few) but continues to accelerate in the less-developed, sub-tropical regions.

■ Urbanisation

The average population size of the world's 100 largest cities grew from around 0.2m in 1800 to 0.7m in 1900 to 6.2m in 2000. Currently, half the world's population lives in urban centres, compared with less than 15% in 1900. By 2030, the UN forecasts that 60% of the world's population will live in urban areas.

Urbanisation has eaten into agricultural land and reduced the workforce available to farm it. In China, the contraction in agricultural workers is running at half a million a year and the amount of arable land has dropped by 6% over the past ten years.

■ Land degradation

The UN estimates that some 1.9bn hectares of land worldwide have been affected by land degradation. The main causes are soil erosion, loss of nutrients, damage from inappropriate farming practices and the misuse of agricultural chemicals. In the Philippines, for example, an estimated 1.2m hectares of cropland roughly—one-fourth of the total—have been severely degraded by pesticides and chemical fertilisers. The FAO estimates that weathering erodes 25bn metric tons of topsoil from the world's croplands. China's Yellow River empties 1.6bn metric tons of eroded topsoil into the Yellow Sea each year.

Four areas of potential acreage expansion

However, despite these factors, there are four areas where we expect to see an expansion in arable land: (i) in the US and Europe, by using set-aside land; (ii) in South America, where the potential is much greater; (iii) Indonesia; and (iv) the former CIS region.

(i) In the US and Europe, farmers have received subsidies for idling land. Set-aside was introduced in Europe in 1992 to remove land from production to reduce the EU's grain mountains. It was abandoned for a year in September 2007 to increase food production. In July 2008, the European Commission announced that set-aside was to be abolished permanently. The European Commission estimated that roughly 3.2m hectares was set aside at the start of 2007. Since then, the Commission estimates that 1.3m ha have been brought back into production, boosting cereal output by roughly 13.5m tonnes (5.2%) in 2008. At high agricultural prices, we estimate production from another 1m ha (equivalent to just less than 1% of total EU arable acreage) is probably economically viable, although yields from this more marginal land are unlikely to be as high as the European average.

In the US, land is set aside under the Conservation Reserve Program (CRP). Under the 2008 Farm Act, the maximum acreage enrolled in the CRP was reduced from 39.2m acres to 32m acres, beginning on 1 October 2009. With CRP enrollment at 34.8m acres on 30 September 2008, this policy change provides an additional 1.1% to US planted acreage as at the end of 2008.

Urbanisation is eating into agricultural land and reducing the workforce available to farm it

Figure 10: US Conservation Reserve Program acreage assumptions*Crop allocation, in millions of acres*

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Corn	6.3	6.2	6.1	5.7	5.4	5.4	5.4	5.4	5.6	5.7	5.7	5.7
Sorghum	1.0	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.9
Barley	0.9	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7
Oats	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Wheat	8.8	8.9	8.7	8.2	7.8	7.7	7.7	7.8	8.0	8.2	8.2	8.2
Upland Cotton	1.6	1.5	1.4	1.4	1.3	1.3	1.3	1.3	1.3	1.4	1.4	1.4
Soybeans	5.8	4.9	4.8	4.5	4.3	4.2	4.2	4.3	4.4	4.5	4.5	4.5
Subtotal	24.8	23.4	22.9	21.7	20.5	20.3	20.3	20.5	21.2	21.6	21.6	21.6
Other	12.0	11.3	11.0	10.3	9.8	9.8	9.8	9.9	10.2	10.3	10.4	10.4
Total	36.8	34.7	33.9	32.0	30.3	30.1	30.1	30.4	31.4	31.9	32.0	32.0

Source: USDA

(ii) South America still appears to have the greatest potential to expand arable acreage. Using statistics from the Inter-American Development Bank we previously estimated that maximising cultivation in Colombia, Paraguay and Argentina would add 4.9% to the world's pool of arable land. In Brazil, we estimate that there are 106m ha of unallocated land potentially available for agricultural development, which would add another 6.9% to global arable acreage, plus there is scope to convert some of Brazil's 220m ha of pasture to arable land and employ more intensive techniques in livestock farming.

South American potential to expand arable acreage is very significant

Figure 11: Use of land in Brazil (2006)

	Hectares, m	% of total
Amazon rain forest	350	41%
Breeding pastures	220	26%
Protected areas	55	6%
Annual crops	47	6%
Permanent crops	15	2%
Cities, towns, lakes, roads & swamps	20	2%
Cultivated forests	5	1%
Subtotal	707	83%
Other uses	38	4%
Unexploited area still available for agriculture	106	12%
Total	851	100%

Source: Conab

However, the major issue across South America is infrastructure. The main agricultural production areas of Brazil (in the mid-west) are situated, on average, 1,500km from the nearest of the country's three main ports. Argentina is somewhat better off: the distance to the main ports (Rosario and Buenos Aires) is c300km.

The major cap on greater agri-exports from Brazil is still the infrastructure

Paved highways are also relatively limited: 30% of Argentina's highways are paved, but in Brazil, it is less than 10%.

The transportation issue adds to the cost of production, particularly in Brazil. The USDA estimates that the cost of logistics alone when exporting soybeans from Brazil is, on average, 83% higher than in the US and 94% higher than in Argentina.

Addressing the issue is proving to be a slow process. In January 2007, the da Silva government in Brazil launched a substantial investment programme under the banner Programa de Aceleração do Crescimento, or PAC. The plan incorporated: (i) maintenance and construction of 45,300km of highways; (ii) 2,500km of railways; and (iii) modernisation of 12 ports and planned expenditure of R\$58.3bn between 2007 and 2010. However, visible improvements are still hard to discern. Following the successful privatisation of some roads in late 2007 and a railway in the North region to Vale, the federal government has so far done little to improve the transport network and bottlenecks at ports and on railways remain a considerable cost for business.

The USDA puts the expected rate of land expansion towards crop and livestock production in Brazil at 4.5% (or about 1.8m ha) pa over the next ten years. However, while this suggests significant growth in Brazil, it would represent only 0.1% growth pa in a global context, which is unlikely to be enough to meet the longer-term rates of growth in global demand.

(iii) Indonesia also has great potential for expansion and has been aggressively expanding its oil palm cultivation in the past ten years, at a CAGR of about 6–7%. Indonesia potentially still has half of its land available for planting, according to government statistics. This land has not been planted previously for three reasons: (a) lower and so less attractive palm-oil prices; (b) shortage of labour and good seedlings; and (c) the hangover from the financial crisis of 1997/98 left many Indonesian corporates strapped for cash. Indonesia is aggressively going ahead with planting oil palms on this logged-over land now, but will likely face strong resistance from the NGOs if they encroach on virgin jungle. Nevertheless, using all the temporary fallow land (102m ha) could add 6.6% to the pool of total global arable land. Obviously, this will take time to realise, but in conjunction with acreage expansion in South America should help ease supply bottlenecks.

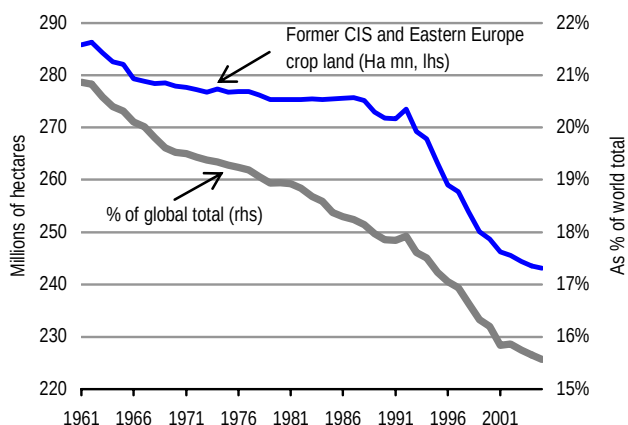
Figure 12: Land usage in Indonesia (2003)

	m ha
Total land area of Indonesia	192.3
As of year 2003	
Wet land	8.4
House compounds and surroundings	5.7
Dry land/Garden	11.0
Shifting cultivation	4.5
Meadows	2.4
Swamps	4.8
Dyke	0.5
Water pond	0.3
Wood land	10.4
Estates	18.3
Others	24.0
Temporary fallow land	102.0

Source: Indonesian Department of Agriculture

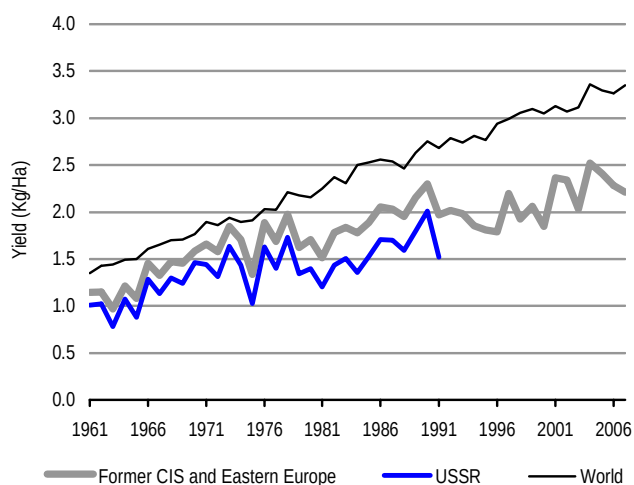
(iv) Post the decline in communism, the former CIS and eastern European markets saw a considerable slump in arable acreage (latest data shows acreage is down 11% on 1992 levels) as well as crop yields. Crop yields have revived over the past ten years but relative to global developments is still a considerable laggard.

Figure 13: Former CIS and Eastern European arable acreage



Source: FAO, Credit Suisse research

Figure 14: Former CIS and Eastern European cereal yields



Source: FAO, Credit Suisse research

With its geographical dominance, Russia still accounts for the bulk of arable acreage in the region. The Ukraine and Kazakhstan are the second- and third-largest arable providers in the region, respectively.

Figure 15: Former CIS and Eastern European markets: Arable acreage and cereal yields

	Total arable acres (millions)			Cereal yield (Kg/Ha)	
	1992	2005	% change	1992	2007
Russian Federation	330.4	305.4	-7.6	1.7	1.8
Ukraine	85.1	82.4	-3.2	2.8	2.1
Kazakhstan	87.0	55.6	-36.1	1.3	1.3
Poland	36.3	30.9	-14.8	2.4	3.3
Romania	24.6	24.3	-1.3	2.1	1.6
Belarus	15.5	13.8	-11.0	2.7	2.9
Uzbekistan	12.0	12.5	3.8	1.8	4.0
Hungary	12.3	11.9	-3.3	3.6	4.8
Serbia and Montenegro	10.1	9.4	-6.2	2.9	4.9
Czech Republic	12.4	8.1	-34.7	4.2	4.5
Turkmenistan	3.5	5.8	67.3	2.2	3.0
Moldova	5.4	5.3	-2.5	2.9	1.0
Azerbaijan	5.0	5.1	2.5	2.1	2.7
Lithuania	7.2	4.8	-33.6	1.9	3.0
Slovakia	4.0	3.5	-12.0	3.8	3.7
Kyrgyzstan	3.4	3.4	-2.3	2.8	2.5
Croatia	3.3	3.0	-7.5	4.0	4.6
Latvia	4.2	2.7	-35.4	1.6	1.6
Bosnia and Herzegovina	2.5	2.7	9.7	3.5	3.2
Georgia	2.8	2.6	-5.6	2.0	1.4
Tajikistan	2.4	2.6	7.3	1.0	2.2
Macedonia	1.6	1.5	-7.6	2.7	2.4
Estonia	2.8	1.5	-46.5	1.3	3.0
Armenia	1.4	1.4	-3.1	1.8	1.5
Slovenia	0.6	0.5	-14.0	3.3	5.4
Total	675.9	600.8	-11.1	2.0	2.2
World	3770.7	3859.0	2.3	2.8	3.3

Source: FAO, Credit Suisse research

Returning to the same level of arable acreage as in 1992 would add close to 75m acres or 1.9% to the total of global arable acreage. In addition, if we assumed that yields in the former CIS and Eastern European markets had improved by the same degree as global yields since 1992, this would add a further 1.9% to global agri production.

However, it is probably unrealistic to anticipate a rapid improvement in large parts of the agricultural production of the Former Eastern bloc as many of these markets lack the scale to attract substantial foreign capital. Russia is the clear exception. It accounts for 51% of the arable acreage of the region. Returning arable acreage in Russia to 1992 levels would add 25m acres or 0.6% to the total of global arable acreage. Furthermore, assuming yield improvement in Russia akin to the global developments since 1992 would add a further 1.2% to global agri production.

Agricultural reform in Russia is slowly taking place. The government launched an agricultural renovation programme in 2001 that restricted farm imports, reduced taxes, subsidised loans and provided farmers with cheap equipment leasing. In 2002, Putin ratified new laws opening farms up to purchase and ownership by private firms, be they domestic or foreign. These sales were slow to take effect at first, but have picked up in recent years with the resurgence in food prices. Foreign investment in Russian agriculture and forestry nearly tripled between 2005 and 2007, from US\$158m (RUB4bn) to US\$468m (RUB12bn), according to the national statistics agency.

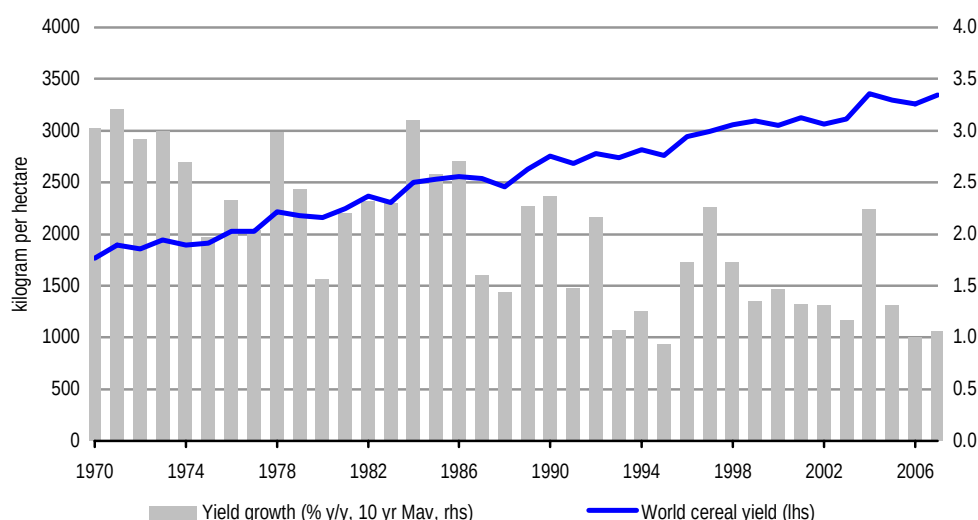
In a very recent example of foreign participation in the Russian agricultural sector, Hyundai Heavy Industries, the world's largest shipbuilder, announced in mid April 2009 that it had bought 67.6% of a Russian farm for US\$6.5m to grow corn and soybeans as part of efforts to diversify its revenue sources. Hyundai also said it plans to invest US\$9m to increase the farming area to 50,000ha from 10,000ha by 2012, with the crops to be sold to South Korea.

The main obstacles for investors in the region are: (a) infrastructure—lack of paved roads and port capacity to transport goods to market; (b) political risks—lessons may have been learned in the energy sector where foreign investors lost control of certain assets to the Kremlin as oil profits soared; (c) labour shortage—urban migration over the 1990s has left rural populations skewed towards the very old or very young.

(ii) Productivity: Despite the introduction of GM crops, growth has been slow

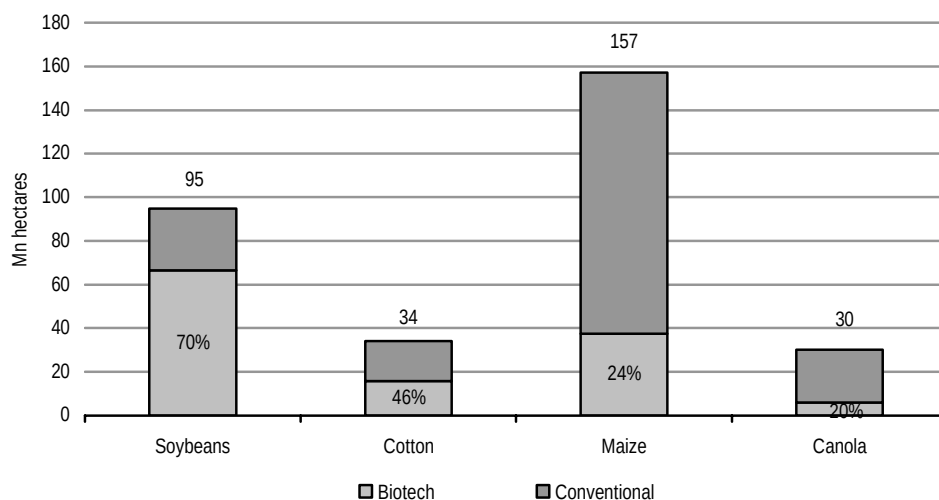
Over the past 47 years, world cereal yields have grown by 1.9% pa on average, but over the past 20 years the rate of growth has slowed to just 1.4% pa.

Figure 16: World cereal yields



Source: FAO, Credit Suisse research

The evidence suggests that, despite the introduction of advanced agricultural technology across a significant proportion of output areas, the limits of agricultural intensification are already being reached . . .

Figure 17: Global adoption rates (%) for principal biotech crops, 2008

Source: ISAAA (International Service for the Acquisition of Agri-biotech Applications)

... despite reasonably high take-up rates of GM technology in key agricultural producers.

Figure 18: Cultivation areas for GM crops in 2008

Country	GM acreage	Type of GM crops planted	As % total arable acreage
US	62.5	Soybean, maize, cotton, canola, squash, papaya, alfalfa, sugar beet	35.8%
Argentina	21	Soybean, maize, cotton	73.7%
Brazil	15.8	Soybean, maize, cotton	26.8%
India	7.6	Cotton	4.8%
Canada	7.6	Canola, maize, soybean, sugar beet, cotton, tomato, poplar, petunia, papaya, sweet pepper	16.6%
China	3.8	Soybean	2.7%
Paraguay	2.7	Maize, soybean, cotton	64.3%
South Africa	1.8	Soybean, maize	12.2%
Uruguay	0.7	Soybean	51.1%
Bolivia	0.6	Maize	19.7%
Philippines	0.4	Cotton, canola	7.0%
Australia	0.2	carnation	0.4%
Mexico	0.1	Cotton, soybean	0.4%
Spain	0.1	Maize	0.7%
Chile	<0.1	Maize, soybean, canola	<5.1%
Colombia	<0.1	Cotton, carnation	<5.0%
Honduras	<0.1	Maize	<9.4%
Burkina Faso	<0.1	Cotton	<2.1%
Czech Rep.	<0.1	Maize	<3.3%
Portugal	<0.1	Maize	<7.9%

Source: ISAAA (International Service for the Acquisition of Agri-biotech Applications)

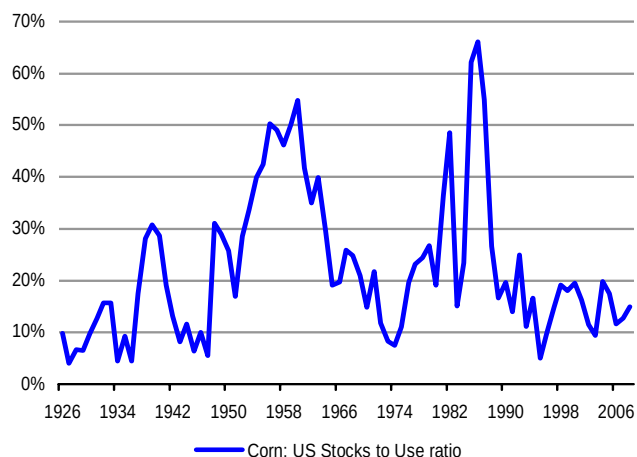
Declining grain inventories are a sign that the world has had trouble keeping up with demand in recent years.

(3) Primary inventories close to historical lows

The data suggest some excess in the production chain (eg, ethanol and bio-diesel) as sugar and soyabean oil inventories are not particularly low. However, primary inventories (such as corn and soy) are at relatively low levels versus their long-term history (although

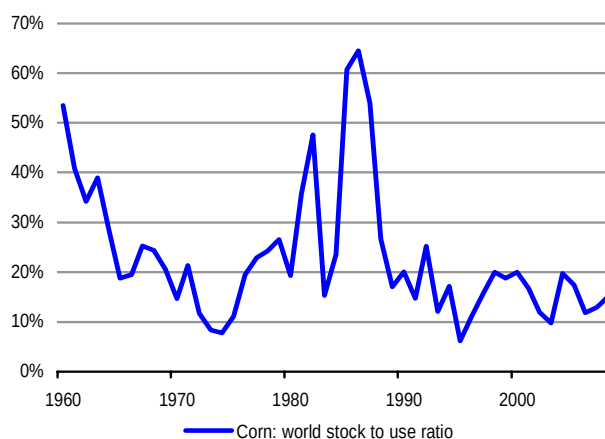
we are conscious that these ratios could look much less flattering if usage should fall away sharply). However, we note that the stocks to use ratio in US corn (at 15%) is 5% points below the average (using data back to 1926) in the year preceding recession.

Figure 19: US corn: Stocks to use ratio



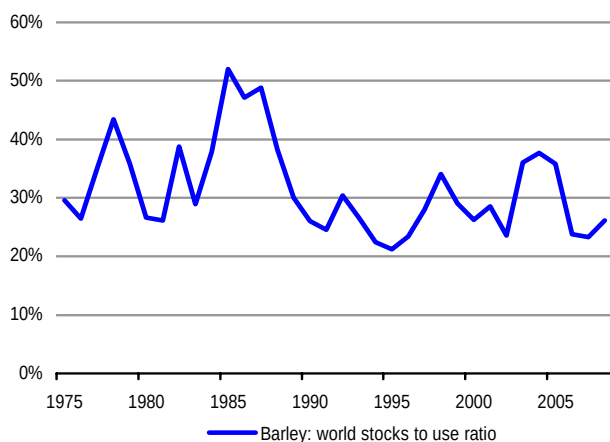
Source: USDA, Credit Suisse research

Figure 20: World corn: Stocks to use ratio



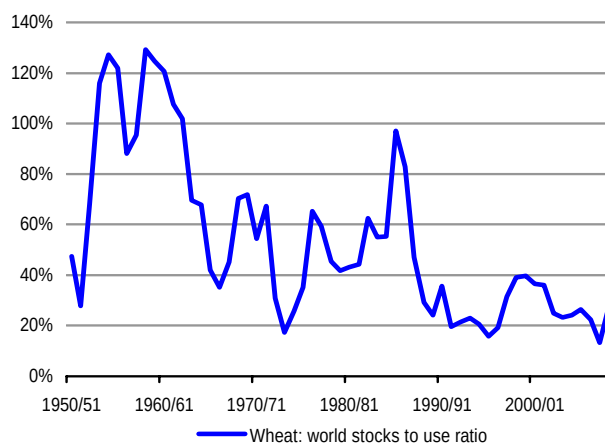
Source: USDA, Foreign Agricultural Service, Credit Suisse research

Figure 21: Barley: World stocks to use ratio

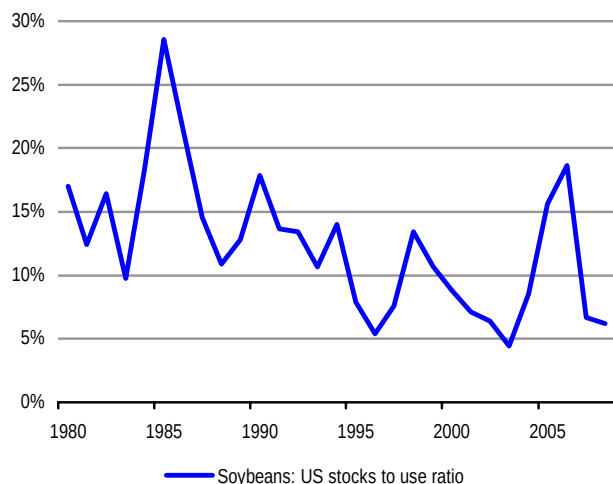


Source: USDA, Foreign Agricultural Service, Credit Suisse research

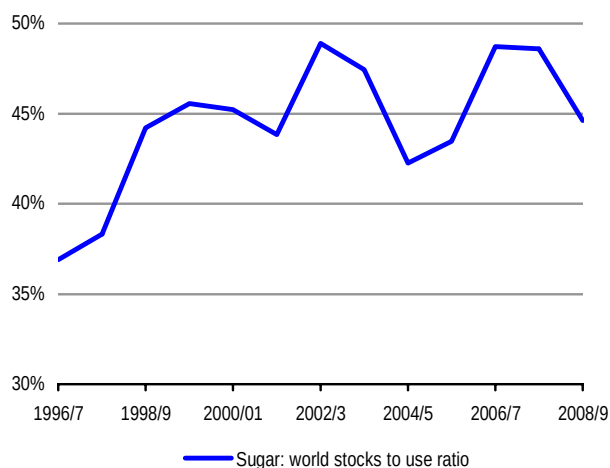
Figure 22: Wheat: World stocks to use ratio



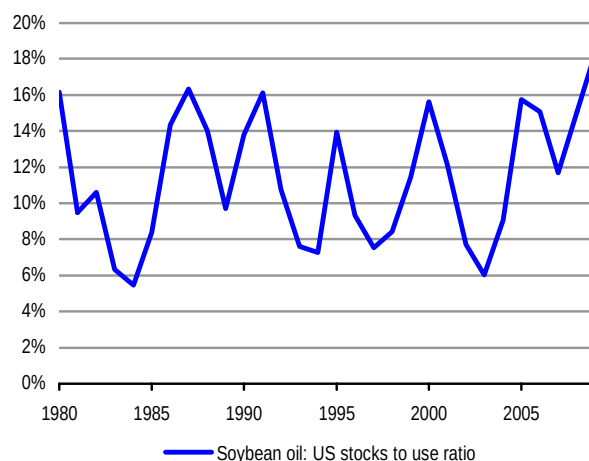
Source: USDA, Foreign Agricultural Service, Credit Suisse research

Figure 23: Soybeans: US stocks to use ratio

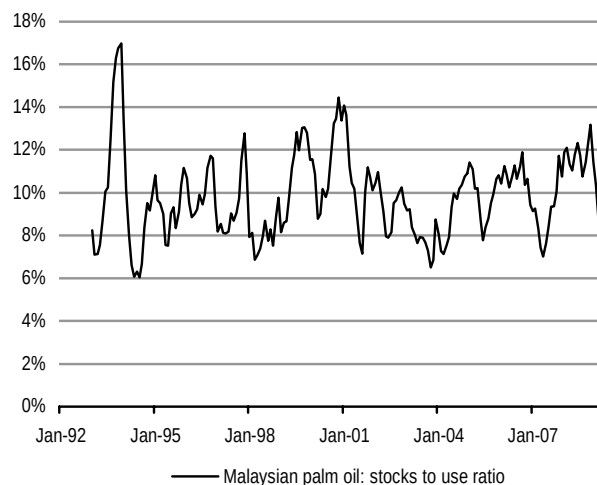
Source: USDA, Credit Suisse research

Figure 25: Sugar: World Stocks to use ratios

Source: FO Licht, Credit Suisse research

Figure 24: Soybean oil: US stocks to use ratio

Source: USDA, Credit Suisse research

Figure 26: Malaysian palm-oil: Stocks to use ratio

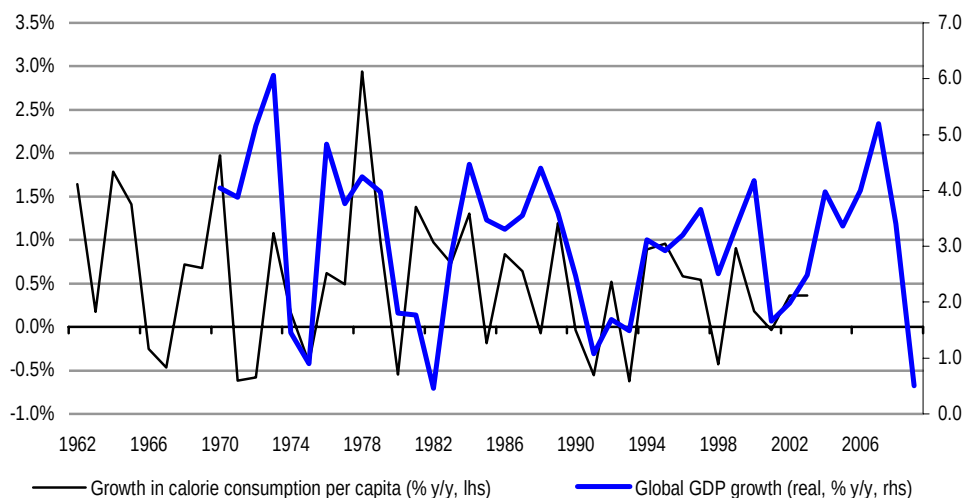
Source: Malaysian Palm Oil Board, Credit Suisse research

Demand for agricultural products

(1) Food demand is cyclically weak . . .

Demand for foodstuffs is relatively resilient but not insensitive to global GDP trends. Growth in calorie consumption follows the trend in real GDP growth (albeit with a smaller amplitude in the cycle). As the global recession unfolds over the course of this year, we would expect global calorie consumption to follow a similar pattern.

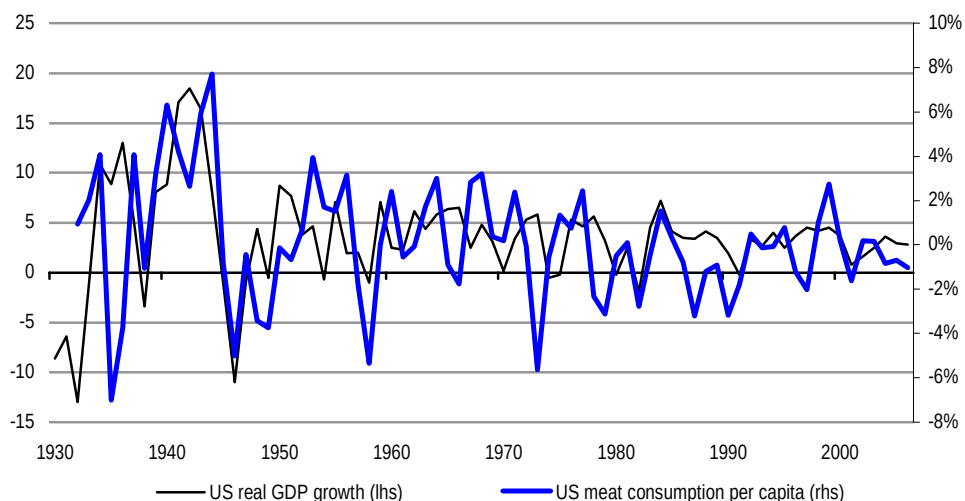
Figure 27: Calorie consumption versus global GDP growth (% y/y)



Source: FAOSTAT, USDA, Credit Suisse research

Within the food sector, demand for meat (and other protein products) is most sensitive to overall economic growth. In previous recessions in the US, for instance, total meat consumption has suffered declines of up to 5–6% compared with the previous year.

Figure 28: US meat consumption (% y/y) vs real GDP growth (% y/y)



Source: USDA/Economic Research Service, Credit Suisse research

The data already suggest significant weakening in demand. In the three months ended January 2009, US imports of cattle and calves fell 26% (in volume terms) compared with the previous year.

What do we expect for global food consumption in the short term?

If consumption follows previous patterns, we can expect the average global calorie intake per capita to drop between 0.5% and 1.0% this year compared with last (assuming global growth troughs this year at roughly -0.7%). Within the total calorie intake, we assume protein consumption suffers a more significant fall in demand (of between -5% and -7.5% y/y). Since, protein production requires greater feed input per unit of output than vegetable production, this fall in protein consumption has a more significant impact on overall food demand.

In Figure 29, we illustrate a range of estimates of total global food demand growth in 2009 based on a limited number of scenarios for calorie and protein consumption per capita. The calculations imply food demand growth this year of between -0.5% and -1.5%.

Figure 29: 2009 estimates for global food demand growth

		Change in calories per capita		
		-0.50%	-0.75%	-1.00%
Change in protein consumption per capita	0.0%	0.8	0.6	0.5
	-2.5%	0.2	0.0	-0.2
	-5.0%	-0.5	-0.7	-0.9
	-7.5%	-1.2	-1.3	-1.5
	-10.0%	-1.8	-2.0	-2.2

Source: Credit Suisse estimates

Note: change in meat consumption has a greater overall impact on total food demand as meat production requires greater input than vegetable production. In this calculation, we have assumed an average feed conversion factor of 3:1. We assume meat consumption makes up 18% of the average diet (based on FAO statistics). We also incorporate global population growth in 2009 of 1.2% (according to UN projections) in the final output.

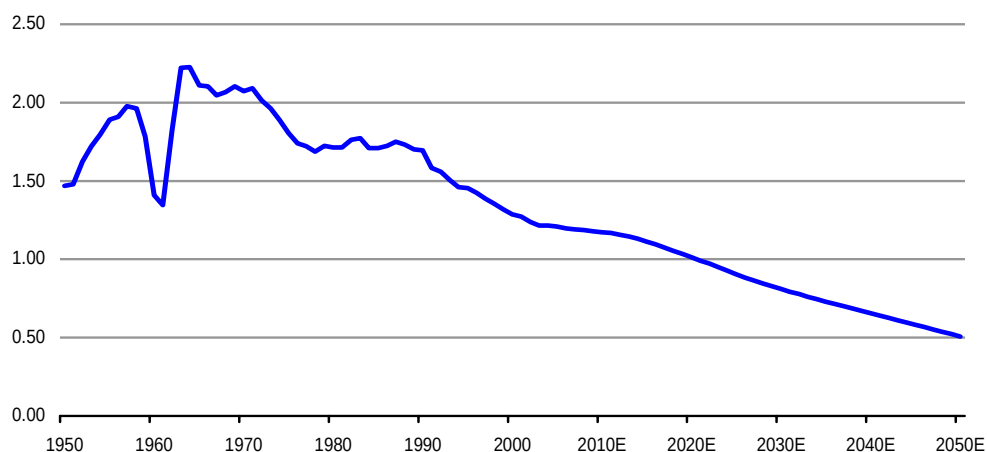
(2) . . . but structurally still strong

However, despite the recession, we expect demand for food (beyond 2009) to recover quickly and to continue to grow at roughly 2.2–2.3% pa for two key reasons:

(a) Population growth

The global population is forecast to deliver compound annual growth of roughly 1% through to 2030 (1.2% CAGR over the next five years), according to the UN. As is well known, however, this is clearly a declining growth rate.

Figure 30: Global population growth (% yoy)

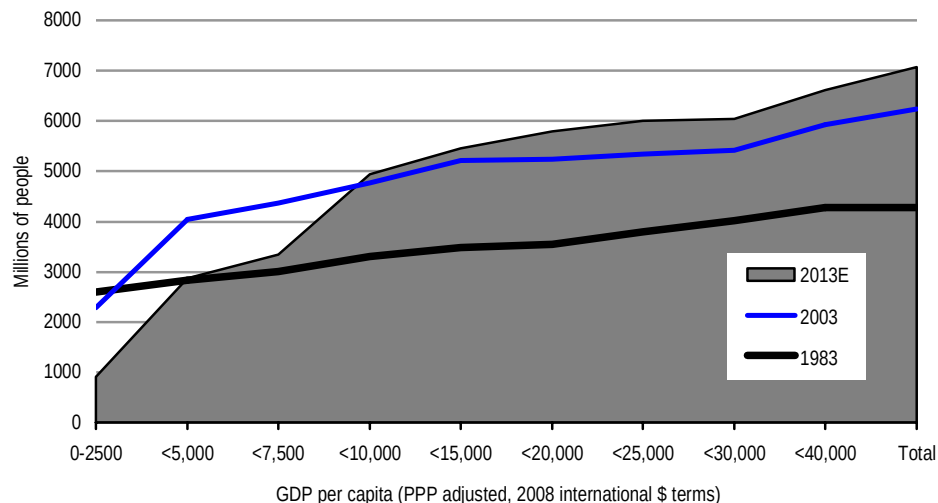


Source: US Census Bureau, International Data Base, Credit Suisse research

(b) More equitable distribution of income

However, this growth benefits the agricultural industry more now than it has done historically because of continued relative improvement in the gross income of the poorest proportion of the global population (which is where the population growth is concentrated).

Figure 31: Income distribution across the global population



Source: IMF, Credit Suisse research

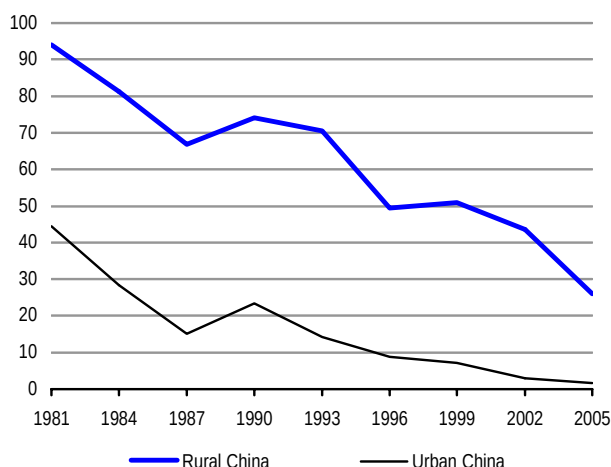
As we illustrate in the chart above, in 1983, some 70% of the world population (3.0bn people) lived in countries with GDP per capita of less than US\$7,500 (based on 2008 prices and adjusted for PPP). By 2008, this had fallen to 67% of the global population (equivalent to 4.4bn people) and by 2013, on IMF estimates, this should have declined further to 47% (or 3.3bn people). Hence, the global population is forecast to grow by 1.2% CAGR over the next five years, but the number of people in the world living in countries with GDP per capita in excess of US\$5,000 grows by 2.8% CAGR to 2013 and the number of people in countries with GDP per capita over US\$7,500 (on 2008 prices and PPP adjusted) grows by 11.3% CAGR to 2013.

There is a question mark, however, over the continued improvement in global income distribution with the onset of global recession. On balance, we concur with the IMF forecasts that the GDP per capita numbers for developed and emerging markets are set to continue to converge, on average, for five reasons:

But, will it?

- (i) lower credit ratios (particularly in Asia but also in large parts of Latin America) imply greater immunity to the credit crunch;
- (ii) higher savings ratios (in Asia) offer a cushion in the face of the slump in global demand;
- (iii) in the same way, better current account balances in the majority of emerging regions imply stronger real effective exchange rates;
- (iv) emerging market corporates/divisions typically rank among the lowest-cost producers in the world, with higher average margins and lower corporate debt ratios: which is the preferred combination in a survivorship test;
- (v) healthier public sector accounts (with the exception of Eastern Europe) imply greater and more sustainable potential government intervention.

Obviously, the two key markets in this equation, simply in terms of their size and stage of development, are China and India, accounting for 20% and 17% of the global population respectively as of the end of 2008, according to the IMF. A serious slowdown but no contraction in real growth, or indeed real GDP per capita, is the forecast for 2009. We expect growth of 8.0% and 4.9% this year and 8.5% and 6.2% in 2010 for India and China, respectively.

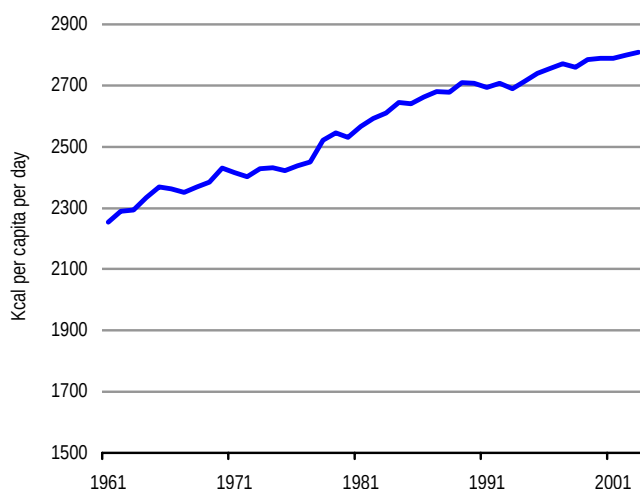
Figure 32: China: % of population below the poverty line

Source: World Bank, Credit Suisse research

There is also a strong long-term trend towards poverty reduction in both countries. This is most obvious in China, where urban poverty (according to the World Bank) has largely been eradicated. India offers plenty of scope for continued improvement.

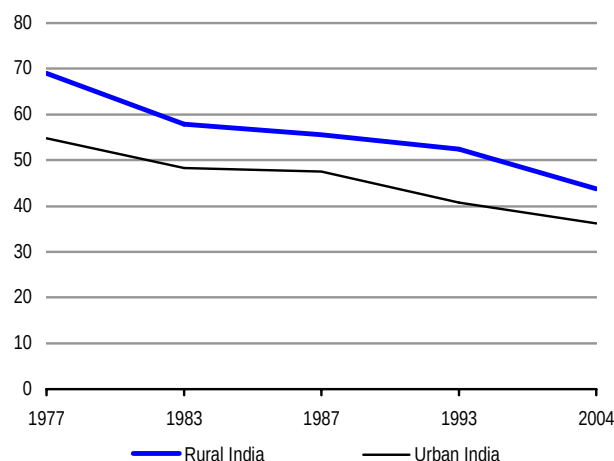
What does it mean for food consumption?

As the proportion of the global population on extremely low incomes diminishes, there is likely to be further uptake in global calorie consumption per capita as well as continued improvement in levels of nutrition. As we illustrate in the charts below, global calorie consumption per capita has been on a steady upward trend over the past 40 years and the strong relationship between consumption and the level of GDP per capita suggests this trend should continue if emerging market incomes can continue to converge on developed market levels.

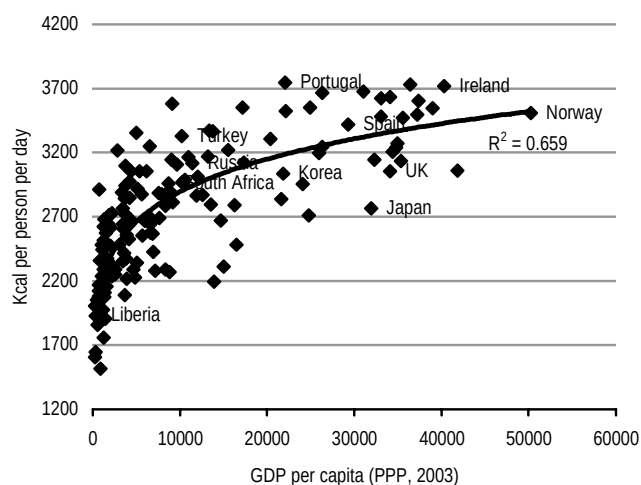
Figure 34: World calorie consumption per capita

Source: FAOSTAT, Credit Suisse research

Growth in calorie consumption is much stronger as real incomes move away from very low levels of GDP per capita. Calorie consumption is largely insensitive to changes in higher relative levels of income per capita. The corollary to this is that higher levels of GDP per capita in very low income economies have a more positive effect on global food consumption than commensurate falls in income in wealthy economies have a negative impact. Ultimately, this implies food is a particularly defensive sector in a recession focussed on redressing the largesse of developed markets.

Figure 33: India: % of population below the poverty line

Source: World Bank, Credit Suisse research

Figure 35: Calorie consumption per capita versus GDP per capita

Source: FAOSTAT, IMF, Credit Suisse research

More specific forecasts

If we assume that the relationship between GDP and calorie consumption per capita continues to hold, we can derive the calorie consumption per capita numbers for each market from the five-year GDP per capita forecasts in the latest IMF outlook. This implies growth in calorie consumption per capita of 0.5% pa over the next five years (from the end of 2008 through to 2013E). Moreover, practically half of the increase in global calorie consumption in the past ten years has come from greater meat consumption, according to the FAO. The rationale is obvious: higher incomes foster better nutrition and hence more protein in the diet. Feed conversion factors range from just less than 2:1 (for chickens), to roughly 5:1 (for pork) and 6:1 (for beef). If we conservatively assume that the weighted average feed conversion factor for all animal products is 3, then we can roughly estimate that growth in global food demand over the next five years comes to 2.2%:

Figure 36: Estimated CAGR in global food demand over the next five years

Factor	Calculation	Result
Population growth % pa		1.20% pa
Growth in calorie consumption (from vegetable products)	0.5% pa x 50% (ie, growth in calorie consumption implied by IMF GDP per capita forecasts multiplied by the contribution of vegetable products to calorie consumption growth)	0.25% pa
Growth in calorie consumption (from animal products)	0.5% pa x 50% x 3 (ie, growth in calorie consumption implied by IMF GDP per capita forecasts multiplied by the contribution of animal products to calorie consumption growth multiplied by the feed conversion factor of 3:1)	0.75% pa
Growth in global food demand		2.20% pa

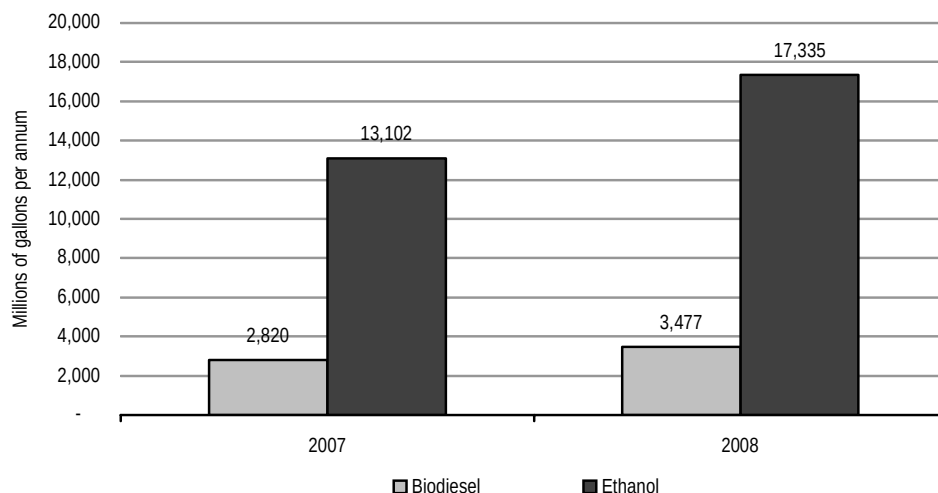
Source: UN, IMF, Credit Suisse estimates

There are, of course, major caveats with these estimates. Apart from the risk of further downgrades to the IMF GDP per capita forecasts, the contribution to growth in calorie consumption from animal products may well be under pressure in a continued recessionary environment. That said, we have been deliberately conservative with the feed conversion factor. From a longer-term perspective, assuming the relative ascendancy of the emerging markets continues, these forecasts are probably a little low: (a) Growth in calorie per capita is likely to be higher as the demographics of the emerging markets shift towards a larger working-age population; and (b) the contribution to calorie consumption growth from animal products is more likely to be in the 55% range that has been the trend of the past five years.

(3) The bio-fuel quandary: Can growth continue?

Global agricultural demand has clearly been boosted in recent years by substantial growth in bio-fuel production, both in the form of ethanol and biodiesel. On 2008 numbers, the global ethanol industry is roughly five times the size of the global bio-diesel industry in terms of gallons of production.

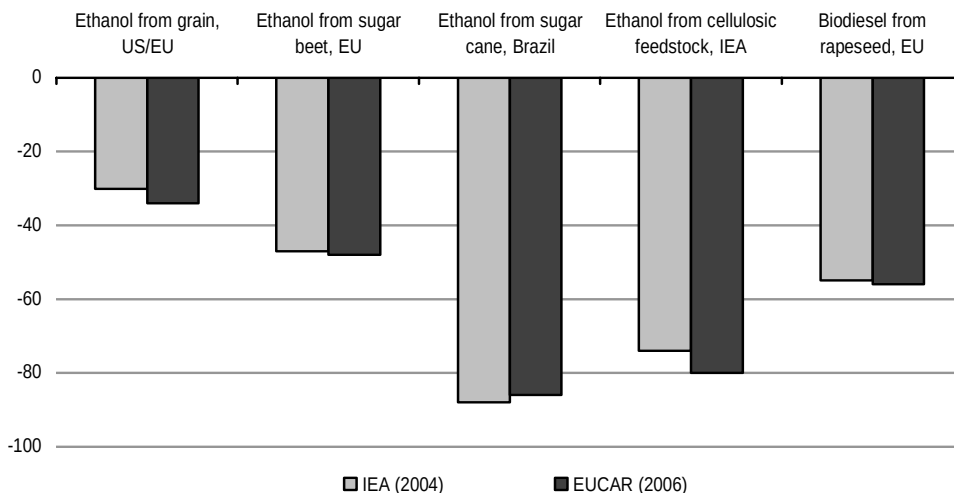
Figure 37: Global biodiesel and ethanol production (2008, millions of gallons)



Source: RFA, EBB, Credit Suisse research

The relative benefit of bio-fuels to GHG (green-house-gas) reduction is still hotly contested. For the record, the IPCC (Intergovernmental Panel on Climate Change) published the following chart in its Fourth Assessment Report in 2007. Among other things, this shows the greater relative contribution to GHG reduction of ethanol derived from Brazilian sugar cane than from corn in the US.

Figure 38: Reduction of well-to-wheels GHG emissions compared with conventionally fuelled vehicles



Source: IEA, 2004c; EUCAR/CONCAWE/JRC, 2006

However, a report published in the *Atmospheric Chemistry and Physics* journal postulated that the nitrogen fertiliser consumed in the production of biofuels released excessive levels of nitrous oxide (296 times more potent as a greenhouse gas than the carbon dioxide emissions that biofuels are designed to offset). The report concluded that for rapeseed

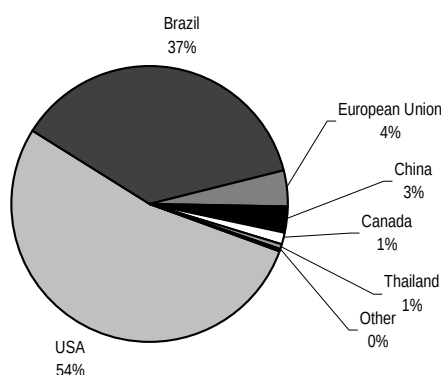
biodiesel the relative warming due to N₂O emissions is estimated at 1 to 1.7 times larger than the cooling effect due to saved fossil CO₂ emissions. For corn bioethanol, the figure is 0.9 to 1.5. Only cane sugar bioethanol, with a relative warming of 0.5 to 0.9, looks like a viable alternative to conventional fuels.

In the discussion below, we consider the relative merits of the ethanol and bio-diesel industries and the longer-term outlook for production for the key geographical producers. Regardless of the environmental arguments on the relative reduction (or contribution) to GHG emissions, it looks likely that Brazil and the US will continue to pursue ethanol as an alternative fuel source. The biodiesel industry in Europe, meanwhile, appears to be an increasingly marginal proposition.

The global ethanol industry

In 2008, 17.3bn gallons of ethanol were produced around the world. As the two markets with arguable sufficient scale and natural resource to support the industry in the long term, Brazil and the US dominated production.

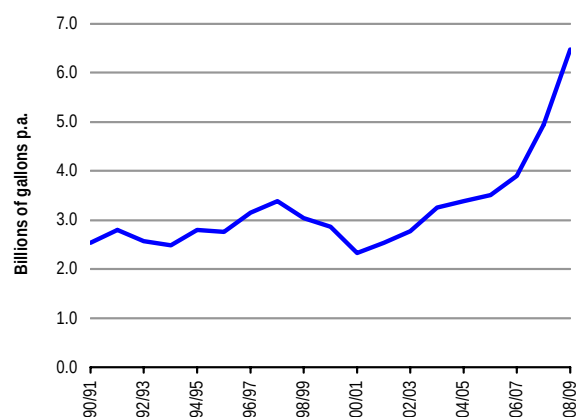
Figure 39: Global ethanol production, 2008



Source: Renewable Fuels Association, Credit Suisse research

Brazilian ethanol: Lowest cost and still breaking-even

In Brazil, the growth of the bio-fuel industry (which started as far back as 1975) has been a fairly straightforward economic equation: high (net) imported oil costs have been diluted by low-cost, home-grown, sugar-cane ethanol. Brazilian ethanol production has grown by 91% over the past five years to 6.4bn gallons in 2008, bolstered significantly by the widespread roll-out of flex-fuel vehicles in 2003. According to ANFAVEA (the Brazilian National Association of Vehicle Manufacturers), close to 90% of all vehicles sold in Brazil in 2008 were Flex-fuel. Flex-fuel vehicles can run on any combination of ethanol or gasohol, which is the 25/75% ethanol/gasoline blend (ie, according to the 25% minimum ethanol mandate). Flex-fuel vehicles have electronic sensors that detect the fuel blend mix and automatically adjust the engine combustion.

Figure 40: Brazilian ethanol production

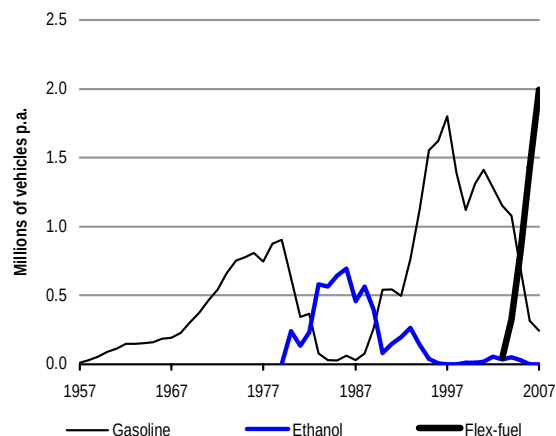
Source: Unica (Sugar Cane Industry Association, Brazil), Credit Suisse research

Cars get fewer miles from a gallon of ethanol than from a gallon of gasohol, so consumers operate by a rough rule of thumb: so long as ethanol's price is no more than 70% of gasoline's it makes sense to buy. With Brazilian ethanol retailing at R\$1.45, or 57% of the gasohol price, Brazilian ethanol producers are breaking even and consumers are still choosing to maximise the ethanol blend in their fuel. Even if Petrobras were to cut gasohol prices to R\$2.30 (which would more accurately reflect prevailing WTI prices at US\$60/bbl and a Real/US\$ exchange rate of R\$2.05), ethanol prices would still be below parity to oil, leaving even some space for ethanol prices to go up.

US ethanol: Propped up by legislation

In the US, the growth of the bio-fuel industry has been driven as much by political edicts as it has by short-term economics.

The main US legislation is encapsulated in the Energy Independence and Security Act of December 2007. This act specifically details targets (Renewable Fuel Standards, or RFS) for the provision of bio-fuels through to 2022. The act directs the EPA to promulgate regulations ensuring that applicable volumes of renewable fuel are sold or introduced annually into the US. The regulations apply to refiners, blenders and importers. The applicable volume for 2009 is set at 11.1bn gallons and ends at 36bn gallons in 2022.

Figure 41: Brazilian vehicle sales by fuel type

Source: National Association of Automotive Vehicle Manufacturers - ANFAVEA, Credit Suisse research

Figure 42: Applicable volumes of US ethanol production as mandated under the Renewable Fuel Standard (RFS)
billions of gallons pa

Year	Renewable Biofuel (1)	Advanced Biofuel (2)	Cellulosic Biofuel (3)	Biomass-based Diesel	Undifferentiated Advanced Biofuel	Total RFS
2008	9					9
2009	10.5	0.6		0.5	0.1	11.1
2010	12	0.95	0.1	0.65	0.2	12.95
2011	12.6	1.35	0.25	0.8	0.3	13.95
2012	13.2	2	0.5	1	0.5	15.2
2013	13.8	2.75	1		1.75	16.55
2014	14.4	3.75	1.75		2	18.15
2015	15	5.5	3		2.5	20.5
2016	15	7.25	4.25		3	22.25
2017	15	9	5.5		3.5	24
2018	15	11	7		4	26
2019	15	13	8.5		4.5	28
2020	15	15	10.5		4.5	30
2021	15	18	13.5		4.5	33
2022	15	21	16		5	36

Source: EPA

(1) Conventional or renewable biofuel is ethanol derived from corn starch.

(2) Advanced biofuels is renewable fuel other than ethanol derived from corn starch; is derived from renewable biomass and achieves a 50 percent GHG emissions reduction requirement. The definition of advanced biofuels include cellulosic biofuels and biomass-based diesel.

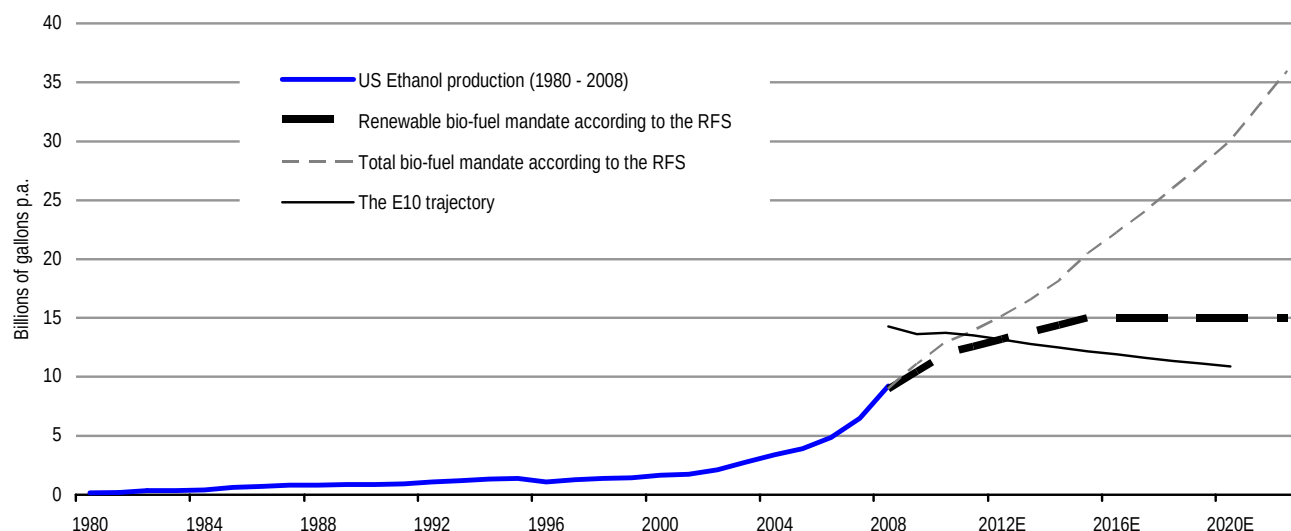
(3) Cellulosic biofuels is renewable fuel derived from any cellulose, hemicellulose, or lignin; is derived from renewable biomass and achieves a 60 percent GHG emission reduction requirement.

If these targets are adhered to, it implies some 6.1% compound annual growth in (conventional) US ethanol production over the next six years.

The problem, however, is that while the legislation is clear in detailing ethanol production, ethanol consumption remains a function of blending ratios and economics as well as car manufacturer warranties. Ethanol blending ratios are set by the EPA every year and require a certain percentage of ethanol to be blended with the gasoline pool (non-discretionary blending), while discretionary usage is purely a function of blending economics. In regards to automobiles, a large proportion of car engine warranties do not extend beyond the 10% blend limit (E10). A spokesman for General Motors Corp. recently commented that if the EPA allows higher ethanol blends, "we want to be sure that we're not on the hook for vehicles that end up having problems with higher blends". Hence, car owners are, in large part, unable and unwilling to use more than 10% ethanol in their fuel mix. For example, Toyota Motor Sales USA Inc. recalled 214,500 Lexus vehicles sold in the US earlier this year that were vulnerable to corrosion problems in their fuel-delivery pipes when some ethanol fuels were used. (Source: WSJ).

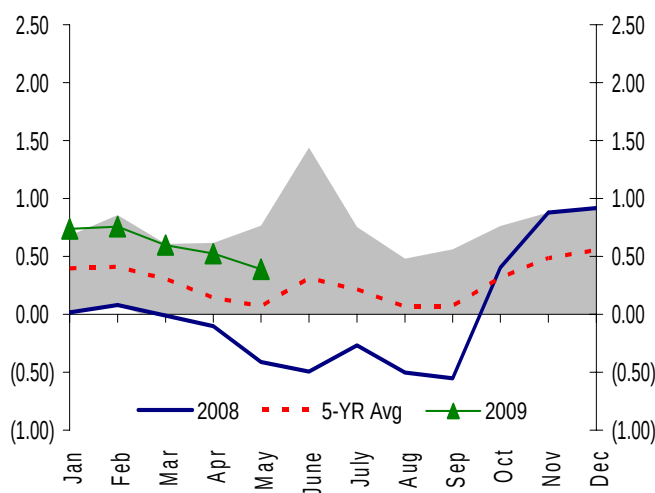
In regard to ethanol production in 2009, we believe it is likely to reach 7.5% of gasoline consumption but the economic slowdown and drives to improve fuel efficiency, such as the CAFÉ standard, are likely to mean the ratio of ethanol to gasoline consumption continues to increase with only limited growth in the ethanol industry.

Figure 43 summarises the disconnect in the legislative framework:

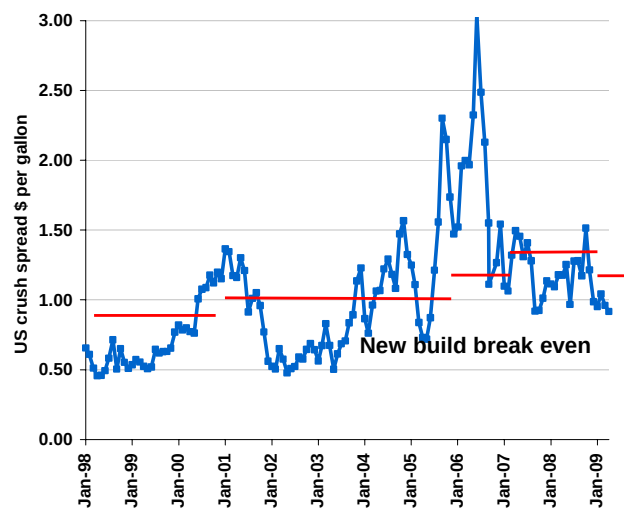
Figure 43: US ethanol production and the legislative framework

Source: Renewable Fuels Association, Credit Suisse estimates

Moreover, ethanol economics plunged last year as soaring corn prices and high natural gas prices took ethanol producer profits to zero, or below. We believe that the ethanol industry continues to operate at or near break-even levels given low ethanol prices and is also not being helped by the fact that ethanol is trading at a premium to gasoline, which effectively dampens demand for discretionary blending.

Figure 44: Ethanol—Gasoline spread (pre-tax credit)

Source: © Datastream International Limited ALL RIGHTS RESERVED, Credit Suisse research

Figure 45: Crush spreads—proxy for ethanol profitability

Source: Credit Suisse research

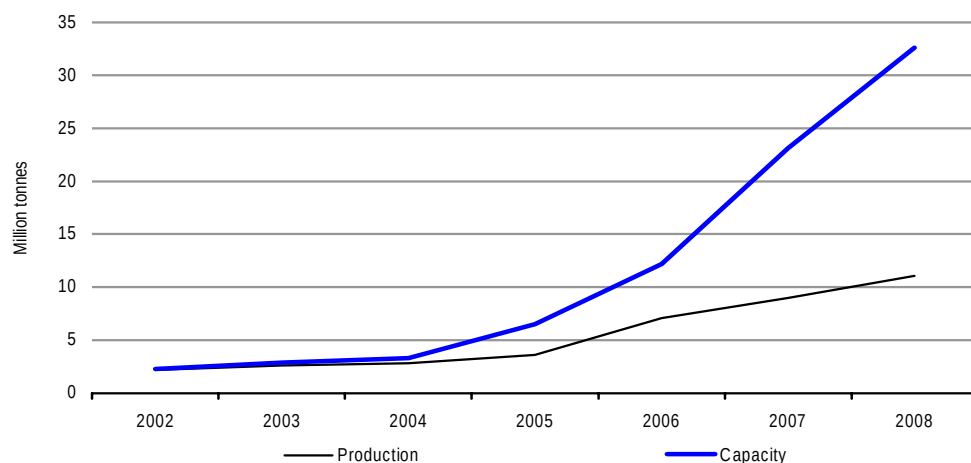
Nevertheless, we are still forecasting 3% CAGR in US ethanol production over the next six years. There are several reasons why:

- An estimated 21% of US ethanol production capacity is currently shut down according to ethanol producer Archer Daniels Midland. However, we think it unlikely that capacity is likely to be permanently mothballed given interest from the Integrated Oils and Independent Refiners sector (for instance, Valero's recent purchase of VSE's ethanol plants—780 MMGPY of capacity).

- Political rhetoric is not unsupportive. President Obama endorsed bio-fuel targets in campaign speeches and has reiterated his commitment to reducing dependence on imported oil since his inauguration.
- Ethanol producers have petitioned the government to increase the ethanol blend ratio from 10% to as high as 15%. The Environmental Protection Agency (EPA) and the US Department of Energy (DOE) have already been testing higher ethanol blends. The EPA is slated to rule on the request to increase the blend by 1 December 2009, but it could decide before that to increase the blend cap. In a statement, the agency said it will review the request and will act based on the best available science.
- US DOE tests on E10, E15 and E20 suggest road vehicles can cope with higher levels of ethanol input but that smaller engines (chain saws, trimmers, lawn mowers etc) saw considerable deterioration in performance when a greater proportion of ethanol was added to the blend. Meanwhile, Ford Motors has said it would endorse a 15% ethanol blend, although others in the automotive industry are not convinced that it would not damage vehicle engine parts.
- As Brazil has proved, flex-fuel vehicles (FFV) are an alternative that could be rapidly adopted. Already, almost 8m FFVs were on the road in the US as of 2008, according to the US DOE. The BioFuels Security Act is a proposed legislative bill intended to phase out current single-fuelled vehicles (fossil fuel vehicles) in favour of FFVs. Under this proposal, contemporary single-fuel vehicles would cease production in 2016. President Obama pledged during his electoral campaign to reduce oil consumption significantly, with measures that among others include mandating all new vehicles to have FFV capability by the end of 2013. Chrysler, General Motors and Ford have each pledged to manufacture 50% of their entire vehicle line as flex-fuel by 2012, if enough fuelling infrastructure develops (although it remains to be seen if this will unfold given the ongoing financing problems in the US autos sector).
- The oil price is currently close to US\$60/bbl. We forecast higher prices over the next couple of years. While Ethonomics looks bleak right now, we believe the supply/demand balance looks set to improve from here. Supply curtailment at planned (and existing) plants should help tighten the ethanol market balance and leave the US potentially undersupplied versus the RFS mandate (likely by the end of 2009) while more discretionary blending infrastructure should have rolled out across the country by year-end, helping support demand for ethanol.

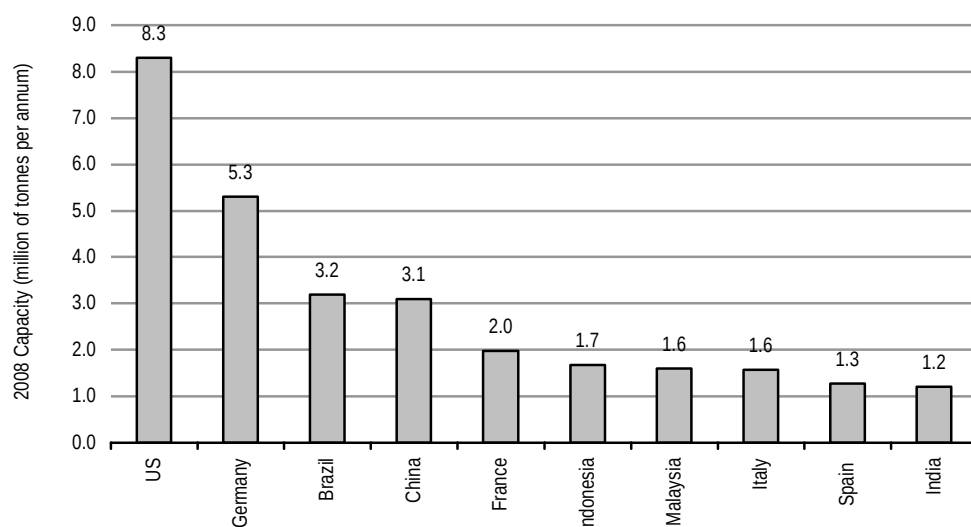
The global biodiesel Industry

The global biodiesel market is still relatively small compared with global ethanol production but, nevertheless, has grown rapidly over recent years. Capacity is up ten-fold and production has more than tripled in the past five years.

Figure 46: Global biodiesel capacity and production (millions of tonnes)

Source: *Biodiesel 2020: A global market survey*

Major global producers of biodiesel are the US, Germany, Brazil and China. In total, Europe accounted for 49% of capacity in 2008, according to the European Biodiesel Board.

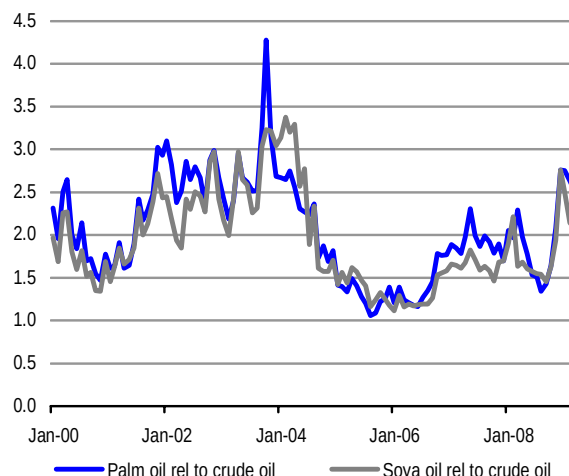
Figure 47: 2008 Biodiesel capacity (millions of tonnes) by market

Source: *European Biodiesel Board, Biodiesel magazine, Credit Suisse research*

Aside from the environmental concerns over the net GHG saving in first-generation biodiesel substitution, the major problem for biodiesel producers is that high relative feedstock costs have substantially undermined the profitability of the industry (even with government subsidisation). This has particularly been the case in Europe where much of first generation biodiesel production is sourced from relatively expensive rapeseed oil. High soy and palm oil prices also undermined profitability for Asian and Brazilian biodiesel producers.

Figure 48: Palm, soya and crude oil prices

Source: © Datastream International Limited ALL RIGHTS RESERVED, Credit Suisse research

Figure 49: Palm and soya relative to crude oil prices

Source: © Datastream International Limited ALL RIGHTS RESERVED, Credit Suisse research

Biodiesel: Low growth or no growth?

- Further growth in the European biodiesel market looks muted, even in spite of the European mandated target of 10% of total fuel consumption by 2020 from alternative energy sources:
 - Britain has lodged major objections to the targets.
 - In September 2008, a committee of the European Parliament voted to limit crop-sourced biofuels to 6% (ie, 60% of the 10% target). The European Commission has been tasked with making proposals by 2010 to limit indirect land-use change; their plans include promoting biofuels from non-food sources.
 - Germany has scaled back biodiesel blending targets from the start of January 2009 to 5.25% from 6.25% previously. 6.25% is now planned for 1 January 2010. Germany has also raised taxes on biodiesel products, bringing consumer prices more into line with fossil fuel prices.
 - Higher taxes in Germany have meant a decline in biodiesel consumption. Consumption has fallen from 3.8m tonnes in 2007, to an estimated 3.1m tonnes in 2008 and with an expected 2.7m tonnes in 2009, according to German oilseeds association UFOP (Union zur Förderung von Oel- und Proteinpflanzen e. V.).
- Palm-oil prospects look better than rapeseed:
 - Since high relative feedstocks (rapeseed) have been a major problem for European biodiesel producers, there has been a shift towards palm-oil imports.
 - The use of soybean and palm oil is limited by the EU biodiesel standard DIN EN 14214. Soybean-based biodiesel does not comply with the iodine value prescribed by this standard (The iodine value functions as a measure for oxidation stability). Palm oil-based biodiesel arguably does not work consistently enough in the cold climate of northern Europe. However, it is possible to meet the standard by using a feedstock mix of rapeseed oil, soybean oil, and palm oil.

- EU imports of palm oil are currently increasing and could rise sharply this year, according to Hamburg-based oilseeds analysts Oil World. "We consider it possible that one to 1.1 million tonnes of palm oil will be used for biofuels in the European Union in calendar year 2009, compared with 0.8 million tonne in 2008," Oil World said.
- Palm oil use for biofuels has been controversial in Europe because of allegations tropical rain forests are being destroyed for palm production. However, the first shipment of palm oil certified as coming from sustainable production under a new programme arrived in Europe in November 2008.
- A study conducted by University College Cork in Ireland has concluded that it is more environmentally friendly to import palm oil from Thailand to produce biodiesel in Ireland than to produce biodiesel from indigenous Irish rape seed.
- US biodiesel exports are suffering owing to the change in duties.
 - The USDA forecasts minimal growth in the use of edible oils for biodiesel production over the next ten years. More imminently, the USDA forecasts US consumption of soybean oil sharply lower in 2009. Specifically, soybean oil demand for the production of methyl esters (biodiesel) fell 53% y/y in January this year.
 - Partly, this fall in demand reflects changes in the so-called 'splash and dash' tax loophole. In 2008, European biodiesel producers lodged a complaint with the European Commission that charged US biodiesel exports were unfairly subsidised. In FY 2008, US exports of biodiesel to the EU (including the re-exports of biodiesel imports, mostly from Brazil) totalled about 2.1m metric tons—up nearly four-fold from 2007. The US industry denies the allegations of dumping and attributes the sharp increase in Europe's imports to its own higher mandated use and taxes for biofuel, the value of the euro and its feedstock costs. Nevertheless, the European Commission found injury to domestic producers and decided in March 2009 to impose anti-dumping duties on US firms that export biodiesel. They range from 26 to 41 euros per hundred kilograms (approximately US\$1.09–US\$1.72 per gallon). The provisional duty began on 13 March with a term of six months. After that, European governments will determine whether to enact a definitive duty, which could last for five years. As a result, US exports and production of biodiesel are likely to contract substantially.
 - US inventories of soybean oil are already piling up due to weakening demand. Oil stocks at the end of January (£2.9bn) were up considerably from December (£2.65bn).

Best and worst-case scenarios

On 2008 numbers, we estimate that biofuel production in the major biofuel producing countries (Argentina, Brazil, Canada, China, EU and the US) accounted for roughly 2.6% of global arable acreage.

Figure 50: Biofuel production and share of global arable acreage in 2008

	Biofuel production (millions of gallons)		Biofuel feedstocks		Biofuel yield (gallons/acre)		Implied feedstock area (millions of acres)		Total arable land (millions of acres)	Biofuel share (% of total arable acreage)		
	Ethanol	Bio-diesel	Ethanol	Bio-diesel	Ethanol	Bio-diesel	Ethanol	Bio-diesel		Ethanol	Bio-diesel	Total
Argentina	-	150	-	Soy (100%)	-	65	-	2.3	70	0.1		0.1
Brazil	6,472	317	Sugar cane (100%)	Soy (70%)	800	65	8.1	3.4	146	0.2	0.1	0.3
Canada	238	50	Corn (70%)	-	370	-	0.4	-	113	0.0		0.0
			Wheat (30%)	-	115	-	0.6	-				
China	502	300	Corn (70%)	-	215	-	1.6	-	354	0.1		0.1
			Wheat (30%)	-	185	-	0.8	-				
EU	734	1,707	Wheat (40%)	Rapeseed (65%)	185	140	1.6	7.9	281	0.1	0.3	0.4
			Sugarbeet (30%)	Soy (16%)	550	65	0.4	4.2				
US	9,237	700	Corn (100%)	Soy (75%)	180	65	51.3	8.1	431	1.5	0.2	1.7
Sub-total	17,182	3,224					65	26	1,395			
Global total	17,335	3,477							3,512	1.8	0.7	2.6

Source: ERS/USDA, FAO, European Biodiesel Board, Renewable Fuels Association, WRI, Credit Suisse estimates

Percentages indicate rough shares of feedstock in ethanol and biodiesel production.

Implied area estimates are adjusted for share of biofuel production from the major feedstocks indicated.

The best-case scenario—for the agri-producers—is that the respective economic regions stick to their targets and continue to grow their biofuel industries. In Appendix 1, we detail a fuller list of biofuel targets around the world. Although numerous targets are still non-mandatory, it is nevertheless impressive how many countries are aiming to use biofuels to substitute fossil fuels. On our calculations (assuming prevailing yields are maintained over the medium term), hitting the targets in the six largest producing countries (Argentina, Brazil, Canada, China, the EU and the US) would imply roughly 4.6% of total arable acreage used in biofuel production or an additional 40bps onto agri-demand over the next five years.

Figure 51: Best-case scenario? Bio-fuel production targets and projected share of global arable acreage

	Biofuel production target (millions of gallons)		Target and timeframe	Biofuel share (% of total arable acreage)		
	Ethanol	Bio-diesel		Ethanol	Bio-diesel	Total
Argentina	65	300	5% ethanol by 2010.	0.0	0.1	0.1
Brazil	8,260	650	25% minimum ethanol blend and assuming 4% CAGR in fuel over the next 5 years. 5% biodiesel by 2010.	0.3	0.2	0.5
Canada	539	250	5% ethanol by 2010. 2% renewable content in diesel fuel and heating oil by 2012.	0.1	0.1	0.1
China	1,304	300	10% by 2020.	0.2		0.2
EU	3,000	3,600	6% of fuel from conventional bio-fuel by 2020. (The other 4% is assumed to come from non-food competing sources.)	0.2	0.7	1.0
US	15,000	1,000	15bn gallons in conventional ethanol by 2014.	2.4	0.3	2.7
Sub-total	28,168	6,100				
Global total				3.2	1.5	4.6

Source: ERS/USDA, FAO, European Biodiesel Board, Renewable Fuels Association, WRI, Credit Suisse estimates

However, this looks unlikely, particularly in Europe. The European biodiesel industry is clearly struggling from an economic perspective, is questionable from an environmental perspective and is losing momentum from a political perspective. For us, the worst-case scenario is that the European biodiesel industry is sidelined in favour of other alternative

energies (electric cars, for instance). This would also affect US (and Brazilian) biodiesel production. The US exported 1.5m tons of biodiesel into Europe in 2008 or roughly 67% of total US production.

If we take a worst-case scenario and assume that the European biodiesel industry is completely closed down in the next five years, but that the Brazilian and US ethanol industries continue to grow, the contribution to agri-demand is clearly significantly reduced. However, it is still a small positive. In this scenario, the biofuel share of global arable acreage would come to just 3.2% (compared with the current share of 2%) implying an additional 10bps pa on global agri-demand.

Figure 52: Worst-case scenario? Bio-fuel production targets and projected share of global arable acreage

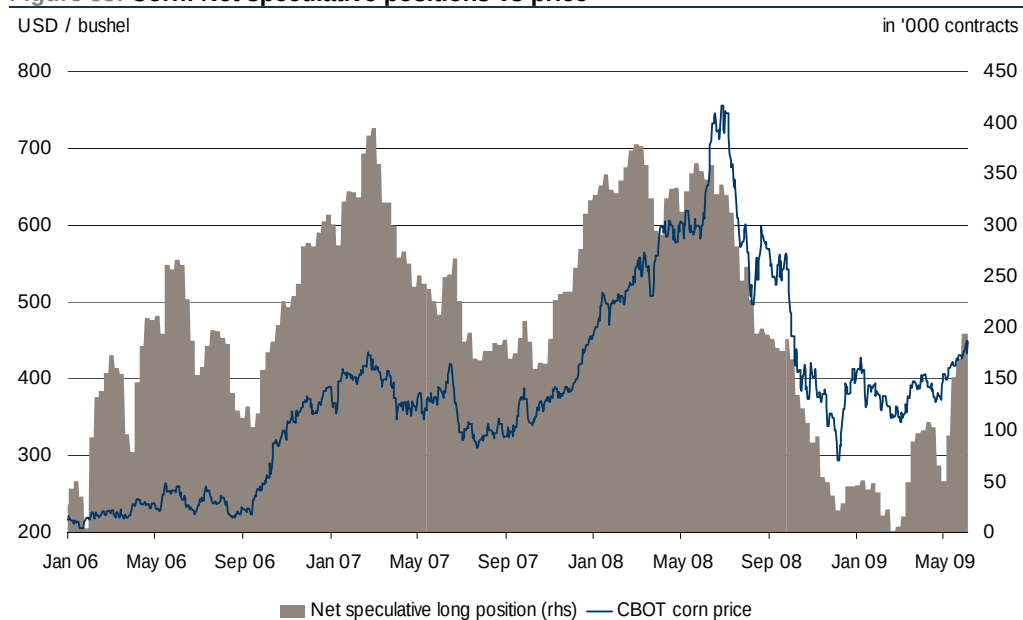
	Biofuel production target (millions of gallons)		Target and timeframe	Biofuel share (% of total arable acreage)		
	Ethanol	Bio-diesel		Ethanol	Bio-diesel	Total
Argentina	-	150	No growth	0.1	0.1	0.1
Brazil	8,260	650	25% minimum ethanol blend and assuming 4% CAGR in fuel over the next 5 years. 5% biodiesel by 2010.	0.3	0.2	0.5
Canada	238	50	No growth	0.0	0.0	0.0
China	502	300	No growth	0.1	0.0	0.1
EU	734		No growth in ethanol and bio-diesel industry shut-down.	0.1	0.0	0.1
US	15,000	400	15bn gallons in conventional ethanol by 2014.	2.4	0.1	2.5
Sub-total	24,734	1,550				
Global total				2.8	0.4	3.2

Source: ERS/USDA, FAO, European Biodiesel Board, Renewable Fuels Association, WRI, Credit Suisse estimates

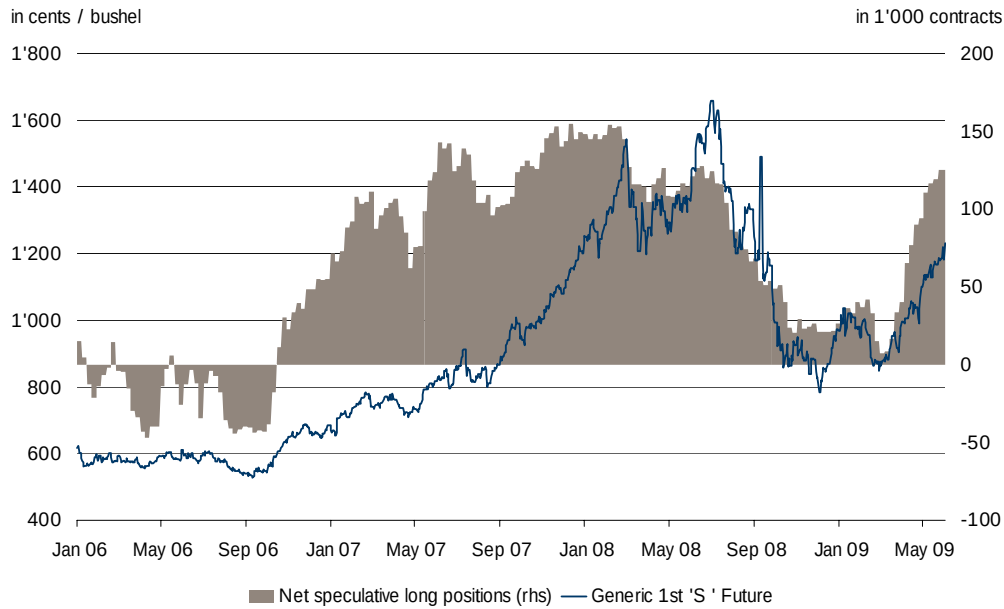
(4) Market speculation

Finally, regarding market speculation, involvement in the corn is still low compared with the past three years. Speculative positions in soy and sugar have, however, been substantially re-built.

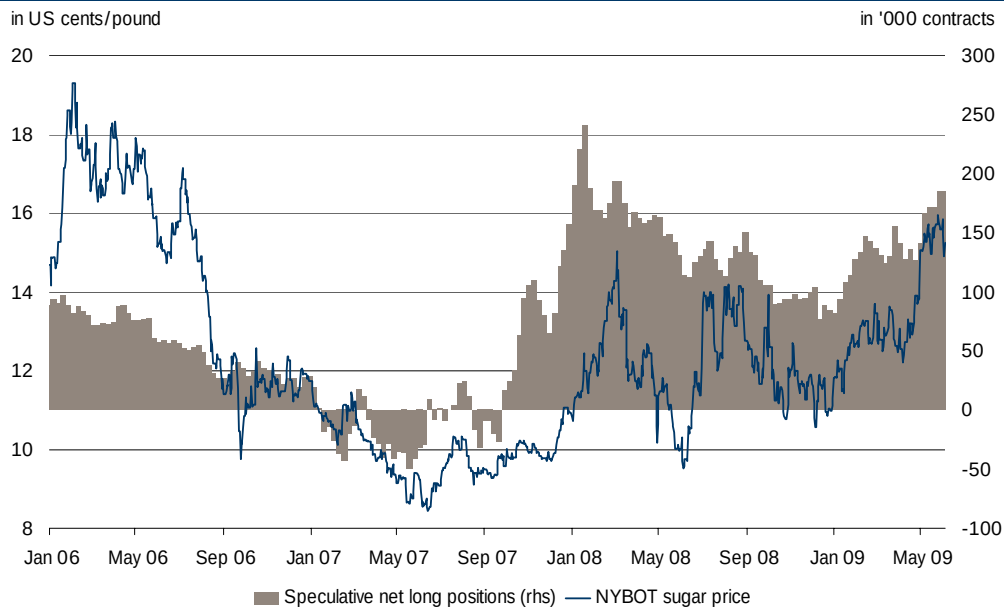
Figure 53: Corn: Net speculative positions vs price



Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse research

Figure 54: Soy: Net speculative positions vs price

Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse research

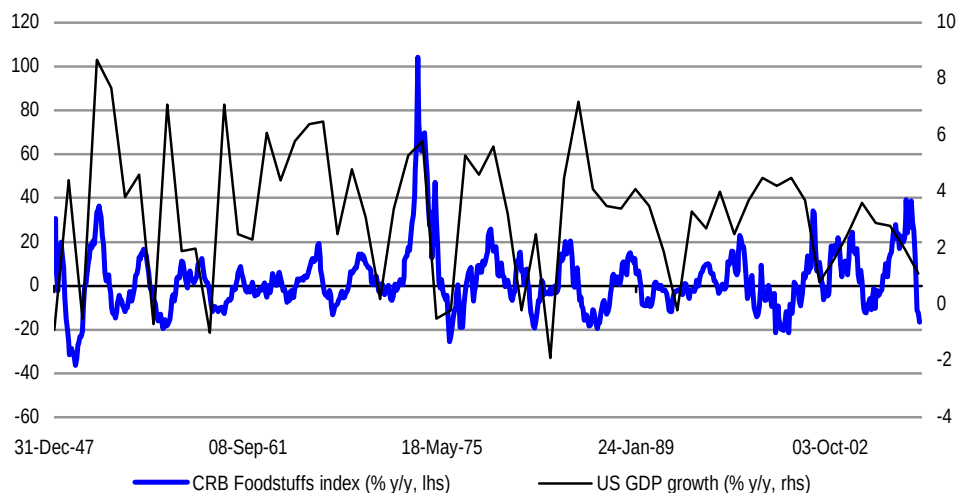
Figure 55: Sugar: Net speculative positions vs price

Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse research

Prices: Risks skewed to the upside?

It is the supply/demand balance that is the ultimate driver in agri-prices. As we illustrate in Figure 56 and Figure 57, agri prices have limited historical correlation with the global growth cycle . . .

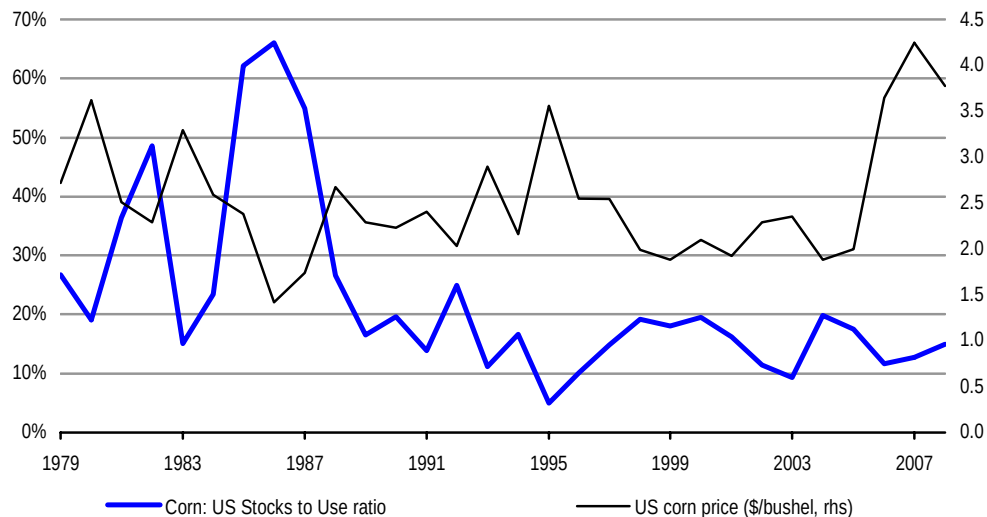
Figure 56: CRB Foodstuffs versus US real GDP growth (% year on year)



Source: CRB, BEA, Credit Suisse research

. . . but they tend to fit well with the inverse of stock levels i.e., the supply/demand balance.

Figure 57: US corn prices versus corn stocks to use ratio: a mirror image



Source: USDA, © Datastream International Limited ALL RIGHTS RESERVED, Credit Suisse research

As above, our base case is for medium-term growth in supply of roughly 2.4% pa. (1.0% from acreage growth and 1.4% from productivity growth). On the demand side, we expect growth of 2.3–2.6% (2.2% pa growth in food demand plus 0.1–0.4% growth in bio-fuel demand for agri-products). However, the risks to our demand-side forecasts are arguably to the upside (as we have been deliberately conservative in estimating biofuel demand) and the risks to our supply-side forecasts are probably to the downside (growth in arable acreage has only averaged 0.2% pa over the past 44 years, hence it will be a considerable improvement if our forecast of 1.0% pa is realised). Consequently, this suggests the risks, on balance, to agricultural prices are to the upside.

Finally, it is not the case that 'a rising tide lifts all boats' in this sector. According to classical economic theory, the result of optimisation and market processes should be that every commodity, except for transport costs, is sold for the same price everywhere. However, in practice, since the diffusion of information is far from perfect and a lot of land is inappropriate for the cultivation of certain types of crops, the correlation between key traded soft commodities is pretty weak.

Figure 58: Soft commodity price correlation (based on weekly percentage changes since 1991)

	Softs	Grains	Soybean Oil	Corn	Coffee	Cotton	Soybean	Sugar	Wheat	Cocoa
Softs	1.0	0.31	0.25	0.26	0.74	0.48	0.29	0.52	0.23	0.47
Grains		1.00	0.68	0.90	0.13	0.29	0.88	0.21	0.74	0.21
Soybean Oil			1.00	0.53	0.11	0.27	0.76	0.16	0.34	0.17
Corn				1.00	0.11	0.23	0.69	0.18	0.60	0.19
Coffee					1.00	0.08	0.12	0.13	0.10	0.15
Cotton						1.00	0.29	0.07	0.21	0.16
Soybean							1.00	0.18	0.41	0.20
Sugar								1.00	0.19	0.17
Wheat									1.00	0.11
Cocoa										1.00

Source: DJ AIG, Credit Suisse research

There is a reasonable correlation between the grain commodities (reflecting the higher degree of substitutability in the planting decision) but the grains are generally uncorrelated with cotton, sugar, coffee and cocoa.

We are not ultimately aiming to provide exact forecasts for individual soft commodities. Suffice to say, from a top-down perspective, our thesis (demand growth driven by higher emerging market and bio-fuel consumption) probably fits better with superior returns for the grain commodities and sugar relative to the other soft commodities.

The bottom-up picture

In Figure 59 we show aggregate consensus earnings growth forecasts for two broad groups of stocks related to agricultural output:

- (1) Agricultural productivity: providers of irrigation, fertiliser, genetic technology and agri machinery and equipment.
- (2) The food chain: from crop producers and processors to food retailers.

The forecasts generally corroborate our view of greater weakness on the supply-side than on the demand-side. However, we suspect earnings projections are yet fully to reflect the prevailing weak demand environment. More specifically, the forecasts suggest a particularly bad year in 2009 for companies involved in improving agricultural productivity. For instance, the agricultural machinery sector is forecast, on consensus numbers, to see falls in profitability of close to 30% in 2009 and a further decline of 5% in 2010. The fertiliser sector suffers similar sharp declines in profitability this year on consensus estimates.

Figure 59: Consensus EBITDA and EPS growth forecasts by sector

		EBITDA growth		EPS growth	
		2009E	2010E	2009E	2010E
Agricultural productivity	Agricultural machinery	-27.3%	-5.3%	-40.1%	-4.6%
	Crop protection and seed supply*	-18.9%	12.8%	-26.8%	21.0%
	Fertilisers	-11.8%	13.4%	-17.2%	17.5%
The food chain	Crop producers	-10.9%	0.3%	-7.3%	1.1%
	Meat & Dairy processors	-0.6%	30.5%	NA	97.9%
	Food processors	-2.1%	6.8%	-19.2%	7.9%
	Food retail	4.6%	5.4%	3.6%	6.3%

**Note: crop protection and seed supply is, in many instances, less than 50% of total earnings at any individual company. Hence, these aggregates tend to disguise the stronger earnings growth that these divisions appear to be currently enjoying. See below.*

Source: IBES, Credit Suisse research

From a demand-side perspective, the consensus forecasts for the food-chain related sectors appear a little too sanguine given the projected slump in world GDP growth:

- (a) Prevailing agri prices are some 20% below the average over 2008 (according to the CRB). Coupled with volume weakness this implies somewhat weaker EBITDA growth than the -11% currently incorporated into consensus forecasts for the crop producers.
- (b) Similarly, EBITDA growth for the aggregate global meat and dairy sector of -0.6% in 2009 seems optimistic in the face of weak sales volumes and livestock prices that are some 30% below the average for 2008. Consensus EBITDA growth of 30% in 2010 also looks optimistic, given the slow recovery embodied in GDP growth forecasts.
- (c) -2.1% EBITDA growth, on consensus numbers, in 2009 for the food processing sector is probably not too far out in our view. As a rough proxy for pricing in the sector, finished consumer goods prices in the US (a component of the PPI index) are down 2.4% compared with the average for 2008.

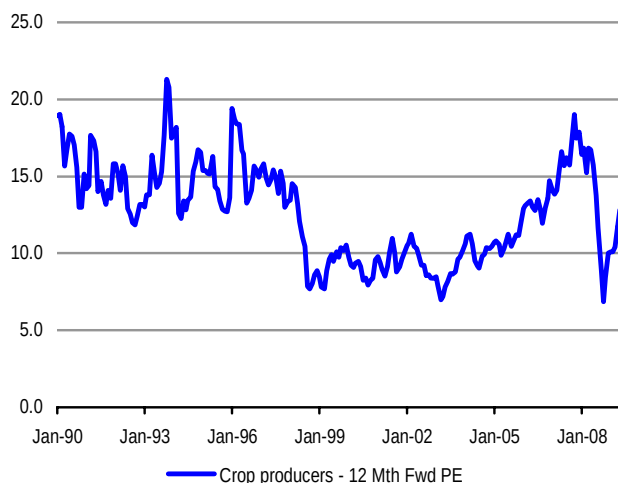
In the discussion below, we look at each sub-sector in turn. A recurring theme is the degree of corporate indebtedness. Across the board, highly indebted companies (often unlisted) are struggling to survive in the weak demand environment. This is benefiting more lowly geared peers who have been able to increase market share, in some instances, to significant effect. One example is Marfrig (Brazilian beef producer) whose sales are up 9% in Q1 this year (according to its published results) despite an overall decline in Brazilian beef exports of 34%.

(1) The food chain

(a) Crop producers and processors

In aggregate, the sector is trading close to its average of the past 20 years (12.7x 12 month forward consensus earnings), but is still marginally cheap (against history) on a dividend yield basis.

Figure 60: Global crop producers: Aggregate 12-month forward P/E



Source: IBES, Credit Suisse research

Figure 61: Global crop producers: Aggregate trailing DY



Source: Credit Suisse research

Despite the numerous reports of financing problems within the farming community, gearing in the listed sector is reasonably low, especially in the major emerging market stocks. From a top-down perspective, we believe this is the sector most likely to benefit from higher agricultural prices generated from supply-side constraints, particularly if the listed sector can gain market share at the expense of smaller (unlisted) producers facing more significant financing difficulties.

We highlight:

Bunge: Bunge is the world's leading oilseed processor with a diversified global asset footprint in North and South America and Eastern and Western Europe. As the leading soy processor and fertiliser producer in Brazil, we think Bunge is well-positioned to capitalise on the long-term agricultural expansion in the region. Bunge's normalised profits are 40% from agribusiness (including crop financing, crop origination, processing and transporting grain), 40% from Brazilian fertiliser, and 20% from food products. The weakest element in the Bunge stable for now is the fertiliser business. Steep price and volume declines in Brazilian fertiliser sales took their toll on Q1 results (a disappointing EPS of -\$1.27). This year, in an environment where farmers appear to be waiting until the last minute before committing to fertiliser purchases, we believe Bunge's access to domestic phosphate mining capacity will be a competitive advantage. There is a 45–60 day time lag to receive imported product. We rate the stock Neutral with a TP of \$50.

SLC Agrícola: SLC Agrícola is one of Brazil's largest cotton, soybean and corn producers. It has approximately 135,000 hectares of owned land. Recently reported Q1 09 numbers illustrate continued robust top-line growth (net revenues up 107% y/y, EBITDA up 47% y/y), albeit higher costs ate into net income (-9% y/y). We continue to believe SLC is in a very good position to take advantage of the current difficult credit environment and, therefore, continue to buy land at lower prices. We rate the stock Neutral with a TP of \$8.

BrasilAgro: BrasilAgro was founded in 2005. Its stated aims are to: (i) identify, acquire and lease rural properties; and (ii) add market value, producing a diversified range of agricultural products through the use of high technologies. In our view, BrasilAgro is one way that equity investors can participate in the significant potential for long-term land price

appreciation in Brazil. As Credit Suisse analyst, Luiz Campos, points out, productive land in Brazil continues to trade at a much lower multiple than land in the US and Argentina. Rising agricultural prices, greater global trade and investment in Brazil's infrastructure should see this gap close over the medium term. BrasilAgro is trading at a fairly steep (-62%) discount to our estimate of NAV. We rate the stock Neutral with a TP of \$6.

The credit crunch also looks set to hurt the expansion plans of oil palm plantations, especially for start-ups or smallholders. Empirical data tells us that the recession will result in slower new planting. For example, the 1985 recession in Malaysia led to a 23% drop in new planting in 1986 and a 37% drop in 1987. The 1998 recession and the sharp drop in palm oil prices in 1999 led to a 73% drop in new planting in 2000. As oil palms are perennial trees (in contrast to soy and rape, which are annual crops), any fall in planting in 2008/2009 will only hurt supply in year 2011/2012, as oil palms take three years to mature and fruit. The new supply of palm oil in 2009 would be a result of new planting in year 2006, which we believe was healthy, as palm oil prices were then at a robust US\$500 per tonne.

Vegetable oil prices, including palm oil and soybean oil, have rebounded very strongly, as much as 90%, from their lows of October 2008. The bullish factors include: (1) Malaysian palm oil inventories are low; (2) soybean supply is likely to fall due to the droughts in Argentina while the USDA Planting Intentions Survey concluded that soybean acreage in the US will come in at 76 million acres, below market expectations of 79 million acres; and (3) Chinese palm oil purchases have picked up.

The bearish factors include: (1) palm oil production is likely to rise significantly in 2H09, because of La Niña weakening, the reversal of tree stress and seasonally high production period; (2) although soybean planting in the US is lower than the market had expected, the acreage is still a record high. The USDA has forecast a 2009–10 stock-to-use ratio of 11.6% versus 6.2% in 2008–09. A rise in the soybean stock/use ratio may cap any major rally in edible oil prices. (3) We expect the export momentum to India should slow significantly; and (3) soybean oil's premium over palm oil reached a peak of US\$500 per tonne in September 2008, but this gap has narrowed to US\$116 per tonne, the lowest for 20 months.

We prefer the Indonesian plantation companies such as **Indofood Agri (TP S\$1.15)**, and **London Sumatra (TP IDR 5,400)**—both **Outperform**, over **Wilmar (Neutral, TP S\$4.54)**, **Kuala Lumpur Kepong (TP MYR 11.80)**, **Sime Darby (TP MYR 5.30)** and **IOI Corporation (TP MYR 3.70)**—all **Underperform**. The Malaysian plantation companies are now at a 41% premium to their Indonesian peers based on 2009E P/E. Our top pick remains **Indofood Agri**, trading at an attractive FY2009E P/E of 8.5x, with the most favourable valuations relative to its peers. Indofood Agri is a vertically integrated palm oil plantation company, with one of the largest land banks among the Indonesian palm oil producers. Being a majority owner of London Sumatra, we think Indofood Agri also stands to benefit from the fundamental recovery of London Sumatra on the back of the company's restructuring programme.

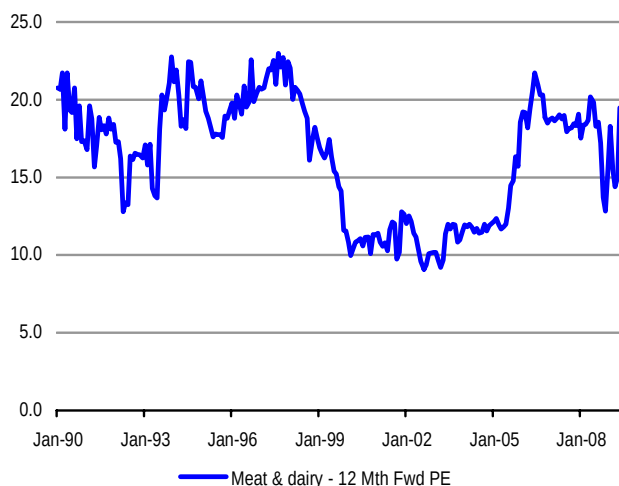
Figure 62: Listed crop producers and processors

		Main output	Mkt cap (US\$m)	Rating	2009E P/E (x)	2009E DY (%)
Archer-Daniels-Midland	US	Corn and oilseeds	17,695	N	8.4	1.9
Corn Products Intl	US	Corn	1,970	NR	14.6	2.3
Suedzucker AG	Germany	Sugar	3,917	NR	15.4	3.1
Bunge	NY listed, Brazilian prodn	Oilseed	8,721	N	14.0	1.1
Tongaat Hullet*	South Africa	Sugar	988	N	14.3	4.1
Illovo Sugar*	South Africa	Sugar	1,166	O	12.0	4.1
Sime Darby	Malaysia	Palm oil	12,407	U	20.7	3.2
KL Kepong	Malaysia	Palm oil	3,520	U	17.2	3.2
IOI Corp	Malaysia	Palm oil	8,095	U	21.3	2.3
SLC Agricola	Brazil	Cotton, Soy and corn	780	O	22.2	0.1
São Martinho	Brazil	Sugar	956	N	46.9	0.5
Brasilagro	Brazil	Agricultural property	232	N	NA	NA
Astra Agro Lestari	Indonesia	Palm oil	2,724	N	15.4	3.8
Indofood Agri	Indonesia, Singapore listed	Palm oil	1,353	O	14.2	0.0
London Sumatra	Indonesia	Palm oil	763	O	13.6	1.6
Wilmar	Indonesia, Singapore listed	Palm oil	22,070	N	15.7	1.2
Chaoda Modern Agriculture	HK listed, China based	Crops and livestock	1,654	NR	3.7	1.4
China Green Ltd	HK listed, China based	Crops and livestock	808	NR	10.9	2.1
Global Bio-Chem	HK listed, China based	Corn	434	NR	7.3	1.6
China Agri	China	Diversified grains and crops	2,528	NR	10.9	2.1

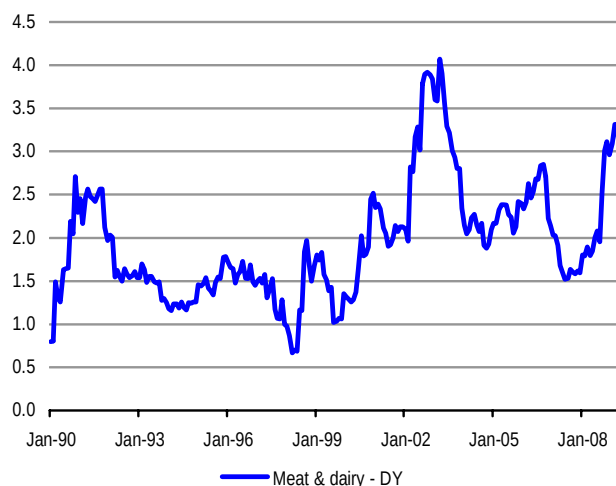
Based on prices as of 4 June 2009 *Denotes a Credit Suisse Standard Securities covered company,
Source: I/B/E/S consensus estimates, Credit Suisse research, Credit Suisse Standard Securities (CSSS) research

(b) Meat/dairy producers

On a yield basis the global meat and dairy sector is close to previous valuation lows, although we suspect forward earnings projections have more downgrades to assimilate.

Figure 63: Global meat and dairy sector: Aggregate 12-month forward P/E

Source: IBES, Credit Suisse research

Figure 64: Global meat and dairy sector: Aggregate trailing DY

Source: Credit Suisse research

On a long-term view, we remain relatively more optimistic on those stocks that offer greater exposure to the pent-up demand for meat and dairy products in the emerging markets. We hold this view particularly about stocks with low debt ratios that can take advantage of market share gains as weaker, more leveraged, competition suffers in the difficult prevailing demand environment.

Our top picks in the sector are in Brazil and (longer-term) we also see potential in China.

In Brazil, the main listed meat producers and processors ship a significant quantity of their product to export markets as well as supplying domestic demand. Exports have clearly been hard hit by the prevailing recession but now be at (or just past) the worst. Brazilian beef exports appear to have troughed in January and data on poultry exports showed a small pick-up in March. We believe that the main import markets have already adjusted their inventories for a tougher environment. In our view, this puts them in a safer position to face market uncertainty going forward, suggesting a potential pick-up in purchasing orders. In addition, we believe this inventory adjustment could support export prices, reducing investor concerns of continued deterioration in profitability in export markets. We reiterate our Outperform rating on **Perdigao** (TP \$23.60), since we believe it is the best positioned Brazilian food company to face adversities, with low corporate debt compared with its peers. In addition, we believe current valuations reflect low demand expectations when there is scope for market share gains in export markets at the expense of smaller (and more leveraged) competitors. We rate **Sadia** Underperform (TP \$2.30) mainly on the back of its current financial position, which could force the company to adopt more aggressive pricing policies in order to generate cash (at the expense of profitability). Time is probably running out for Sadia: 60% of its debt is due in the short term (concentrated in 3Q09).

Marfrig (a major Brazilian beef producer) is clearly benefiting from market share gains brought about by financial disruption at the competition. Brazilian Foreign Trade Bureau (SECEX) export figures showed beef sales 34% lower y/y in Q1 (volumes and average US dollar prices were down c.19% y/y). However, Marfrig's beef sales were up 9% y/y in Q1 (US dollar terms) and volumes increased 15% y/y (its average US dollar prices were down only 5% y/y). In our view, these figures reflect not only the company's more selective use of its wide distribution channel to reach the most profitable clients, but also the problems faced by the competition—six of which have gone bankrupt—following the depreciation of the BRL, weakening international demand and falling cattle prices. We rate Marfrig Outperform with a \$8.20 TP.

We also highlight:

Two Chinese based stocks: **People's Food Holding and China Yurun Food Group**. Recent results illustrate current demand weakness: People's Food saw sales decline by 15% y/y in Q1 2009. However, both offer relatively low levels of indebtedness compared to global peers: People's Food is backed by S\$0.23 net cash per share and Yurun has estimated 2009 net debt to equity of just 15%. For now, we rate both Neutral with S\$0.69 and HK\$8.57 respective TPs as profitability in the upstream pork segment continues to be eroded by falling hog prices.

Figure 65: Meat and dairy producers

Stock	Listing	Main output	Mkt Cap (US\$m)	Rating	2009E P/E (x)	2009E DY (%)
Smithfield Foods	US	Hog and beef processor	1,785	N	17.6	NA
Tyson Foods	US	Meat processor	4,968	N	1195.6	1.2
Australian Agricultural Co	AUS	Cattle producer	341	NR	NA	NA
Nippon Meat Packers	JAP	Meat processor	2,802	N	26.6	1.4
Saputo Inc	CAN	Dairy products	4,073	NR	13.7	2.6
Dean Foods	US	Dairy products	3,429	N	11.3	NA
Maple Leaf Foods Inc	CAN	Meat processor	992	NR	18.9	NA
Campofrio Alimentacion	SPA	Meat processor	925	NR	13.5	2.8
Itoham Foods Inc	JAP	Meat processor	709	N	34.1	0.9
Rainbow chicken	SAF	Poultry	610	NR	11.6	4.1
Astral Foods	SAF	Poultry	524	O	8.3	7.3
Sadia	BRA	Meat processor	1,654	U	16.0	2.3
Perdigao	BRA	Meat processor	4,009	O	18.8	1.6
Marfrig	BRA	Meat processor	1,940	O	11.2	1.7
China Yurun Food Group	CHI	Hog processor	2,149	N	15.6	1.6
China Mengniu Dairy	HKG	Dairy products	3,300	U	33.5	0.6
People's Food Holdings	SGP	Meat processor	488	N	5.2	6.0
Charoen Pokphand Foods	THA	Meat and fish processor	936	NR	8.9	5.4

Source: I/B/E/S consensus estimates, Credit Suisse research

(c) Processed food producers

Against its own history the processed food sector looks reasonably attractive. The 12-month forward consensus P/E for the sector is down close to 15x and the dividend yield is in excess of 3% compared to a 20-year historical average of 2.1%.

Figure 66: Processed food sector: Aggregate 12-month forward P/E

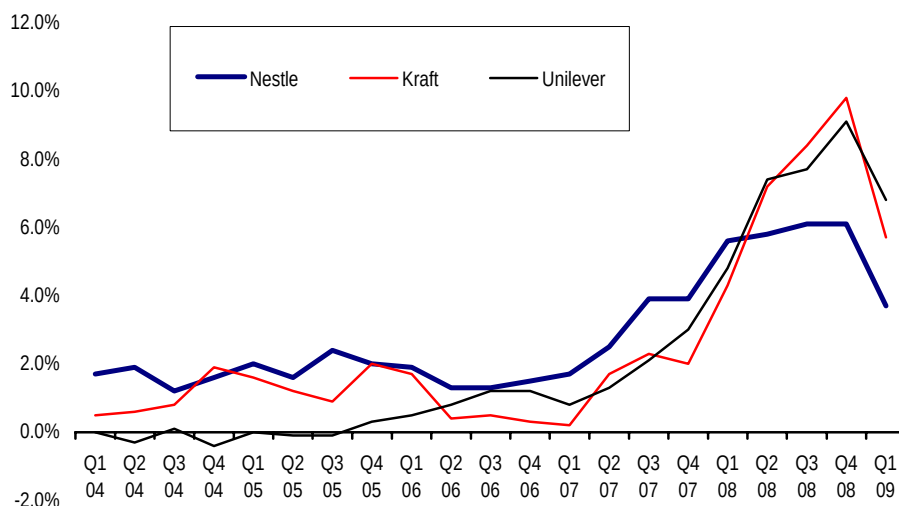
Source: IBES, Credit Suisse research

Figure 67: Processed food sector: Aggregate trailing DY

Source: Credit Suisse research

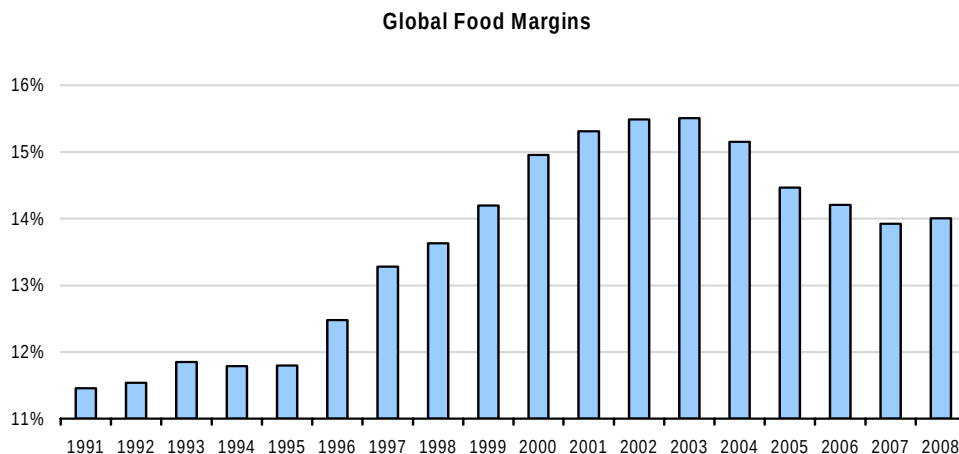
Much concern was voiced in the investment community about the impact of the agricultural inflation seen over 2007 and H1 2008 on the margins of the major food processors—after all, raw materials (including packaging) account for anything from 30–40% of sales.

In the event, the industry's pricing power was under-estimated. Pricing levels were the highest on record, touching at their peak around 9% in Q4 2008.

Figure 68: Pricing by quarters for leading food processors

Source: Company data, Credit Suisse research

As a result industry margins held up remarkably well, if anything slightly reversing the downturn seen over the past three to four years.

Figure 69: Food industry margins, 1991–2008

Source: Credit Suisse aggregate of results of Kraft, Kellogg, Heinz, Hershey, Campbell, General Mills, Unilever, Cadbury, Danone, Nestlé

As such, it remains out of contention that brands (notably leading brands) have better pricing power, and are largely able to pass on input cost inflation. Deflation should, by inference, be a benefit.

Our top picks in the sector are:

Danone: Danone is a well positioned company trading at an attractive valuation both in absolute terms and relative to its peers. Its key product categories (fresh dairy and baby food/clinical nutrition) are under-penetrated relative to other global packaged food companies. The two big trends of health and convenience should continue to drive penetration and therefore growth for the group, in both developed and emerging economies.

In emerging economies, Danone is only present in 35–40 countries versus Nestlé or Unilever in 100–120 countries—another significant growth opportunity. Danone trades at 13.5x 09E P/E, around one-third below its 3-, 5- and 10-year average and in line with its peers (versus a 20% premium over the past decade). We rate Danone Outperform with a APV/DCF-derived price target of €53.

Nestlé: We think Nestlé offers a good combination of growth and defensive characteristics as well as a reasonable valuation. Growth comes from categories such as Petfood, Baby food and Nespresso, as well as a strong emerging market presence (contributing one-third of 2008 sales and profits). Meanwhile Nestlé's push into more affordable products, especially in poorer regions, as well as a very strong balance sheet and cash return to shareholders, suggests to us that it is in good shape should the global downturn be prolonged. Nestle trades on c13.5x 09E P/E. We rate the stock Outperform with a APV/DCF-derived price target of SFr 52.

General Mills and **Kellogg** also offer relatively defensive qualities in the prevailing recessionary environment. We believe that General Mills merits a premium multiple to its peers due to its exposure to health and wellness categories, low-price points and effective marketing campaigns. Kellogg has a defensive sales platform plus considerable opportunities for efficiency gains through its back-half loaded K-Lean programme (4% of COGs) and savings from its US\$1bn per year advertising budget. We rate both stocks Outperform, with a TP of \$50 for Kellogg, and \$62 for General Mills.

Nissin Food Holdings is a Japanese producer of instant noodles and other processed foods. This is a classically defensive company that has underperformed in the recent resurgence in the global equity markets. We rate the stock Outperform for three reasons: (1) it has a suite of deflation-fighting products, such as Soup Noodles, which sell without discounting at a time when many food manufacturers are seeing their profits squeezed by deflationary pressures. Profit margins from deflation-fighting products is superior to Nissin national brands, given lower related advertising costs; (2) we think the worst of the bad news on the pension front is over: NFH has made a onetime amortisation of actuarial losses on pensions; and (3) valuations are close to historical lows: 14x P/E 2010E, when one-time amortisation disappears. Our TP is ¥3,400.

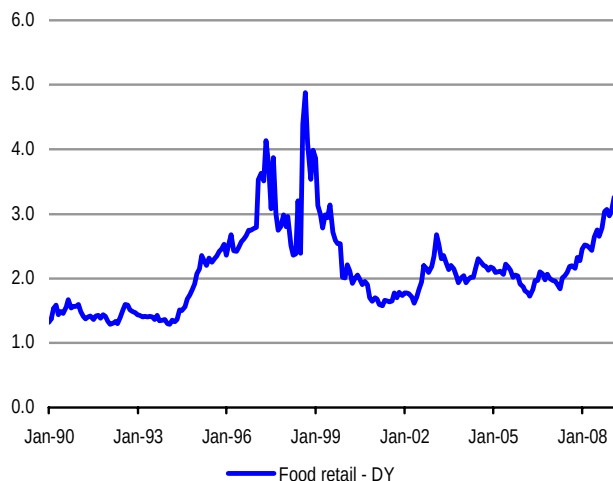
Figure 70: Processed food producers: Largest 25 by market cap

Stock	Main listing	Description	Mkt cap (US\$m)	Rating	2009E P/E (x)	2009E DY (%)
Nestle S.A.	Switzerland	Milk Products accounted for 28% of 2008 revenues; Beverages 26%; Prepared Dishes 17%; Chocolate 11%; Pet Care 11% & Pharma 7%	139,595	O	13.4	3.7
Unilever N.V.	Netherlands	Savoury, Dressings & Spreads accounted for 35% of 2008 revenues; Personal Care 28%; Ice Cream & Beverages 19%, Home Care & Other 18%	66,966	UP	13.7	4.4
Unilever PLC	UK	Foods accounted for 54% of 2008 revenues and Home and Personal Care, 46%	66,380	UP	12.7	4.8
Kraft Foods Inc.	US	Snacks accounted for 21% of 2008 revenues; Convenient Meals 18%; Cheese 17%; Grocery 14%; Beverages 12%; & Other 18%	38,669	N	14.0	4.4
Groupe Danone	France	Dairy Products accounted for 57% of 2008 revenues; Water 19%; Infant Food 18% and Medical Nutrition 6%	23,816	O	12.7	3.5
General Mills	US	US Retail accounted for 66% of fiscal 2008 revenues; International 19% and Bakeries and Foodservice 15%	17,401	O	12.7	3.5
Kellogg Co.	US	Manufactures and markets ready-to-eat cereal and convenience food products	16,608	O	14.3	3.2
Cadbury Plc	UK	Manufactures, distributes and sells confectionery products	12,042	UP	15.9	3.2
H.J. Heinz Co.	US	Ketchup and Sauces accounted for 45% of its 2008 revenues; Meals and Snacks 41%; Infant Foods 11% and Others 3%	11,659	N	13.8	4.6
Campbell Soup Co.	US	US Soup, Sauces and Beverages accounted for 46% of fiscal 2008 revenues; Baking and Snacking 26%; Intl Soup 20% & NA Foodservice 8%	9,813	N	13.3	3.4
Hershey Co.	US	Manufactures, distributes and sells confectionery, snack, refreshment and grocery products	8,101	U	18.0	3.4
Associated British Foods	UK	Grocery accounted for 40% of fiscal 2008 revenues; Retail 24%; Sugar 15%; Agriculture 11% and Ingredients 11%	9,366	N	13.6	2.8
ConAgra Foods Inc.	US	Consumer Foods accounted for 59% of fiscal 2008 revenues; Food & Ingredients, 35% & International Foods, 6%	9,262	N	12.0	4.1
Tingyi (Cayman Islands)	Hong Kong	Beverages accounted for 47% of 2007 revenues; instant noodles 46%; bakery 4% and others 3%	8,360	R	NA	NA
Want Want Holdings Ltd.	Singapore	Rice Crackers accounted for 36% of 2008 revenues; Dairy Products 34%, Snack Foods 29% & Other 1%	6,480	NR	21.6	3.6
Sara Lee Corp.	US	Beverage accounted for 24% of fiscal 2008 revenues; Retail Meats 18%; Foodservice 17%; Body Care 17%; Retail Bakery 17% & Bakery 7%	6,284	N	11.2	4.8
Ajinomoto Co. Inc.	Japan	Domestic food prods accounted for 53% of fiscal 2008 revenues; amino acids 24%; overseas food products 11%; pharmaceuticals 7% & other 5%	5,308	N	40.5	2.3
McCormick & Co. Inc.	US	Consumer Food accounted for 58% of 2008 revenues and Industrial Food 42%	4,029	N	13.3	3.2
Grupo Bimbo S.A.B. de C.V.	Mexico	Produces, distributes and sells bread, buns, cookies, snack cakes, pre-packaged food, tortillas, salted snacks and confectionery	6,172	NR	16.7	0.6
Hormel Foods Corp.	US	Refrigerated Foods accounted for 52% of fiscal 2008 revenues; Jennie-O Turkey 19%; Grocery Products 14%; Specialty Foods 12% and All Other 3%	4,696	N	15.5	2.1
Nissin Food Products	Japan	Noodles accounted for 90% of fiscal 2008 revenues and other 10%	4,042	O	21.2	1.7
Kerry Group PLC	Ireland	Ingredients accounted for 67% of 2008 revenues and Consumer Foods 33%	4,171	NR	10.6	1.4
Lindt & Spruengli AG	Switzerland	Manufactures and markets chocolate products, such as pralines and truffles	3,941	N	24.3	1.3
Ralcorp Holdings Inc.	US	Cereals accounted for close to half of fiscal 2008 revenues; Frozen Bakery Products, Dressings and Snack Nuts made up the rest.	3,260	O	13.8	NA

Source: I/B/E/S consensus estimates, Credit Suisse research

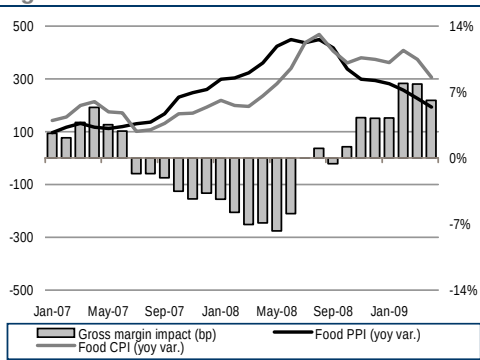
(d) Food retailers**Figure 71: Food retail sector: Aggregate 12-month forward P/E**

Source: I/B/E/S, Credit Suisse research

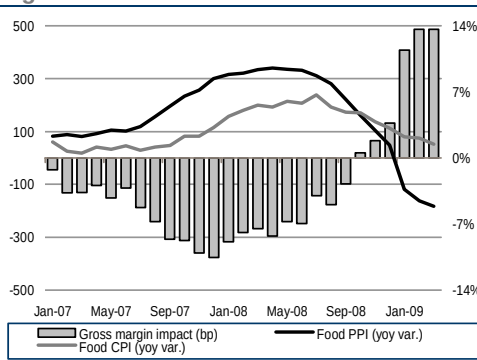
Figure 72: Food retail sector: Aggregate trailing DY

Source: Credit Suisse research

The food inflation of recent months has broadly been passed on to customers by the European Food Retailers. As we show in the charts below, food retailers' in-store prices (CPI) have been rising more quickly than food producers' output prices (PPI). As a result, food retailers' gross margins (the bars) have generally been improving. While some of this margin strength has been offset by a higher level of in-store promotion activity (the gross margin impact of which is not captured in the charts), overall the recent trends in CPI and PPI have been broadly beneficial.

Figure 73: UK: CPI versus PPI

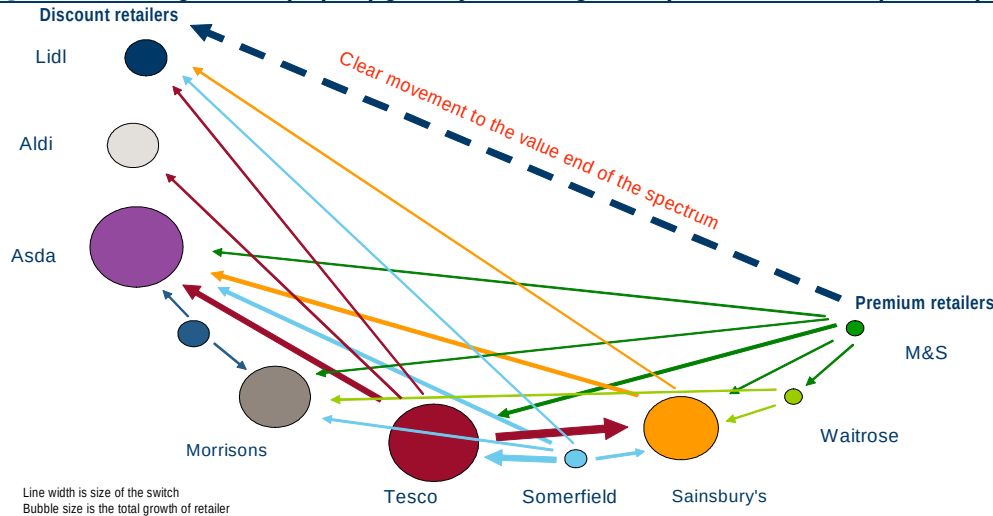
Source: © Datastream International Limited ALL RIGHTS RESERVED, Credit Suisse research

Figure 74: France: CPI versus PPI

Source: © Datastream International Limited ALL RIGHTS RESERVED, Credit Suisse research

This has been reflected in very resilient earnings—most major European Food Retailers have produced strong single and even low double-digit earnings growth over the last couple of quarters despite the recession. While there have been some earnings downgrades, these have tended to be less severe than in other consumer discretionary areas and have been more concentrated within those 'food' retailers selling non-food—for example, Metro, Carrefour and Tesco.

However, Food Retail has not been completely unscathed. A combination of some food inflation driving higher prices (at the consumer level) and the recession has led to an element of 'trading down' between retailers. This is illustrated in the chart below for the UK, where there has been a clear recent shift away from 'Premium' to 'Value'.

Figure 75: UK: Significant (Top 20) grocery switching flows (12 weeks to 19th April 2009)

Source: TNS Worldpanel

To the extent that the food retail sector has proved relatively resilient to the cycle so far, we do not expect much change when the trends reverse. Less favourable shifts in the CPI/PPI relative might put pressure on the top line and some food retailers may well respond by cutting prices/increasing promotions in an attempt to drive sales, but we would be surprised if this were a major earnings/share price-driving trend over the next few months. So, food inflation and the vagaries of the economic cycle are relatively minor components of the food retail investment case. However, it is no co-incidence that Value is at the heart of the strategy of our current three favoured stocks—Tesco, Ahold and Morrison. We think a strategy focused on top-line growth and constantly delivering high quality at the lowest possible price ('Value') is key to long-term and sustained success:

- **Tesco's** growth is broad-based by discipline, format and geography. While individual issues arise at any one time, we think Tesco has laid sufficient foundations to carry on delivering double-digit earnings growth for many years to come. Its track record is exemplary and we think management have the credentials to keep the run going regardless of food inflation, the economic cycle or any other macro influence. And yet, Tesco's valuation does not yet reflect its growth credentials. It trades at around 1.0x 2009E PEG compared with other Global Consumer companies (which we believe to be its true peers) at 1.5x PEG.
- **Morrison** is a Value brand that may well be benefiting in part from some trading down. However, this is only a small component of the investment story. More important is the self-help recovery progress that we think is being made. In our view, a combination of strong execution and recently improved marketing have led Morrison to sustain their recovery after the Safeway acquisition integration. Although the EBIT margin has increased from less than 1% to 4.5% in just three years, we think there is still room for improvement.
- **Ahold** entitled its recovery plan the 'Value Improvement Programme', thereby putting Value at the heart of its strategy. After much time and effort, the key US business is beginning to improve. We think the focus on pricing, range and marketing has begun a virtuous circle similar to one we regard Tesco as having enjoyed over recent years. As such, Ahold could still be just at the start of a sales-led improvement (regardless of swings in the economic cycle).

In the US, **Safeway** and **Kroger** are our top picks. Supermarket retailing trends have clearly deteriorated over the past few quarters, as the US recession has resulted in share losses to discount players and general volume weakness as consumers pull back spending. Even supermarkets are not immune to consumer weakness of the current

magnitude. Food, household products and personal care items typically represent the third-largest monthly expenditure of a U.S. household and consumers have realised that it's possible to cut back spending (rather quickly) in these categories.

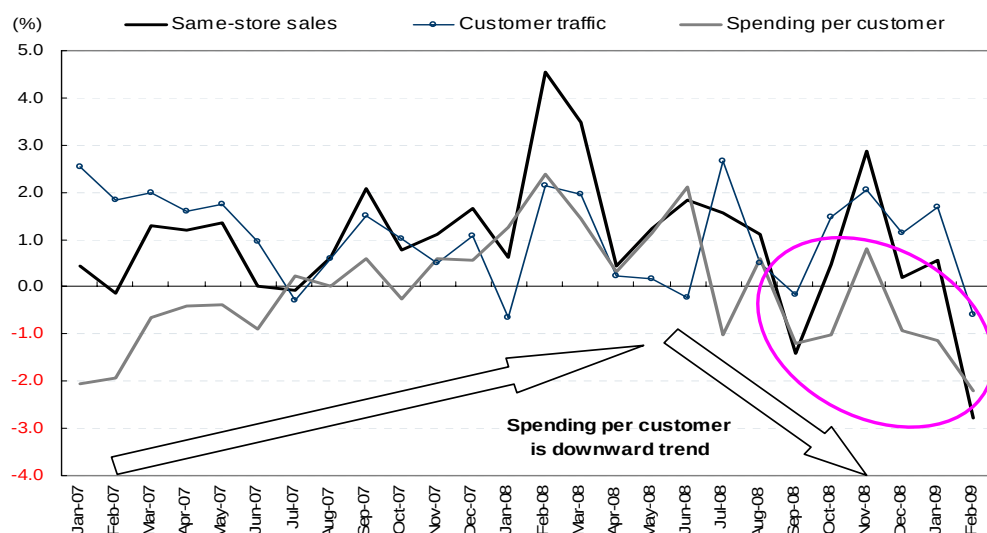
We continue to expect that supermarket sales will be pressured by a sharp deceleration in food price inflation in 2009 (we still project 0–2% inflation by year end versus 7.6% at the peak in 2008), but this issue is already well understood by investors and is a key reason why the group now trades at historical trough valuations. That said, deflation (which was the bigger concern), now looks like it is off the table with the recent up tick in commodity prices and it may not be too long before the market begins talking about re-inflation if the global economy improves (as we expect).

We have recently upgraded both Safeway and Kroger (*Safeway: Bottom Fishing; Upgrading to Outperform*, 21 May 2009 and *Kroger: Opportunity Knocks; Upgrading to Outperform*, 21 May 2009). For Kroger we believe investor concerns over earnings risk associated with disinflation and the weak consumer appear to be overdone. While we fully expect sales growth to weaken throughout 2009, a stronger-than-expected gross margin should allow the company to achieve its earnings guidance. We believe the 18% year-to-date sell-off in the stock provides investors with the opportunity to own the sector's premier player at a compelling valuation.

While near-term fundamentals at Safeway are poor, we believe that: the headwinds are well understood; long-term concerns about Safeway's price position are overblown (its issues are more cyclical than structural); earnings downside risk appears limited now that management have lowered the bar; and share repurchases could increase with the improving credit markets. We view the stock's risk/reward profile as extremely compelling at the current valuation.

In Japan, the recession is being more keenly felt in the form of declining volumes and prices. Recent data show supermarket sales are slowing owing to aggressive pricing strategies by major retailers in response to the further slide in economic demand since the start of 2009. Sales per customer are notably down for the overall industry.

Figure 76: Major supermarkets' same-store sales, customer traffic and sales per customer



Note: Average of seven supermarkets: Maruetsu, Inageya, Okuwa, Yaoko, Arcs, Valor, and MV Nishinohon

Source: Company data, Credit Suisse research

Supermarkets have managed to differentiate their earnings performance on the back of their pricing strategies, joint initiatives with suppliers and the local competitive environment. It is also possible major supermarkets will expand market share as local

supermarkets shut down and general merchandisers (GMS) close stores. We have no particularly strong 'buy' recommendations within the Japanese retail sector for now, but for the combination of low valuation (especially high dividend yield) and stability in sales and earnings, we like Lawson (Neutral rating) on a long-term view.

Figure 77: Food retailers: largest 25 by market cap

Stock	Main listing	Description	Mkt Cap (US\$m)	Rating	2009E P/E (x)	2009E DY (%)
Wal-Mart Stores Inc.	US	Wal-Mart Stores accounted for 64% of 2009 revenues; International 24% and SAM'S Club 12%	204,332	N	14.3	2.1
Tesco PLC	UK	Operates food stores and associated activities in the UK and overseas	46,844	O	12.0	3.5
Carrefour S.A.	France	Hypermarkets, supermarkets and discount stores make up the bulk of the business	31,752	N	13.7	3.3
Woolworths Ltd.	Australia	Supermarkets accounted for 85% of fiscal 2008 gross revenues; Big W, Consumer Electronics, Hotels and Wholesale made up the rest	24,373	N	18.0	3.8
Wal-Mart de Mexico S.A.B. de C.V.	Mexico	Self-service stores accounted for 93% of 2008 revenues and others 7%	24,479	U	20.4	1.6
Costco Wholesale Corp.	US	Provides membership offerings to be distributed through employee associations and other entities	22,120	O	19.6	1.4
Seven & I Holdings Co. Japan Ltd.	Japan	Convenience store accounted for 42% of fiscal 2008 revenues; supermarket 36%; departmental 18%; restaurants 2%; financing 2% & other nom	21,775	O	16.1	2.5
Kroger Co.	US	Operates retail food and drug stores, multi-department stores, jewellery and convenience stores	14,932	O	11.2	1.5
Koninklijke Ahold N.V.	Netherlands	Stop & Shop/Giant-Lanover accounted for 45% of 2008 revenues; Albert Heijn 35%; Giant-Catisle 13% and Albert/Hypernova 7%	15,102	O	11.2	2.4
Metro AG	Germany	Metro Cash & Carry accounted for close to half of 2008 revenues.	17,646	N	15.0	3.2
Wm. Morrison Supermarkets	UK	Operates retail supermarket stores and associated activities	10,502	O	14.0	2.8
Safeway Inc.	US	Operates food and drug retail stores in North America	8,696	O	9.6	1.7
J Sainsbury	UK	Provides grocery and related retailing services	8,853	U	14.2	4.5
Etablissements Franz Colruyt N.V.	Belgium	Retail accounted for 77% of fiscal 2008 revenues; Wholesale and Food Services 17% and Other 6%	7,851	N	15.8	2.5
Casino Guichard-Perrachon	France	Hypermarkets, Supermarkets, Discount Stores and Mini Markets make up the bulk of the business	8,170	U	10.9	5.3
Loblaw Cos. Ltd.	Canada	Distributes food and provides general merchandise products and services across Canada	9,280	N	16.3	2.4
Delhaize Group	Belgium	Operates supermarkets for food items	7,402	N	9.9	3.0
George Weston Ltd.	Canada	Loblaw accounted for 93% of 2008 gross revenues and Weston Foods 7%	7,309	N	17.1	2.4
Shinsegae Co.	Korea	Operates department stores and discount retail stores	6,718	N	14.5	0.3
Aeon Co. Ltd.	Japan	General retails accounted for 79% of fiscal 2008 revenues; specialty stores 12%; service/others 7% and developer operations 2%	7,056	NR	71.4	1.9
Lawson Inc.	Japan	Income from chain stores accounted for 94% of fiscal 2008 revenues and income from direct-run stores 6%	4,218	N	14.9	4.1
Cencosud S.A.	Chile	Operates supermarkets, hypermarkets, home centres, department stores, commercial centres and provides financial services	5,492	N	21.1	1.5
Metro Inc. (CI A)	Canada	Distributes food products	3,945	N	11.8	1.5
Pao de Acucar	Brazil	Operates retail trade of food, home appliances, clothing and similar products	4,419	O	17.8	1.4

Source: I/B/E/S consensus estimates, Credit Suisse research

(2) Determining agricultural output

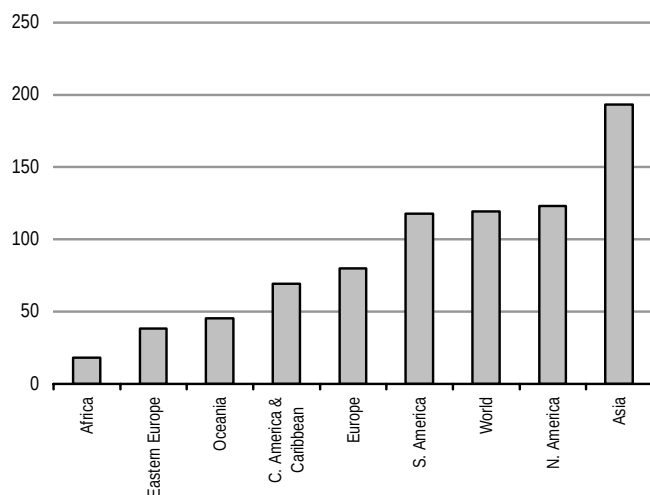
There are three main variables (over and above the natural environment) that are key to determining agricultural yields: (1) fertilisers; (2) crop inputs (seeds, pesticides and genetics); and (3) farm machinery and equipment (including irrigation). The outlook for cyclical demand for large parts of this universe is relatively weak currently given the prevailing financing issues. Longer-term, however, demand should recover as and when prices stabilise.

(a) Fertilisers

Total fertiliser demand has been growing at an annual compound rate of 3.6% for the past 40 years (according to the FAO). Within this, nitrogen demand has been strongest (up 4.8% p.a.) relative to potash (2.3%) and phosphates (2.7%).

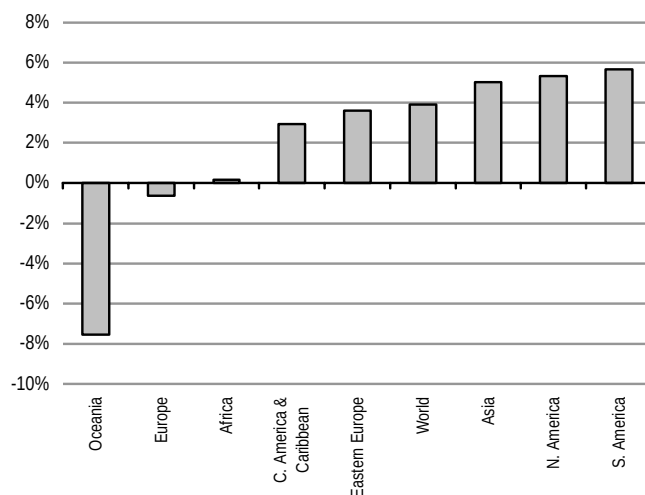
As it stands now, there is considerable disparity in the application rates of fertiliser across the world. Asia uses more fertiliser per hectare (courtesy of China and Korea) than any other region. As of 2006, African fertiliser use was equivalent to only 15% of the global average. The FAO suggests that fertiliser tends to be under-used in Africa and parts of the Caribbean and Central America but over-used pretty much everywhere else.

Figure 78: Regional fertiliser use (tonnes of nutrients per thousand hectares)



Source: FAO

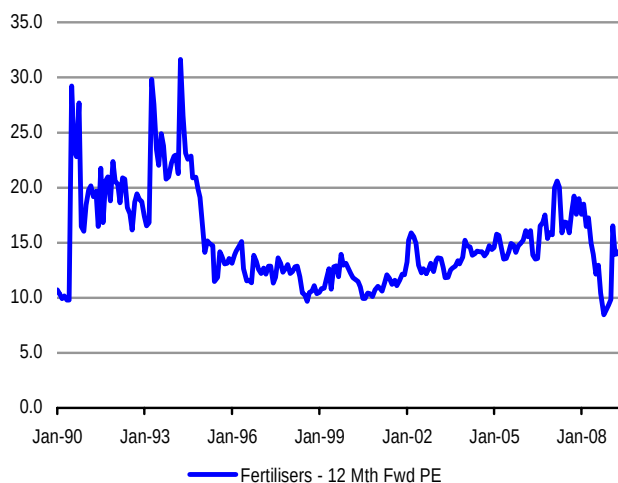
Figure 79: Growth in fertiliser use (CAGR, 2002–06)



Source: FAO

Fertiliser demand is clearly very pro-cyclical. In the last downturn in 2000, total fertiliser demand dropped just short of 5% year on year. This time the downturn looks to be more severe. From a bottom-up perspective, we estimate an average fall in nitrogen application in 2008/09 of c10% and 30–40% for potash and phosphate in the US and Europe. We believe nitrogen demand has less relative downside (and more potential upside into a recovery) than potash and phosphates due to the significant inventory overhang that remains in the latter two (potash especially). If, as we expect, agri prices recover over the course of this year and into next, fertiliser demand should pick up commensurately. Consensus numbers show a contraction in EBITDA of 12% and EPS growth of -17% for CY 2009E for the sector before recovery in 2010 (consensus EBITDA growth of 13% and EPS growth of 18%).

Valuations for the listed fertiliser sector look relatively interesting against their own history. The sector is trading on 13x 12-month forward P/E and a trailing dividend yield of 4%.

Figure 80: Global fertiliser sector: Aggregate 12-month forward P/E

Source: IBES, Credit Suisse research

Figure 81: Global fertiliser sector: Aggregate trailing DY

Source: Credit Suisse research

Our top picks in the sector are:

Yara International: We remain strong buyers of Yara (Outperform, TP Nkr 300). First quarter results provided good evidence that the company's flexible business model is working in tough times as well as in good times. Results were good considering weak markets and the cash flow was exceptional, in our view. Fertiliser demand, while still down 22% year on year, improved 40%, quarter on quarter. We expect volumes to improve further in Q2 and to make a strong recovery in the 2009E/10E season.

Yara's net gearing fell to 74% at the end of the last quarter, comfortably below its 140% bank covenant. We expect further debt reduction in Q2 from a combination of improving earnings and further working capital inflow as Yara continues to work down inventory.

We think investors are overly concerned by new capacity additions to the sector. New urea capacity starting up this year in Iran and Oman should add c1.6% to the global total. Against this, first quarter exports from China were down c75%, or 1.8m tonnes, approximately equal to the sum of the new Iran and Oman capacities. We therefore consider China a more important supply swing factor than the Middle East start-ups. We think demand growth should be sufficient to absorb the new capacity due to enter the market in the second half of 2009. As for China, its current high (110%) export duties and high production costs make exporting urea a loss-making and unattractive exercise. The duty will be lowered, temporarily, to 10% in July–August, which should temporarily increase Chinese supply, depending on the price level. Last time export duty was lowered to 10% (December 2008–January 2009), prices were unattractive for Chinese producers and only insignificant volumes were exported. We expect the duty to return to 110% in September in time for the autumn planting season, removing China from global supply once again.

ICL-Israel Chemicals (Outperform, TP ILS 62) focuses on potash production. We think two key factors give the stock an advantage in the current recession: (a) low costs of production—ICL benefits from access to certain natural resources such as potash, bromine, salt, magnesium and magnesium chloride from the Dead Sea, and phosphates and limestone from the Negev desert in Israel. Moreover, the short distance to port makes ICL one of the lowest-cost producers in the industry on a CFR basis; and (b) ICL is able to continue producing and stockpiling significant quantities of potash in the desert, hence optimising fixed costs per unit, while other potash producers have to cut production volumes to match the temporary drop in demand. The main catalyst for the potash sector globally remains the upcoming settlement of potash contracts with China, which we expect to happen very shortly.

Taiwan Fertilizer (Outperform, TP NT\$ 104.5) focuses on producing and selling fertilisers and related products in Taiwan. It also has a JV with Jubail Fertiliser in Saudi Arabia. Fertiliser prices in Taiwan have been set by the government since 1970. Rising input costs and fixed prices led to plunging margins, culminating in meaningful industry losses in 2006/07. Since then, (a) the market has consolidated with Taiwan Fertilizer picking up significant market share gains; and (b) the government has changed the pricing structure to the benefit of producers (the latest alteration on this front was put through earlier this year). As a result, Taiwan Fertilizer generated its highest profit from domestic fertiliser (NT\$474m) in 10 years in 1Q09. Taiwan Fertilizer also offers exposure to the Taipei commercial property market. However, we also expect this land bank to increase in value, given the growing demand from closer Taiwan/China cross-strait links.

Other areas of the global fertiliser business are potentially less resilient to the cycle:

K+S shares have approximately doubled from their October 2008 lows. Given the uncertain outlook for potash markets this year, we rate the shares Neutral with a TP of €37. Potash accounts for c75% of the group's SoP value in our models. Benchmarked against its major potash peers, K+S operates its six German mines at above-average costs and has no option for brownfield expansion. Getting access to new potash projects outside Germany has therefore been a key strategic priority for management over the past couple of years—and has so far been unsuccessful.

K+S cut its potash selling prices in Europe in early May to €555/t for granulated product and €540 for standard product, a €60/t cut compared to the ask price prevailing since last October. This move adjusts European prices to the US\$ 750/t announced by BPC in March. Potash is by far the most consolidated market in the fertiliser space, with 70% of global production directly or indirectly controlled by two players. As opposed to other major fertilisers, potash is only marginally influenced by variable input cost. Hence, the incentive to use duo-/oligopolistic market structures to restore gross margins at the record levels of H1 2008 keeps producer discipline high. Producers may, however, have underestimated price elasticity. Artificially high prices have caused a demand collapse in the market since Q4 2008.

K+S's largest peers PotashCorp (POT) and Uralkali have communicated production cuts of 80% and c65% respectively in Q1 and continue to curtail output in Q2. Potash inventories at the producers' level climbed to record highs. As of the end of April, North American producers held approximately 3.7 million metric tonnes of product—72% above the five-year average. Adding inventories in other regions as well as stock held by distributors, total stock levels in 2009E may be around 15–20% of 2008's 54.8 mmt global sales volume.

Figure 82: Listed producers of fertilisers

Stock	Listing	Description	Mkt Cap (US\$m)	Rating	2009E P/E (x)	2009E DY (%)
Incitec Pivot	AUS	Manufactures, distributes and trades fertilisers and chemicals	3,358	O	11.0	2.3
Wesfarmers	AUS	Coal accounted 54% of revenues for fiscal 2008; Home Improvement 18%; Insurance 5%; Industrial & Safety 4%; Others 19%	16,470	U	13.0	4.2
Fosfertil	BRA	Fertilisers accounted for close to 80% of 2008 revenues; Chemicals and Services made up the rest	3,604	NR	9.3	NA
Soquimich	CHL	An integrated producer and distributor of speciality plant nutrients, iodine and lithium	9,570	U	19.3	3.4
Agrium Inc.	CAN/US	The Wholesale division (produces and markets agricultural nutrients, mostly to North America) accounted for 44% of 2008 revenues; the Retail division (distribution of seed, agricultural chemicals and fertiliser direct to growers), 52% of 2008 revenues	7,629	NR	7.2	0.2
Potash Corp.	CAN/US	Potash accounted for 43% of 2008 revenues; Phosphate 30%; and Nitrogen 27%	33,896	NR	15.8	0.4
China BlueChemical	CHN	Fertilisers accounted for 70% of 2007 revenues; Methanol 26% and Other 4%	2,677	NR	12.6	2.1
K+S	GER	Potash & Magnesium Products accounted for 50% of 2008 revenues; Fertiva 19%; Compo 15%; Salt 13% & Complementary business 3%	12,256	N	12.6	3.8
Sinofert	HKG	Sourcing and distribution accounted for over 90% of 2008 revenues, Production made up the rest	3,384	U	15.1	1.2
Tata Chemicals	IND	Inorganic Chemicals accounted for 54% of fiscal 2008 gross revenues; Fertilisers accounted for 46%	1,083	NR	8.8	3.6
ICL-Israel Chemicals	ISL	Fertilisers accounted for close to half of 2008 revenues; Performance and Industrial Products made up the bulk of the rest	14,168	O	14.7	3.9
Yara International	NOR	The Downstream division (fertiliser distribution network) accounted for close to 70% of 2008 revenues; Upstream (converting natural gas into nitrogen chemicals, nitrogen, phosphorous and potash) and Industrial (marketing nitrogen chemicals and gases for industrial use) made up the bulk of the rest	9,652	O	12.6	2.3
Engro Chemical Pakistan	PAK	Fertilisers accounted for 57% of 2008 revenues; Food 20%; Polymer 19% and Other Operations 4%	525	O	15.5	3.0
Fauji Fertilizer	PAK	Manufactures, purchases and markets fertilisers and invest in other fertiliser and chemical manufacturing operations	795	O	7.0	13.5
Zakłady Azotowe Pulawy	POL	Nitrogen fertilisers and pesticides accounted for the bulk of 2008 fiscal revenues	486	NR	7.9	4.2
Taiwan Fertilizer	TAI	Manufactures and sells of organic and inorganic chemical fertilisers	3,127	O	45.6	1.9
Bunge	US listed, Brazilian based	Agribusiness accounted for 85% of 2008 revenues; Fertiliser 8% Edible Oil Products 4% and Milling Products 3%	8,721	N	14.0	1.1
CF Industries	US	Nitrogen Fertiliser accounted for 66% of 2008 revenues and Phosphate Fertiliser 34%	3,758	NR	11.1	0.5
Mosaic	US	Phosphates accounted for 54% of fiscal 2008 gross revenues; Potash, 23%; Offshore 22% and Corporate and Other 1%	24,309	NR	9.5	0.4
Scotts Miracle-Gro Co	US	Mostly domestic fertiliser sales. North American lawn fertiliser sales accounted for 75% of fiscal 2008 revenues, International Products 12%, Lawn Services 8% and Corporate 5%	2,253	NR	14.6	NA

Source: I/B/E/S consensus estimates, Credit Suisse research

(b) Crop protection and seed suppliers

Crop protection and seeds have surprised us with their strength despite the pull-back in other areas of farm spending. Q1 sales were up an average of 8% across the six majors (Monsanto quarter December–February), with a strong price development of 4–8% and single digit volume progression (with the exception of Syngenta, which saw some seed volume pull-back). Margins also progressed well for the majority of players based on strong fundamentals.

We see a number of reasons for this including:

(i) Rapid technology change: Seeds technology especially is progressing at a pace not seen before, with GM crops becoming dominant in the Americas and starting to appear in other regions. Traditional seed technology is also developing due to cross breeding and hybridisation schemes. Crop protection is seeing the rapid introduction of new products, some of which have additional benefits to the pest protection for which they were designed (e.g., crop vigour). We see this progress continuing with strong R&D spend in the sector. New technologies to increase drought resistance, increase yields and even produce more nutritious crops should increase the acceptance of modern seed science, in our view. We believe the growth of these technologies is continuing to push the market despite a decline in overall farm spend.

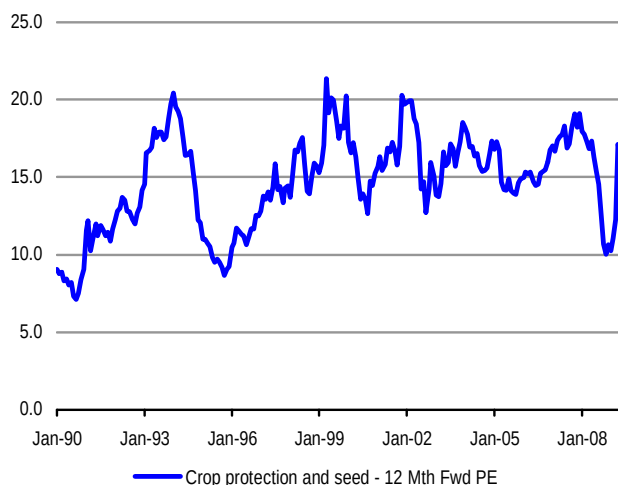
(ii) Global farm commercialisation: We are seeing a rapid commercialisation of world farming as developing countries become more industrialised. We see increased agri spend as an important part of this. For instance the spend in Western regions on crop protection products is between \$170–200 per acre. In India (\$5 per acre), Russia (\$7) and China (\$10), this spend is a lot lower. Fertiliser and other farm inputs do not see such a strong differential spend so are unlikely to benefit as much from this advance. Again we think change is outpacing short-term pressures on demand.

(iii) Partnered with winning farms: The more sophisticated crop protection companies tend to deal with the more sophisticated farmers. Smaller, less profitable farms tend to use fewer crop protection products, or use generics or older products. Similarly these farms will tend to use last year's product for this year's seed, rather than splashing out on expensive branded sterile seeds. We see any pull-back in global yields happening at these farms with cash-flow constraint leading to lower acreage or lower spend on that acreage. Modern large-scale farms, especially in developed countries, are currently cash rich after two years of bumper harvests and strong prices. Hence, we believe their annual spend will prove to be less cyclical.

(iv) Smaller portion of spend: We estimate that chemicals (c10–15%) and seeds (c1–5%) are a smaller portion of overall cost than items such as fertiliser and transport. They have also not seen the rapid inflation in costs that other inputs have seen, as pricing is less oil dependent, and has been very moderate. As a result we think farmers are not against spending what they have always spent here, considering that without seeds they would have no crop and without protection pest pressure could have a major negative impact. They also seem prepared to accept high single digit price increases.

Despite better than average sales growth, sector valuations display a similar profile to other sectors, albeit crop protection and seeds typically constitute less than 50% of total earnings for many of the major players in this space. However, valuations for the group look interesting against history, particularly on a DY basis.

**Figure 83: Global crop protection and seed suppliers:
Aggregate 12-month forward P/E**



Source: IBES, Credit Suisse research

**Figure 84: Global crop protection and seed suppliers:
Aggregate trailing DY**



Source: Credit Suisse research

We highlight:

Dupont: Recent Q1 results were slightly weaker than we had expected, down 20% vs our -16% forecast. The biggest negative surprises were in Performance Materials and Safety & Protection, but Ag & Nutrition surprised to the upside owing to robust pricing and share gains in seed. The Ag & Nutrition division accounted for a little over a quarter of sales in 2008. Q1 results showed divisional growth of 6%, which was particularly impressive given the FX headwind (without which Dupont would have posted 28% growth). Margins came in modestly higher than our expectations resulting in earnings growth of 8% to \$852m. While there were a number of positives, strong pricing in seed (up 17%) along with market share gains both globally and in the US helped to drive the robust results. Management continues to expect 1ppt of share gain in corn seeds globally (with a greater increase in the US) as well as improvements in soybeans. In addition, management highlighted a strong pipeline and new product demand that drove a positive mix.

Looking forward, although Dupont may not keep up with some of the smaller names in the chemical space (for example Ashland, Rockwood and Celanese Corp), we believe that it will be one of the better performing large cap names in the group given: 1) its improving Ag platform; 2) the eventual recovery in its early cycle businesses; 3) its above-average dividend yield; and 4) reasonable valuation at 6.7x 2010E EBITDA. We rate the stock as Outperform with a \$32 TP.

Syngenta: Q1 sales were similarly stronger than we had expected on the back of better than expected pricing (in seeds and crop protection) and volumes (in crop protection). Crop Protection price increases of 8% were well above the 2–5% increases achieved in 2008. Seeds pricing was also strong, benefiting from the positive mix effects of increased triple stack corn sales. For the group Q1 2009 sales were 4% lower than Q1 2008. The year-on-year decline was mainly driven by currency effects. Excluding this, sales would have grown 7%.

In crop protection, Syngenta has seen a 41% CAGR at constant exchange rates for its new crop protection products over the past four years. We see the success of these ongoing new product introductions as a large reason why Syngenta is able to stay ahead of generic competition: farmers generally look for value and will tend to pay for new, more advanced crop protection technology. The other important part of the story is the synergies between the crop protection and seeds businesses. For us this is exemplified in the seed care business, which has achieved 11% CAGR since 2005.

In seeds, Syngenta is already seeing the positive impact of its corn triple stack seeds offering, and we expect this trend to continue. The company will launch its broad spectrum insect control trait (Viptera™) and some multi-stack products later this year, and refuge reduction products are targeted for commercial launch in 2011. We think these products will offer credible alternatives to competitors' products in terms of efficacy. We do not expect to see the slightly later introduction of Syngenta's products negating their value—as proven by results achieved thus far in corn triple stack. We expect sales and EPS growth of 11.4% and 17.3% respectively in 2010E.

We see Syngenta's solid underlying performance as proof of its fundamental stability. We rate the stock Neutral with a TP of SFr 300, but would not turn investors away from a quality investment for the long term.

Figure 85: Crop protection and seed suppliers

	Main listing	Description	Mkt Cap (US\$m)	Rating	2009E P/E (x)	2009E DY (%)
Nufarm	AUS	Manufactures and markets crop protection products	1,945	U	11.8	3.3
Auriga Industries	DEN	Chemical Industry (pesticides) accounted for 78% of 2006 revenues; Agricultural Machinery 17% and Insulation Materials 5%	471	NR	8.9	5.7
United Phosphorus	IND	Manufactures agro chemicals, chemical intermediates, industrial chemicals and speciality chemicals	1,508	NR	13.3	1.2
Makhteshim-Agan	ISL	Agro products accounted for 92% of 2008 revenues and Non-Agro products 8%	2,671	NR	11.4	3.2
Sakata Seed Corp.	JAP	Wholesale accounted for 72% of fiscal 2008 revenues; retail 26% and other 2%	700	NR	NA	NA
Monsanto	US	Two divisions: Seeds and Genomics (56% of fiscal 2008 revenues focussing on seeds and biotechnology) and Agricultural Productivity (44% 2008 revenues focusing on herbicides). The two divisions are complementary: Seeds and Genomics produces, among other things, Round-Up Ready crops designed to withstand the application of the Round-Up herbicide produced by the Agricultural Productivity division.	44,833	NR	18.4	1.1
Syngenta	SWI	Crop Protection (herbicides, insecticides and fungicides accounted for 78% of 2008 revenues; Seeds 22% and Plant Science (bio-technology), nominal	22,362	N	15.1	2.4
Bayer	GER	Healthcare accounted for 48% of 2008 revenues; Material Science 32% and Crop Science 20%	43,553	NR	12.7	3.4
DuPont	US	The agriculture and nutrition division accounted for 26% of revenues in 2008. This incorporates Pioneer, the largest seed company in North America. Pioneer produces hybrid and varietal seeds, and provides insect protection and herbicide tolerance.	25,784	O	16.6	5.7
Dow	US	Dow Agri Production division accounted for 8% of total revenues in 2008. Within this the seed division is called "Mycogen", and is roughly the fifth largest global seed producer.	16,478	O	52.3	3.3
BASF	GER	Largely a chemicals and plastics business but agri-products accounted for 5% of sales in 2008.	38,675	N	19.3	4.6

Source: I/B/E/S consensus estimates, Credit Suisse research

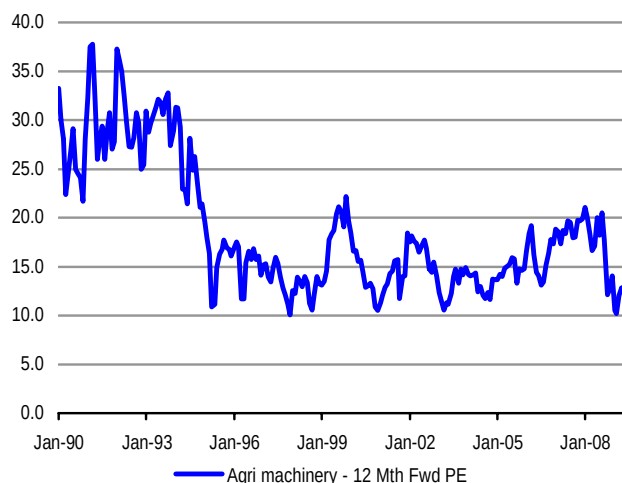
(c) Machinery and equipment

Valuations reflect poor short-term growth. At 10–12x 12-month forward earnings, the agri-machinery and equipment sector is at the lower end of the valuation scale compared with the other agri-related sectors. This reflects weaker forecast earnings this year: farm equipment generally represents a significant capital expense, and hence demand is typically hardest hit in a downturn. However, we believe there are several reasons to expect a more buoyant year in 2010:

- (i) Unlike the vast majority of the machinery sector, agricultural equipment stocks operate in a secular industry and are not as tied to the general economy as companies that produce construction or mining machinery.
- (ii) Farm fundamentals remain strong: US farm debt balances are at historically low levels.

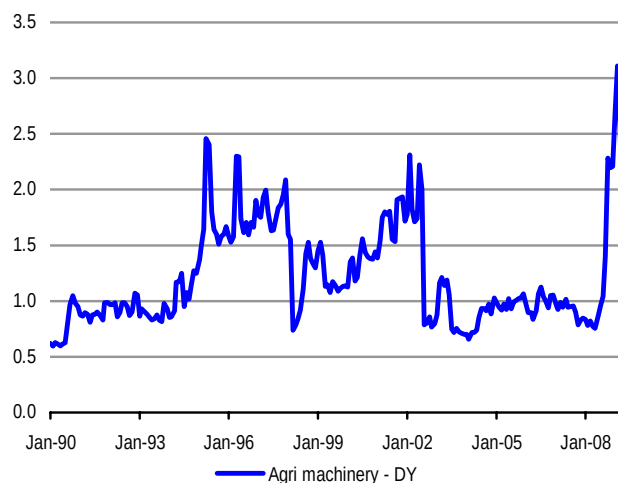
- (iii) Initial cash receipts and farm net income forecasts in the US and South America point to a healthier economic environment for farmers.
- (iv) Finally, we expect credit availability in Brazil to improve by 2010 (there are some indications credit is becoming more available), which would allow farmers to purchase more inputs.

Figure 86: Agricultural machinery: Aggregate 12-month forward P/E



Source: IBES, Credit Suisse research

Figure 87: Agricultural machinery: Aggregate trailing DY



Source: Credit Suisse research

Stocks to highlight include:

AGCO is the third-largest global manufacturer of farm equipment, with a significant share in Europe (25%) and South America (~50%). Q1 2009 results showed sales down 12% year on year (although excluding the FX impact, sales increased 2.9%). The main concern, in our view, is the continued deterioration in demand in the South American and CIS markets, although we think there is room for AGCO to offset pricing disappointments by cutting material costs. In addition, considering AGCO's considerable market share in South America, financing opening up (early indications are that it is easing), would be very positive for AGCO. Finally, net debt to equity is a relatively low 20%. We expect a rebound in sales and earnings in 2010E (up 7% and 25% respectively) as demand normalises. We rate the stock Outperform with a \$34 TP.

Deere makes and distributes a full range of agricultural, construction, commercial and consumer equipment. Deere also provides credit services, property and casualty insurance, and health management programmes. Similar to AGCO, the 2009 agriculture equipment sales environment is weak driven by soft demand from South America and the CIS. DE's construction & forestry (we estimate down 42%) and consumer segments are also struggling, and will likely continue to struggle throughout 2009. Deere is cutting production and clearing down inventory. For 2010E we expect sales growth of 8%, with 35% incremental margins. We rate Deere Outperform with a \$56 TP.

Kubota is one of Japan's leading farm equipment providers. Compared with Deere and AGCO however, the stock offers somewhat less exposure to the agricultural story: (a) farm equipment accounts for a smaller proportion of total sales; and (b) small tractor sales (which have deteriorated with the sharp downturn in the US housing market) are still a key product. Kubota results show its US and European operations (estimated 50% contribution to OP) are struggling, but Asian operations (20% of OP) are providing some support. Longer-term, we expect the Asian business to account for the greatest proportion of sales on a regional basis. Kubota's main product in Asia is for rice production. Sales to China

have been growing in double digits and sales to Thailand were up in excess of 40% year on year in Q1 this year. As of March 2009, Asia already accounted for a greater proportion of sales than Europe. OPM are also higher in Asia than in the US or Europe. At 22x 2009E PE we rate the stock Neutral with a TP of ¥550.

Figure 88: Agricultural machinery and equipment

Stock	Main listing	Description	Mkt Cap (US\$m)	Rating	2009E P/E (x)	2009E DY (%)
United Tractors	Indonesia	Mainly focused on construction and mining machinery but agricultural equipment a small part of the business	3,282	O	12.9	2.9
Iseki & Co. Ltd.	Japan	Grading machines accounted for 30% of fiscal 2008 revenues; parts 20%; harvesters 18%; other business 15%; cultivation mach 10% and other 7%	750	NR	44.9	0.0
Kubota Corp.	Japan	Internal combustion machinery accounted for 69% of fiscal 2008 revenues; infrastructure 17%; environmental engineering 6% and other 8%	9,626	N	21.8	1.7
Bucher Industries	Switzerland	Kuhn Group accounted for 38% of 2007 revenues; Bucher Municipal 22%; Emhart Glass 17%; Bucher Hydraulics 16%; Bucher Process 7%	1,072	NR	14.4	1.9
AGCO Corp.	US	Tractors accounted for 68% of 2008 revenues; Replacement parts 12%; Other machinery 11%; Combines 6% and Applicational equipment 3%	2,667	O	13.7	0.0
CNH Global (89% owned by Fiat)	US	Agricultural Equipment accounted for 69% of 2008 revenues; Construction Equipment 24%; Financial Services 7%	4,188	NR	100.9	0.0
Deere & Co.	US	Agricultural Equip accounted for 58% of 2008 revenues; Construction & forestry 17%; Comm & Consumer Equip 16%; Credit 8% and Other, 1%	18,418	O	17.1	2.5
Lindsay Corp.	US	Irrigation Equipment accounted for the bulk of fiscal 2008 revenues	392	NR	30.2	NA

Source: I/B/E/S consensus estimates, Credit Suisse research

Appendix 1: Bio-fuel targets

Asia	
China	Five Chinese provinces require 10% ethanol blends—Heilongjian, Jilin, Liaoning, Anhui, and Henan. 10% ethanol blending mandate by 2020.
India	5% ethanol in certain states. 20% biofuel mandate by 2017.
Japan	Non-mandatory target of 50 million litres of biofuels by 2011(domestic production).
Thailand	20% ethanol & biodiesel by 2012. B2 mandate from 1 April 2008, will increase to B5 "soon thereafter".
Taiwan	1% biodiesel in effect since July 2008 and a target of 3% by 2010.
Philippines	Requires 5% ethanol blends in gasoline as of 2008. The requirement expands to 10% in 2010.
Europe	
EU-25	5% share of renewables in transport fuel by 2015 and a 10% target by 2020. At least 20% of the 2015 target and 40% of the 2020 goal must be met from "non-food and feed-competing" second-generation biofuels or from cars running on green electricity and hydrogen.
Austria	2.5% of renewables in transport fuel since 2005. There is a mandatory target of 5.75% by 2010.
Cyprus	1% of renewables in transport fuel since 2005. There is a non-mandatory target of 5.75% by 2010.
Denmark	There is a non-mandatory target to blend 5.75% of renewables in transport fuels by 2010.
Estonia	There is a non-mandatory target to blend 5.75% of renewables in transport fuels by 2010.
Finland	2% minimum biofuels volume of all transport fuels supplied by a fuel distributor in 2008. In 2009, this share will be at least 4% and in 2010 and subsequent years it will be at least 5.75%.
France	France has the following mandatory rates of incorporation of biofuels into fossil fuels: 5.75% by 2008, 7% by 2009 and 10% by 2010.
Germany	Overall biofuel mandate—1 January 2009: 5.25%; 1 January 2010: 6.25%; gradually increasing to 8% by 2015.
Greece	There is a non-mandatory target to blend 5.75% of renewables in transport fuels by 2010.
Hungary	There is a non-mandatory target to blend 5.75% of renewables in transport fuels by 2010.
Italy	There is a mandatory target of 2% of sales in 2008 and 3% in 2009.
Latvia	There is a non-mandatory target to blend 5.75% of renewables in transport fuels by 2010.
Lithuania	There is a non-mandatory target to blend 5.75% of renewables in transport fuels by 2010.
Luxembourg	There is a non-mandatory target to blend 5.75% of renewables in transport fuels by 2010.
Netherlands	Distributors of transport fuels have been obliged to blend 2% of biofuels since 2007, increasing gradually to 5.75% in 2010. The percentage is based on energy content.
Poland	As of January 2008, the National Goal Indicators (NGI) became obligatory for all liquid fuel producers and all fuel importing companies (both outside and within the EU), which trade or distribute them in Poland. They are: 3.45% energy level use of biofuels for 2008, 4.60% for 2009, 5.70% for 2010, 6.20% for 2011, 6.65% for 2012 and 7.10% for 2013.
Portugal	1.15% biofuels blending mandate since 2005. There is a non-mandatory target to blend 5.75% of renewables in transport fuels by 2010.
Romania	From July 2009, a minimum 4% of bioethanol to be blended with gasoline.
Slovakia	2% biofuels blending mandate since 2005. There is a non-mandatory target to blend 5.75% of renewables in transport fuels by 2010.
Spain	There is an interim target for 1.9% of biofuels to be blended into regular fuels in 2008, which will become mandatory proportions of 3.4% in 2009 and 5.83% in 2010.
Sweden	There is a mandatory target to blend 5.75% of renewables in transport fuels by 2010.
United Kingdom	The Renewable Transport Fuel Obligation mandates UK fuel suppliers to ensure that their aggregate sales is made up of 2.5% bio-fuels as of April 2008, increasing to 5% by 2010.
North America	
Canada	5% renewable content in gasoline by 2010. 2% renewable content in diesel fuel and heating oil by 2012.
United States	36 billion gallons by 2022, of which 15 billion gallons is mandated to come from conventional (corn-starch) ethanol.
Oceania	
Australia	350 million litres of renewables by 2010.
New Zealand	There is a mandatory target to blend 3.4% of renewables in transport fuels by 2012.
Latin America	
Argentina	Requires the use of 5% ethanol blends by 2010.
Bolivia	Expanding ethanol blends to 25% over the next five years. Current blend levels are at 10%.
Brazil	All gasoline must contain 25% of anhydrous ethanol. 5% biodiesel in 2010.
Colombia	Requires a 10% ethanol blend in cities with populations over 500,000.
Jamaica	A 10% ethanol blend was introduced as optional in Kingston and nearby parishes on November 2008, and should be mandatory in the entire island by May 2009.
Venezuela	Phasing in a 10% ethanol blending requirement.

Source: Credit Suisse research

Appendix 2: Credit Suisse Agriculture Index powered by HOLT

The Credit Suisse Agriculture Index powered by HOLT enables investors to participate in the performance of a selection of companies that would benefit from higher agricultural prices. The global universe of agriculture-related companies is screened using the HOLT proprietary scoring model (based on corporate performance, valuation and market sentiment). From the screen, the 40 highest ranking stocks are systematically selected at each May and November rebalance for inclusion in the index.

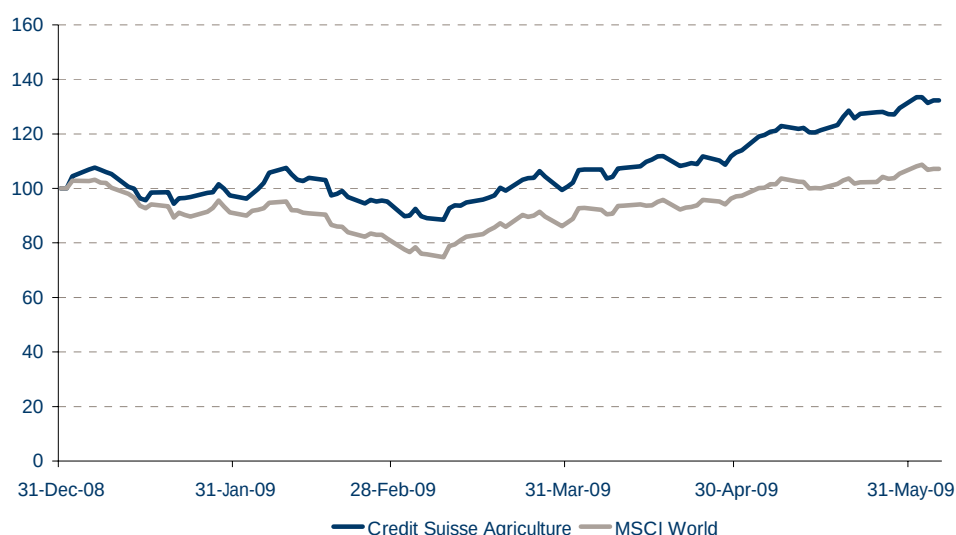
The HOLT proprietary scoring model captures the best of HOLT through a selection of tried and tested factors. These factors are divided into three categories:

- The Operational category identifies companies with appealing corporate performance characteristics.
- The Valuation category finds stocks that are attractively valued according to the HOLT DCF model.
- The Momentum category places the spotlight on stocks that are gaining from positive market sentiment.

Although the absolute return for the Credit Suisse Agriculture Index was negative over the first 12 months since the index launch in March 2008, on a relative basis the Credit Suisse Agriculture Index outperformed the MSCI World Index. The index has performed very well year-to-date (04 June 2009), gaining 32.4% compared with a rise of 7.2% for the broader global equity markets (MSCI World index).

More information on the Credit Suisse Agriculture Index is available at: <http://holtindex.credit-suisse.com/>

Figure 89: Credit Suisse Agriculture Index versus MSCI World Index



Source: Credit Suisse HOLT, Credit Suisse research

Companies Mentioned (Price as of 04 Jun 09)

AGCO Corp (AG, \$30.40, OUTPERFORM, TP \$34.00)
 Ahold (AHLN.AS, Eu8.46, OUTPERFORM, TP Eu11.00, MARKET WEIGHT)
 Ajinomoto (2802, ¥708, NEUTRAL, TP ¥850, MARKET WEIGHT)
 Archer Daniels Midland Inc. (ADM, \$28.38, NEUTRAL, TP \$29.00)
 Associated British Foods (ABF.L, p744.00, NEUTRAL, TP p770.00, MARKET WEIGHT)
 *Astral Foods (ARLJ.J, R97.00, OUTPERFORM, TP R110.00)
 BASF (BASF.DE, Eu31.30, NEUTRAL [V], TP Eu27.00, MARKET WEIGHT)
 Brasilagro S.A. (AGRO3, \$4.03, NEUTRAL [V], TP \$6.00)
 Bunge Limited (BG, \$65.39, NEUTRAL [V], TP \$50.00)
 Cadbury (CBRY.L, p544.50, UNDERPERFORM, TP p615.00, MARKET WEIGHT)
 Campbell Soup Company (CPB, \$28.79, NEUTRAL, TP \$30.00)
 Carrefour (CARR.PA, Eu32.23, NEUTRAL, TP Eu30.00, MARKET WEIGHT)
 Casino Guichard (CASP.PA, Eu50.66, UNDERPERFORM, TP Eu49.00, MARKET WEIGHT)
 Cencosud SA (CENCOSUD, \$2.56, NEUTRAL [V], TP \$2.00)
 China Mengniu Dairy (2319.HK, HK\$18.08, UNDERPERFORM [V], TP HK\$9.10)
 China Yurun (1068.HK, HK\$12.08, NEUTRAL [V], TP HK\$8.57)
 Colruyt (COLR.BR, Eu166.95, NEUTRAL, TP Eu162.00, MARKET WEIGHT)
 ConAgra Foods, Inc. (CAG, \$19.61, NEUTRAL, TP \$16.00)
 Costco Wholesale Corporation (COST, \$47.87, OUTPERFORM, TP \$55.00)
 Danone (DANO.PA, Eu32.50, OUTPERFORM, TP Eu53.00, MARKET WEIGHT)
 Dean Foods Company (DF, \$18.48, NEUTRAL, TP \$22.00)
 Deere & Co. (DE, \$46.42, OUTPERFORM [V], TP \$56.00)
 Delhaize (DELB.BR, Eu50.41, NEUTRAL, TP Eu47.00, MARKET WEIGHT)
 Dow Chemical Company (DOW, \$17.97, OUTPERFORM [V], TP \$21.00)
 E.I. du Pont de Nemours and Company (DD, \$28.71, OUTPERFORM [V], TP \$32.00)
 Engro Chemical Pakistan Limited (EGCH.KA, PRs129.00, OUTPERFORM [V], TP PRs204.00)
 Fauji Fertilizer Company Limited (FAUF.KA, PRs99.00, OUTPERFORM, TP PRs130.00)
 General Mills (GIS, \$51.97, OUTPERFORM, TP \$62.00)
 George Weston Limited (WN.TO, C\$60.03, NEUTRAL, TP C\$63.00)
 H.J. Heinz Company (HNZ, \$36.56, NEUTRAL, TP \$37.00)
 Hormel Foods (HRL, \$35.10, NEUTRAL, TP \$34.00)
 *Illovo Sugar Limited (ILVJ.J, R28.38, OUTPERFORM, TP R30.00)
 Incitec Pivot (IPL.AX, A\$2.72, OUTPERFORM [V], TP A\$3.10)
 Indofood Agri Resources Ltd (IFAR.SI, S\$1.36, OUTPERFORM [V], TP S\$1.15)
 IOI Corporation (IOIB.KL, RM4.64, UNDERPERFORM [V], TP RM3.70)
 Israel Chemicals (ICL.TA, NIS44.80, OUTPERFORM [V], TP NIS62.00)
 Itoham Foods (2284, ¥355, NEUTRAL, TP ¥300, MARKET WEIGHT)
 K + S (SDFG.DE, Eu52.73, NEUTRAL [V], TP Eu37.00, OVERWEIGHT)
 Kellogg Company (K, \$44.04, OUTPERFORM, TP \$50.00)
 Kraft Foods, Inc. (KFT, \$27.04, NEUTRAL, TP \$28.00)
 Kroger Co. (KR, \$22.99, OUTPERFORM, TP \$26.00)
 Kuala Lumpur Kepong (KLKK.KL, RM11.80, UNDERPERFORM, TP RM11.80)
 Kubota (6326, ¥700, NEUTRAL [V], TP ¥550, MARKET WEIGHT)
 Lawson (2651, ¥3,880, NEUTRAL, TP ¥4,200, MARKET WEIGHT)
 Lindt & Sprungli (LISP.S, SFr1994.00, NEUTRAL, TP SFr1600.00, OVERWEIGHT)
 Loblaw Companies Limited (L.TO, C\$34.77, NEUTRAL, TP C\$34.00)
 Marfrig (MRFG3, \$8.51, OUTPERFORM [V], TP \$8.20)
 McCormick & Company (MKC, \$30.91, NEUTRAL, TP \$33.00)
 Metro (MEOG.F, Eu35.92, NEUTRAL [V], TP Eu30.00, MARKET WEIGHT)
 Metro Inc. (MRUa.TO, C\$35.35, NEUTRAL, TP C\$38.00)
 Monsanto Company (MON, \$82.90)
 Morrison (William) (MRW.L, p254.00, OUTPERFORM, TP p340.00, MARKET WEIGHT)
 Nestle (NESN.VX, SFr39.90, OUTPERFORM, TP SFr52.00, MARKET WEIGHT)
 Nippon Meat Packers (2282, ¥1,128, NEUTRAL, TP ¥1,020, MARKET WEIGHT)
 Nissin Foods Holdings (2897, ¥2,960, OUTPERFORM, TP ¥3,400, MARKET WEIGHT)
 Nufarm (NUF.AX, A\$11.80, UNDERPERFORM [V], TP A\$11.90)
 Pao de Acucar (PCAR4, \$18.89, OUTPERFORM [V], TP \$21.00)
 People's Food Holdings Ltd (PPFH.SI, S\$62, NEUTRAL [V], TP S\$69)
 Perdigao (PRGA3, \$19.74, OUTPERFORM [V], TP \$23.60)
 PT Astra Agro Lestari Tbk (AALI.JK, Rp18650.00, NEUTRAL [V], TP Rp16200.00)
 PT London Sumatra Indonesia (LSIP.JK, Rp6400.00, OUTPERFORM [V], TP Rp5400.00)
 Ralcorp (RAH, \$60.53, OUTPERFORM, TP \$72.00)
 Sadia (SDIA4, \$2.47, UNDERPERFORM [V], TP \$2.30)
 Safeway Inc. (SWY, \$20.73, OUTPERFORM, TP \$25.00)

Sainsbury (SBRY.L, p322.00, UNDERPERFORM, TP p300.00, MARKET WEIGHT)
 Sao Martinho (SMTO3, \$8.94, NEUTRAL [V], TP \$8.00)
 Sara Lee Corporation (SLE, \$9.14, NEUTRAL, TP \$10.00)
 Seven & I Holdings (3382, ¥2,295, OUTPERFORM [V], TP ¥2,900)
 Shinsegae Co. (004170.KS, ₩452,500, NEUTRAL, TP ₩510,000)
 Sime Darby (SIME.KL, RM6.95, UNDERPERFORM, TP RM5.30)
 Sinofert Holdings Ltd (0297.HK, HK\$4.21, UNDERPERFORM [V], TP HK\$3.30)
 SLC Agricola (SLCE3, \$9.16, NEUTRAL [V], TP \$8.00)
 Smithfield Foods (SFD, \$12.42, NEUTRAL [V], TP \$11.00)
 Soquimich (SQM, \$36.85, UNDERPERFORM, TP \$29.00)
 Syngenta (SYNN.VX, SFr263.75, NEUTRAL, TP SFr300.00, MARKET WEIGHT)
 Taiwan Fertilizer Co Ltd (1722.TW, NT\$108.00, OUTPERFORM [V], TP NT\$104.50)
 Tesco (TSCO.L, p360.80, OUTPERFORM, TP p400.00, MARKET WEIGHT)
 The Hershey Company (HSY, \$35.14, UNDERPERFORM, TP \$30.00)
 Tingyi (0322.HK, HK\$11.58, RESTRICTED)
 *Tongaat Hulett (TONJ.J, R77.11, NEUTRAL, TP R77.00)
 Tyson Foods (TSN, \$13.64, NEUTRAL [V], TP \$13.00)
 Unilever NV (UNc.AS, Eu17.51, UNDERPERFORM, TP Eu19.00, MARKET WEIGHT)
 Unilever PLC (ULVR.L, p1507.00, UNDERPERFORM, TP p1700.00, MARKET WEIGHT)
 United Tractors (UNTR.JK, Rp10900.00, OUTPERFORM [V], TP Rp13600.00)
 Wal-Mart Stores, Inc. (WMT, \$50.87, NEUTRAL, TP \$53.00)
 Walmex (WALMEXV, \$2.90, UNDERPERFORM, TP \$2.50)
 Wesfarmers (WES.AX, A\$21.66, UNDERPERFORM, TP A\$17.00)
 Wilmar International Ltd (WLIL.SI, S\$4.71, NEUTRAL [V], TP S\$4.54)
 Woolworths (WOW.AX, A\$26.63, NEUTRAL, TP A\$28.50)
 Yara International ASA (YAR.OL, NKr207.50, OUTPERFORM [V], TP NKr300.00, MARKET WEIGHT)

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Disclosure Appendix

Important Global Disclosures

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