Prospects for commodity markets

After strengthening during the first quarter of 2012, most commodity prices have since retreated below their end-2011 levels (figure Comm.1). The fall of prices was particularly sharp during May as the debt crisis in Europe intensified and China's growth slowed. The World Bank's average crude oil price dropped to $92/bbl in early June, 18 percent lower than May 1st. Most metals and raw materials also fell sharply on concerns about global demand, especially in China. Food prices declined less due to tightness in edible oils and weather concerns. Part of the recent decline in commodity prices reflects the US$ appreciation which gained 6.1 percent against the euro between May 1 and June 5, and 4.5 percent against a broader index of currencies.

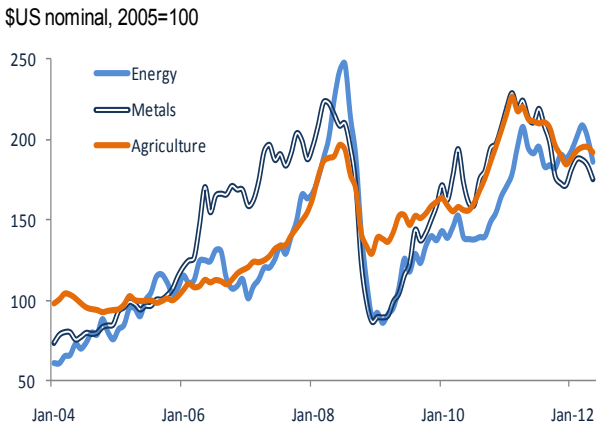
Under the baseline scenario which assumes a gradual easing of financial tensions in Europe, oil prices are expected to average 106.6/bbl in 2012, up from $104.0/bbl in 2011, assuming no further disruptions in the Middle East as OPEC continues to keep the market well supplied (table Comm.1). Metals prices are expected to decline by 11 percent in 2012 on slower demand growth and new capacity coming online. Food prices in 2012 are expected to average 3 percent lower than in 2011, assuming a normal crop year and energy prices staying at current levels. Declines are also expected in raw materials prices due to weaker demand.

There are both up- and down-side risks to the forecast. On the up-side, a deepening of political unrest in the Middle East and North Africa, or a flare up of tensions surrounding Iran, could result in further supply losses and hence higher oil prices--with potentially serious consequences for global activity (see main text). Stronger than expected demand by China could raise metals prices, while a continuation of supply constraints that has plagued the industry could further tighten markets. In view of low stock levels in some agricultural markets, food prices are likely to remain sensitive to adverse weather conditions and energy prices. On the down-side, a sharp deterioration in the global macroeconomic environment could provoke a steep decline in energy and metal prices. Food prices, however, are not likely to be affected as much since most food commodities are less sensitive to income changes than energy and metals.

Crude Oil

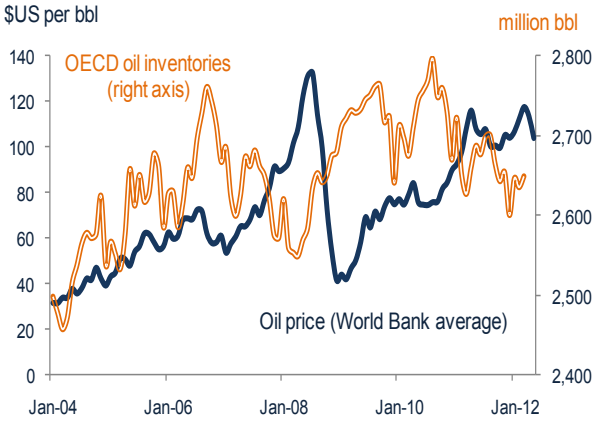
Oil prices (World Bank average) jumped from $104/bbl in 2011 to nearly $118/bbl in March before receding back to $104/bbl in May (figure Comm.2). The price increases earlier in the year occurred despite the fact that global oil demand was growing relatively slowly. World oil

Figure Comm.1 Commodity price indices



Source: World Bank

Figure Comm.2 Oil prices and OECD oil stocks



Source: IEA, World Bank.

Table Comm.1 Nominal price indices—actual and forecasts (2005 = 100)

	ACTUAL						FORECAST		CHANGE (%)	
	2006	2007	2008	2009	2010	2011	2012	2013	2011/12	2012/13
Energy	118	130	183	115	145	188	191	185	1.3	-3.0
Non-Energy	125	151	182	142	174	210	192	188	-8.5	-2.2
Agriculture	112	135	171	149	170	209	193	184	-7.8	-4.4
Food	111	139	186	156	170	210	204	193	-2.7	-5.7
Beverages	107	124	152	157	182	208	168	163	-19.3	-2.7
Raw Materials	118	129	143	129	166	207	177	174	-14.3	-1.9
Fertilizers	104	149	399	204	187	267	268	245	0.4	-8.5
Metals	154	186	180	120	180	205	182	189	-11.2	3.7
Memorandum items										
Crude oil ($/bbl)	64	71	97	62	79	104	107	103	2.5	-3.4
Gold ($/toz)	604	697	872	973	1,225	1,568	1,675	1,600	6.8	-4.5

Source: World Bank.

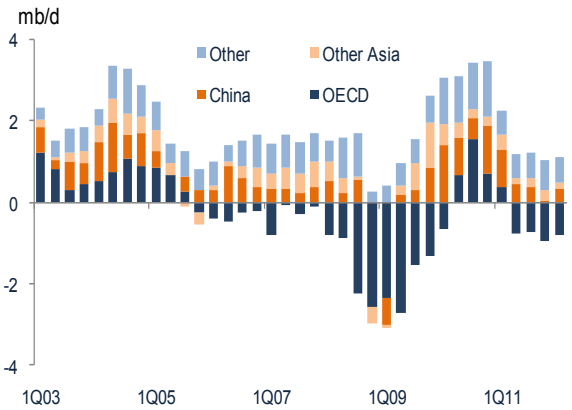
demand increased only 0.7 percent in 2011, and demand growth remained weak during the first quarter of 2012 partly due to a mild winter in the northern hemisphere. OECD oil demand is down more than 4 mb/d or 9% from its 2005 peak. Japan is the only OECD country which increased crude oil demand, with most of the additional demand going to power generation to compensate for lost nuclear capacity. Non-OECD oil demand also slowed, but still remains positive and robust (figure Comm.3).

Rising prices mainly reflect developments on the supply side, notably the loss of more than 1 mb/d in non-OPEC production due to geopolitical and technical problems, including tensions between the U.S./EU and Iran over its nuclear program. The EU banned Iranian imports, while the U.S. prohibits financial institutions that deal with the U.S. from doing business with Iran. Both decisions come into full effect in July.

According to the IEA, up to 1 mb/d of Iranian exports may be halted by this summer. Although Saudi Arabia has stepped up production to compensate for various supply losses, including 1.3 mb/d of Libya's light sweet crude last year (but recovering quickly), OECD inventories have fallen—particularly in Europe and Japan. Higher Saudi production has also lowered OPEC spare capacity—contributing to a generalized sense of tight markets (figure Comm.2).

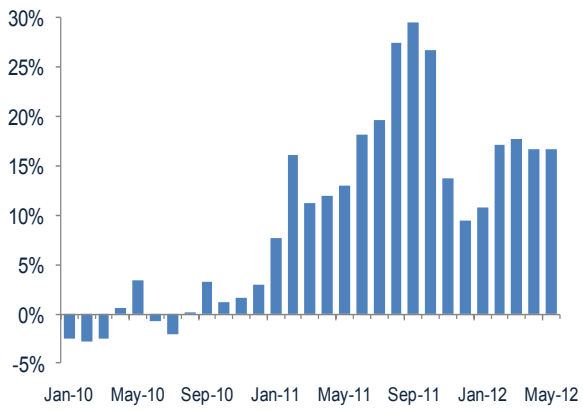
Although Brent prices topped $126/bbl, West Texas Intermediate has remained some $15/bbl below due to the build-up of stocks in the U.S. mid-continent (figure Comm.4). Greater crude flows from Canada through the Keystone pipeline that commenced in 2011 and rapidly

Figure Comm.3 World oil demand growth



Source: World Bank

Figure Comm.4 Brent/WTI price differential



Source: World Bank

rising shale-liquids production in North Dakota have contributed to the build-up of U.S. stocks—at a time when oil consumption is dropping. Currently, there is limited capacity to transport surplus oil to the U.S. Gulf coast, apart from some utilization of rail, barge and truck where possible. While new pipelines and reversal of exiting lines to the U.S. Gulf are planned, the WTI discount is likely to persist for some time.

Oil market conditions are expected to ease in 2012

Looking forward, world oil demand is projected to grow nearly 1% this year, with all of the growth in developing countries. On the supply side, the decline in non-OPEC production growth in 2011 appears to have reversed (figure Comm.5). Overall, a net 0.7 mb/d will be added to global supplies from non-OPEC sources, including Canada, Brazil, Russia and Colombia, but the largest increment will come from the U.S. reflecting large-scale investments to exploit shale rock deposits via use of horizontal drilling and hydraulic fracturing. This technology was first used to extract natural gas, which has risen by 28% since 2005, and caused the U.S. price of natural gas relative to crude oil to fall by 75 percent (box Comm.1).

As a result, U.S. producers are shifting from drilling in dry-gas shale deposits to more liquids-rich (wet gas) and oil-bearing shale deposits. Shale-liquids (or tight oil) production is just commencing and has great potential going forward—although there are concerns about the environmental aspects of fracturing and water use.

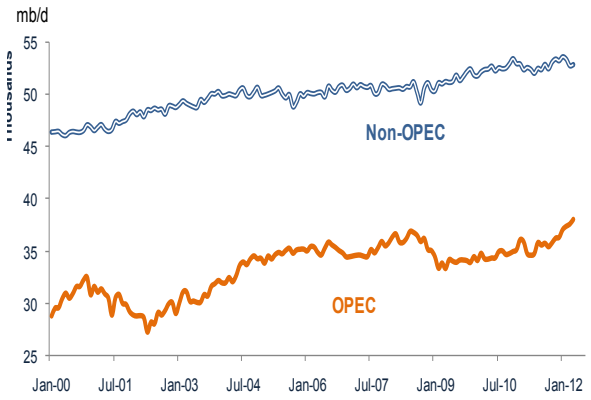
Production among OPEC countries has risen 1.8 mb/d since end-2010 (prior to disruptions in Libya), with Saudi Arabia accounting for 1.5 mb/d of the net gain (figure Comm.6). In the meantime, Libya's oil production has recovered to 1.4 mb/d, compared with 1.6 mb/d pre-crisis, although further gains may be difficult due to internal disputes. Iraq's production hit an 11-year high in April of 3.0 mb/d, and exports are increasing from a new mooring system in the Gulf. Iran's exports have declined by 0.3 mb/d from pre-sanctions levels, and are set to tumble further unless alternative buyers (or buying arrangements) can be found. Iran's traditional crude buyers are struggling to arrange payment mechanisms, secure ships to lift oil, and to engage insurance companies to underwrite the trade.

The net growth in OPEC production has reduced spare capacity to 3.1 mb/d (figure Comm.7), of which nearly two-thirds is in Saudi Arabia. The Saudi Oil Minister has promised to keep the market well supplied, and also deems that $100/bbl is a fair price.

Outlook

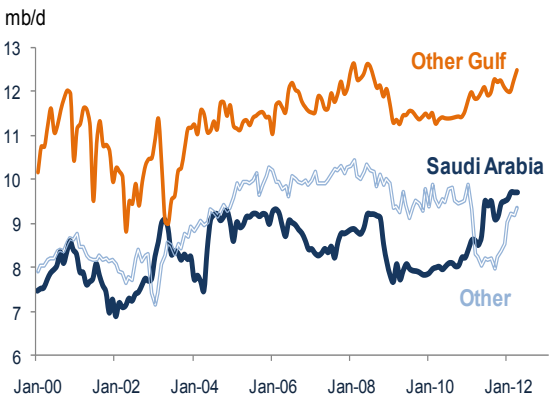
In the near term, oil prices are unlikely to exceed their recent highs of $120/bbl, in part because of the indicated willingness of U.S., UK and France to use strategic reserves to assure adequate

Figure Comm.5 World oil production



Source: IEA

Figure Comm.6 OPEC crude oil production

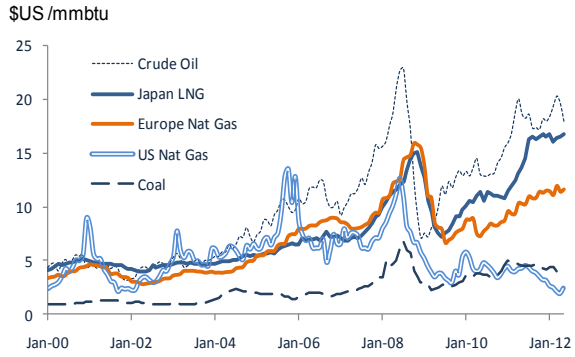


Source: IEA

Box Comm.1 Induced Innovation, Price Divergence, and Substitution

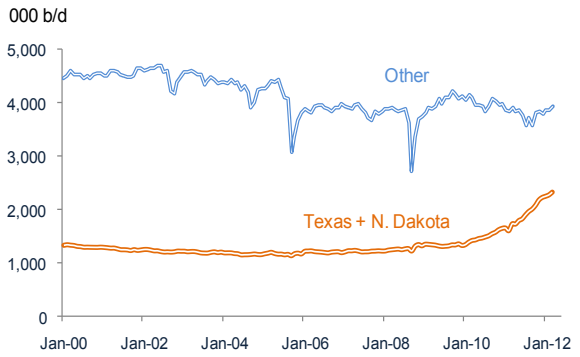
Because large and sustained changes in commodity prices often alter the relative prices of inputs, they induce innovations that support more efficient production or consumption of substitute (or the same) products. The induced innovation hypothesis was originally proposed by Hicks (1932), who noted that "… a change in the relative prices of the factors of production is itself a spur to invention and to inventions of a particular kind–directed at economizing the use of a factor which has become relatively expensive." The hypothesis has been studied extensively (see, for example, Ahmad (1966) and Kamien and Schwartz (1968) for the theoretical considerations; Binswanger (1974) for an application to agriculture, and Newell, Jaffee, and Stavins (2000) and Popp (2002) for applications to energy). In the context of the post-2005 commodity price boom, high energy prices induced significant increase in shale gas exploration and production in the U.S., in turn, causing natural gas prices to fall to just 12% of crude oil prices from near 75% in the decade of the 2000s (box figure Comm 1.1). High energy prices also induced exploration in oil-bearing shale plays, especially in North Dakota and Texas, thus increasing oil production in (box figure Comm 1.2). On the consumption side, high oil prices have triggered new vehicle efficiency standards and alternative/hybrid vehicles that are set to further reduce gasoline demand.

Box figure Comm 1.1 Energy prices



Source: World Bank

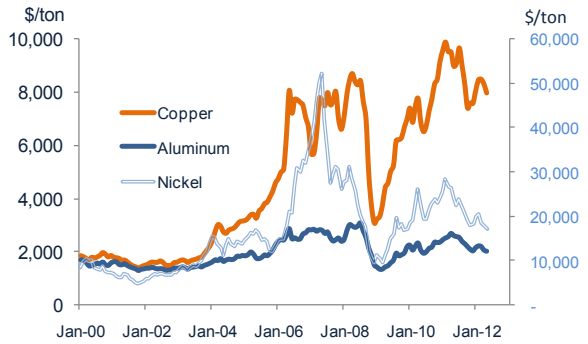
Box figure Comm 1.2 U.S. Crude oil production



Source: IEA

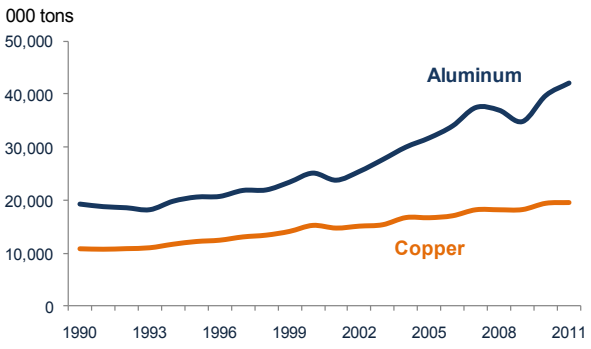
Similar trends have taken place in metals. Copper and aluminum traded at similar price levels 10 years ago, but high copper prices (box figure Comm 1.3) induced substitution to other materials, e.g., aluminum coated wiring and plastic tubing. Aluminum—a light-weight strong metal—continues to displace steel in autos and other applications. Consequently aluminum's volume growth over the past ten years has been nearly four times that of copper (box figure Comm 1.4). And, the nickel price boom caused China to import low grade ores from the Philippines and Indonesia to produce nickel pig iron and reduce refined nickel imports.

Box figure Comm 1.3 Refined metal prices



Source: World Bank.

Box figure Comm 1.4 Refined metal consumption



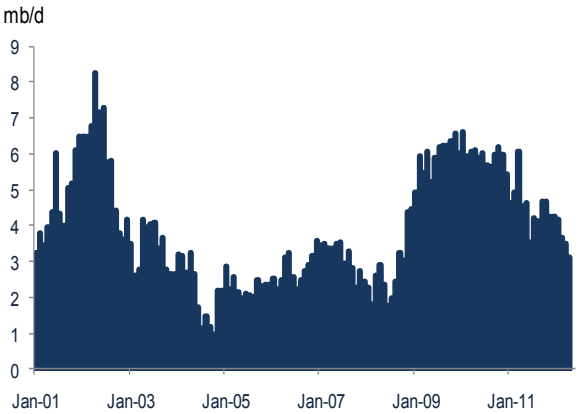
Source: World Bureau of Metal Statistics

supply. Upside risks entail supply disruptions due to further technical and geopolitical problems, particularly in countries dealing with conflict and security, including Libya and Iraq.

In the medium term, world oil demand is expected to grow moderately, at 1.5% p.a., with all of the growth in demand coming from developing countries. Global growth will remain well below GDP growth, reflecting efficiency improvements in vehicle transport—partly induced by environmental pressures to reduce emissions, especially in OECD countries. Consumption growth in developing countries is expected to moderate in the longer term as their economies mature, as subsidies are phased out, and as other fuels penetrate their fuel mix, notably with natural gas.

On the supply side, non-OPEC oil supply is expected to continue its upward climb, in part due to high prices and continued advances in upstream technology. There are no physical resource constraints into the distant future, and new frontiers continue to be exploited, e.g., deep water offshore and shale liquids, with new technologies that lower unit costs. The main impediments to investments are above ground, such as access to resources, security of operations and investments, and suitable fiscal terms and conditions. Production increases are expected from a number of areas, such as Brazil, Canada, the Caspian, West Africa, and the United States. These will be partially offset by declines in mature areas such as the North Sea.

Figure Comm.7 OPEC spare capacity



Source: IEA

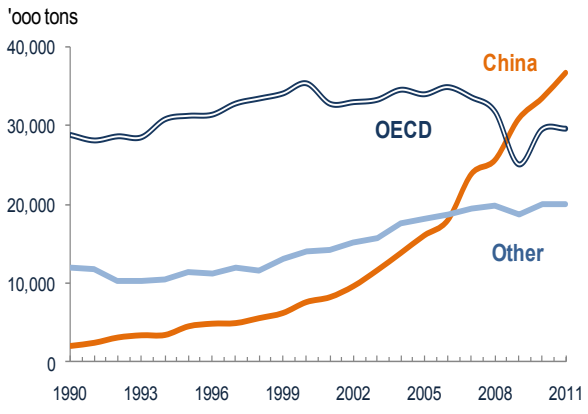
Oil prices are expected to average $107/bbl in 2012 and decline slightly to $103/bbl in 2014 as ample supply is likely to accommodate moderate growth in demand. Over the longer term oil prices are projected to fall (a little less than $100/bbl in 2025 in nominal terms), due to slowing global demand growth, increased supply of conventional and (especially) unconventional oil, efficiency gains, and substitution away from oil. The long-term assumptions that underpin such projections are based on the upper-end cost of developing additional oil capacity, notably from oil sands in Canada, currently assessed at $80/bbl in 2012 dollars. It is expected that OPEC will continue to limit production in an effort to keep prices relatively high, given the large expenditure needs in most countries.

Metals

Metals prices rose 7 percent during Q1:2012 from the earlier quarter on recovering demand in the U.S. and strong import demand in China, most of which went to restocking. However, prices began to ease from their February highs on renewed concerns about global growth, slowdown in China, still high stocks for most metals, and emerging supply growth. China metals import demand slowed in 2012, portending a few weak months owing to destocking, but the country consumes 43% of world's metal output (figure Comm.8).

While most metals prices are well below their former peaks due to ample supplies, copper

Figure Comm.8 Metals consumption



Source: World Bureau of Metal Statistics

prices in May 2012 averaged just 20% below their February 2011 highs and well above production costs due to chronic supply problems, including project delays, labor disputes, and declining ore grades. A prolonged period of high prices has generated substantial investment in new capacity, and supply is emerging for nickel in significant volumes, and is soon to emerge for copper after a long period of supply tightness.

Recent developments in metal markets

Aluminum prices fell to $2000/ton in the second quarter, near where they were in 2005, in response to a persistent global surplus and high stocks. Prices nevertheless are at or below marginal production costs for many producers, with more limited downside risk to prices. In addition, a significant amount of inventories are tied up in warehouse financing deals, and unavailable to the market. Consumption continues to benefit from substitution, mainly from coppers' wiring and cable sectors, as copper prices are some four times that of aluminum. Substitution is expected to continue as long as the copper/aluminum price ratio is at least 2:1, as expected over the forecast period. Global production capacity continues to outstrip consumption, the bulk of which comes from China, and less so from new capacity in Middle East, and restart of idle capacity in North America and Europe. Market surpluses are expected to endure in the near term, but prices are expected to rise in the medium term due to rising costs, especially for energy (which accounts for about 40% of production costs) but also carbon and alumina.

Copper prices rose sharply in early 2012 on falling inventories and strong Chinese import demand which, in recent years has led to significant thrifting and substitution of copper use, and has accelerated recycling rates of scrap reprocessing. These trends are expected to continue in the near term. Copper demand is projected to increase only moderately over the forecast period at about 2.5% p.a., and moderate over the longer term as copper intensity in China—which has risen sharply—plateaus and declines. Copper mine supply (flat in 2011) has struggled to keep pace with demand the last several years due to a host of difficulties, e.g., technical problems, labor strikes, declining ore grades, delayed start-up of projects, rising costs, and shortages of skilled manpower, equipment and materials. The tightness in the copper market in 2011 reflected disruptions and lower grade ore output, and was most pronounced at the world's two largest mines—Escondida in Chile (-24% y/y) and Grasberg in Indonesia (-31% y/y). However, high copper prices have induced a wave of new mine supplies that is expected to come on-stream, especially from Africa's copper belt, Peru, the U.S. and China, and is expected to tip the market into surplus.

Nickel prices rose in early 2012 on improved macro sentiment, but then receded on a sluggish market for stainless steel (the end use of more than two-thirds of nickel production) and rapid restart of nickel pig iron (NPI) production in China. The country accounts for 40% of global stainless steel production—up from 4% a decade ago—and stainless steel undergoes significant stocking/destocking cycles, hence contributing to the volatility of nickel prices. Stainless steel demand is expected to remain robust, growing by more than 6% p.a., driven by its high grade consumer applications and growing wealth and size of middle classes in emerging markets. A wave of new nickel mine capacity is expected to keep nickel prices close to the marginal cost of production. Several ferro-nickel and high pressure acid leach (HPAL) projects will soon ramp up production, including in Australia, Brazil, Madagascar, New Caledonia and Papua New Guinea. HPAL projects have had considerable technical problems and delays in recent years, thus there is a risk that these projects will come on-line more slowly than expected. The other major source of supply is nickel pig iron (NPI) in China, which sources low-grade nickel ore from Indonesia and the Philippines. However, Indonesia has proposed developing its own NPI industry and is considering banning nickel ore exports from 2014. Nickel prices are expected to decline over the forecast period due to the substantial supply additions in the coming years, and are expected

Box Comm.2 The role of emerging markets in commodity consumption

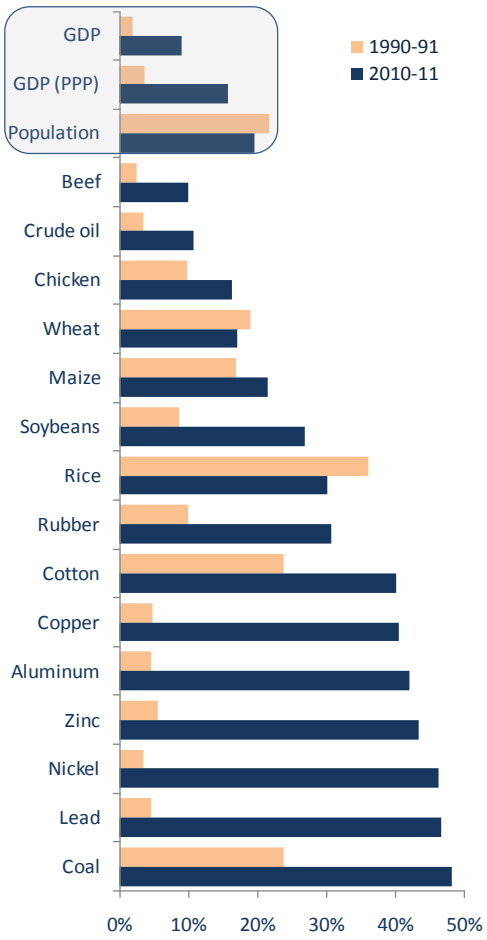
Emerging market demand, especially by China, has been a major force in pulling up the prices of refined metals. In energy commodities, while China plays an important role (especially in coal), its share of crude oil consumption is more limited, but is a major contributor to growth. In fact, it is the entire group of emerging economies that has been the key driver of oil prices. In food commodities, the role of emerging economies is less important than sometimes thought (Baffes 2012).

Since 1990, China's refined metal consumption (aluminum, copper, lead, nickel, tin, and zinc) has jumped seventeen-fold; China now accounts, for 43 percent of the world's refined metal consumption, up from just 5 percent two decades ago (Figure Comm 2.1). This enormous share of the world's metal market reflects substantial investment in construction, infrastructure, and manufacturing that has led China's rapid economic growth. In 1990, China's metal intensity (metal use per $1,000 of real GDP) was three times higher than the rest of the world. By 2008, it was almost nine times higher (Figure Comm 2.2). High demand by China has been instrumental to the super-cycle in metal prices (Jerrett and Cuddington 2008).

Emerging market demand has played a critical role in increasing demand for, and price of, crude oil (Killian 2009). In 1965, OECD countries accounted for three-quarters of global crude oil consumption, but by 2010 their share had fallen to a little over half. Over the same period, China's and India's shares grew from less than one percent each to roughly 10 and 4 percent, respectively. Over the past 15 years non-OECD countries' share of oil consumption has increased from 35 percent to 47 percent. More important, developing countries accounted for all the net growth in global crude oil consumption in the last decade.

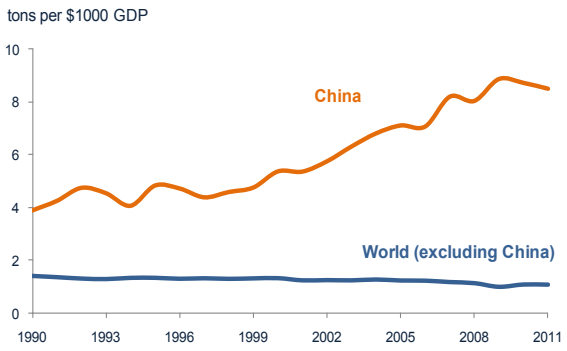
The role of emerging market demand has been much more muted in food commodities, despite the conventional wisdom that rising incomes have translated into much greater demand for food, and hence, higher food prices (see Krugman (2008) and Wolf (2008) as well as Alexandratos 2008 and Baffes and Haniotis (2010) for different views). For example, while in some food commodities China's share in global consumption increased (e.g., meats, soybeans, and to a lesser extent maize) in others did not. In fact, for China's share in rice and wheat declined--from 36.1 to 30.1 percent in rice and from 18.9 to 17 percent in wheat. India's per capita grain consumption has declined as well; and, its per capita calorie intake declined also, despite sharply rising incomes and increased consumption of fruits and vegetables (Deaton and Dreze 2008). Thus, a slowdown in China's growth is likely to have a large impact on metal prices, a moderate impact on crude oil prices, and very little effect on food prices. More generally, a slow-down in emerging economy growth is likely to affect energy prices the most.

Box figure Comm 2.1 China's share of world's commodity consumption



Source: World Bank, USDA, UN, Metal Statistics, IEA

Box figure Comm 2.2 China's metal intensity



Source: World Metal Statistics

to remain within a band of $18,000-$23,500 per ton.

Outlook

Overall, metals prices are expected to decline 11 percent in 2012 on moderating demand growth and reduced metals intensity in China, and increases in new mine capacity (see box Comm.2 for the role of China in commodity consumption). However, aluminum prices are expected to increase over the forecast period due to rising power costs, and the fact that current prices have some producers at or below production costs. Although there are little physical constraints over the forecast period, there are a number factors could result in upward pressure on prices in the longer term such as declining ore grades, environmental and land rehabilitation, as well as rising costs for water, energy and labor.

There are also geopolitical risks from rising resource nationalism, and increased government intervention. The Indonesian government has signed an order to ban exports of all raw ores from 2014, which would affect producers of nickel ore, copper and bauxite. Governments have also been increasing taxes to raise revenues. Depending on the design of those taxes and how widespread tax increases become, such increases could impact future supply and prices.

Agriculture

Despite rising in the first half of 2011, the US dollar price of internationally traded agricultural commodities subsequently eased substantially, ending the year 10 percent lower than a year ago. Prices, especially of food commodities, firmed again, rising 6 percent from December 2011 to April 2012, but declined 2 percent in May (figure Comm.9).

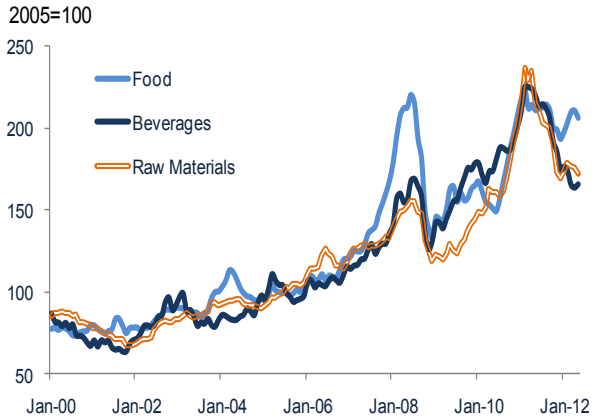
Food prices followed a similar pattern, ending 2011 7.3 percent lower than in December 2010, and firming 6.6 percent since then. Currently (May 2012) they are 2.2 percent lower than a year ago. In real terms, agricultural prices in 2012 are expected to be on average 8.6 percent lower than 2011, but still more than 75 percent above their 2000 levels.

The easing of international food prices has been partly reflected in a moderation of food price inflation in several regions (see Main Text). For example, food price inflation decelerated in Middle East and North Africa and South Asia, while in Europe and Central Asia consumer food prices have actually declined—in contrast, food price inflation has accelerated in Sub-Saharan Africa and Latin America and the Caribbean. Yet, domestic food prices in developing countries remain 25 percent higher relative to non-food consumer prices than they were at the beginning of 2005—a large increase considering that food often represents than 50 percent of their total expenditures of urban families in developing countries (and in very poor countries it reaches 80-90 percent).

Most of the drivers of the post-2005 price increases are still in place (table Comm.2). Energy and fertilizer prices (key inputs to the production of most agricultural commodities) are still high. The US dollar remains weak by historical standards (despite its recent appreciation), while most agricultural commodity markets (especially grains) are experiencing low stock levels.

Nevertheless, three "new" drivers of commodity prices, notably, financial investment activity, biofuels, and export restrictions, have given the

Figure Comm.9 Agriculture price indices



Source: World Bank

Table Comm.2 Most of the post-2005 boom condition are still in place

	2000-05	2006-11	Change
Agricultural prices (nominal index, 2005 = 100)	**87**	**158**	**81%**
Grain price volatility (stdev of log differences, monthly)	**4.5**	**8.0**	**78%**
Crude oil price (US$/barrel, nominal)	33	80	142%
Fertilizer prices (nominal index, 2005 = 100)	75	218	191%
Exchange rate (US$ against a broad index of currencies, 1997 = 100)	119	103	-14%
Interest rates (10-year US Treasury bill, nominal)	4.7%	3.7%	-21%
Funds invested in commodities (US$ billion)	80	230	188%
GDP growth (low and middle income countries, % p.a.)	6.7	7.2	7%
Industrial production growth (low and middle income countries, % p.a.)	5.6	6.5	16%
Biofuel production (millions of barrels per day equivalent)	0.5	1.5	220%
Stocks (total of maize, wheat, and rice, months of consumption)	3.0	2.5	-15%
Yields (average of wheat, maize, and rice, tons/hectare)	3.7	4.1	9%
Growth in yields (average of wheat, maize, and rice, % p.a.)	0.9	1.4	56%
Natural disasters (droughts, floods, and extreme temperatures)	220	207	-6%
OECD policies (Producer NPC, %)	1.3	1.1	-11%

Note: The NPC (OECD policies) for the second period is based on the 2006-2010 average.
Source: World Bank, US Treasury, US Department of Agriculture, Federal Reserve Bank of St. Louis, Barclays Capital, Center for Research for the Epidemiology of Disasters, and OECD.

first signs of moderation. Investment fund activity is currently at 330 US$ billion (as of 2012:Q1), a level similar with the end of 2011, but 9 times higher than a decade ago, when this activity started becoming a popular investment vehicle within the financial community. Production of biofuels did not increase in 2011 and is expected to increase only marginally in 2012. Lastly, with the exception of the Indian cotton ban earlier in March—which did not impact cotton prices because the market was well-supplied—policy restrictions have not been a problem in agricultural markets.

Recent developments in agricultural markets

Grain prices declined by 7 percent between August and December of 2011. This was in response to the improved 2011/12 outlook. Indeed, between May and December 2011, the global grain end-of-season stock outlook for the 2011/12 crop season, improved by 7 percent with most of the gains realized in the maize (15 percent) and wheat (3.5 percent) stocks. Prices reversed course at the beginning of 2012, gaining some 9 percent within 4 months after it became apparent that supply conditions were tighter than originally though. Specifically, between December 2011 and March 2012, maize and wheat prices gained 8.5 and 5.5 percent, respectively. Tight maize supplies caused maize to be traded at roughly the same price level with wheat, a very rare occurrence—historically, wheat has been traded 30 percent higher than maize (figure Comm.10). In May, however, both maize and wheat prices retreated somewhat as the global financial conditions deteriorated and the US$ appreciated. Contrary to maize and wheat the ***rice*** market is well-supplied. During the past 3 years rice prices have averaged almost $530/ton. They temporarily exceeded $600/ton in November 2011, following the implementation of the Thai Paddy Rice Program—Thailand is the world's largest rice exporter, accounting for 25-30 percent of global exports, hence the large influence of its policy actions on world markets. Indeed, the 10 percent increase in rice prices in May has been attributed entirely to the Thai rice program.

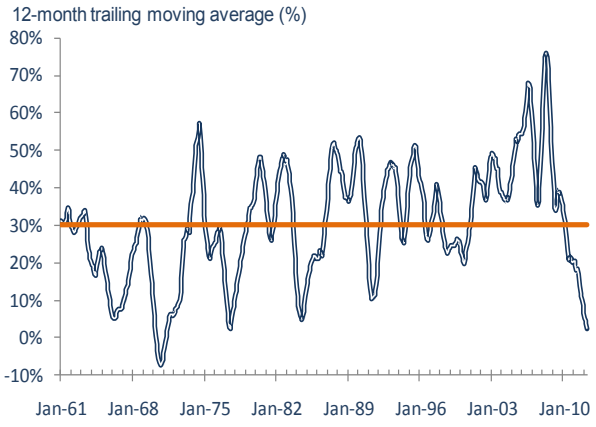
Following 10 months of declines, ***edible oil*** prices began increasing, with the World Bank edible oil price index gaining 19 percent between December 2011 and April 2012. Tight supplies have been the key driver behind higher prices, in part due to persistent drought in South America (soybeans) and in part due to production cyclicality in East Asia (palm oil). As in the case of grains, the edible oil price index declined 2.5 percent in May.

The strength in ***beverage*** prices during 2010-11

was supported primarily by ***arabica*** prices (it averaged close to $6.00/kg during 2011, the highest nominal level). However, news that Brazil's crop for the current season will be much higher than anticipated caused arabica price to plummet 37 percent between May 2011 and May 2012—Brazil is the world's largest arabica supplier. On the contrary, ***robusta*** prices declined only 12 percent over the same period despite a large Vietnamese crop as growers and traders have kept their coffee in anticipation of higher price. ***Cocoa*** prices have weakened considerably during the past five months (25 percent lower than the same period of last year), primarily a response to better crop outlook in Côte d'Ivoire. ***Tea*** prices declined a cumulative 22 percent between the all time high of $3.10/kg in July 2011 and March 2012 as the drought cycles in East Africa eased. However, tea prices gained more than 20 percent between March and May 2012 due to the Indian and Sri Lankan rupee appreciation as well as the new tea crop of higher quality coming in the market.

Tight supplies during the 2010/11 season caused ***cotton*** prices to almost quadruple, from $1.41/kg in September to $5.06/kg in March 2011. Since then, prices reversed direction to decline just as sharply and reach $2.52/kg in August 2011 and $2.10/kg in December 2011. In addition to tight supplies, the rally was aided by India's decision to impose a ban on cotton exports in 2010. A similar ban by India announced in March 2012, did not have any discernable impact on prices. The cotton market is well-supplied by historical standards. ***Natural rubber*** prices reached historic highs, exceeding $6.00/kg in February 2011, more than a 4-fold increase within just 2 years. Tight supplies due to adverse weather in South-East Asia and strong demand by China (mainly destined for tire manufacturing) underpinned the rally. Crude oil prices play a key role as well, because synthetic rubber, a close substitute to natural rubber, is a crude oil by-product. ***Timber*** prices strengthened considerably during 2011, aided by the Tohoku disaster in March 2011. However, prices declined 18 percent between August 2011 and May 2012 as the expected surge in demand did not materialize.

Figure Comm.10 Wheat/maize price ratio



Source: World Bank

Outlook

As supply conditions improve, agricultural prices are projected to decline 7.8 percent in 2012. Specifically, for 2012, wheat and maize prices are expected to average 11.5 and 4.0 percent lower than their 2011 levels while rice prices are anticipated to average at roughly the same level as in 2011, about $550 per ton. Soybean and palm oil prices are expected to be 3.8 and 4 percent lower, respectively. Beverage prices will experience larger declines (cocoa, coffee, and tea, 19.5, 16.5 and, 8.6 percent lower, respectively). On raw materials, timber prices are expected to decline slightly (3.7 percent) but cotton and rubber prices will be 35.4 and 20.2 percent lower.

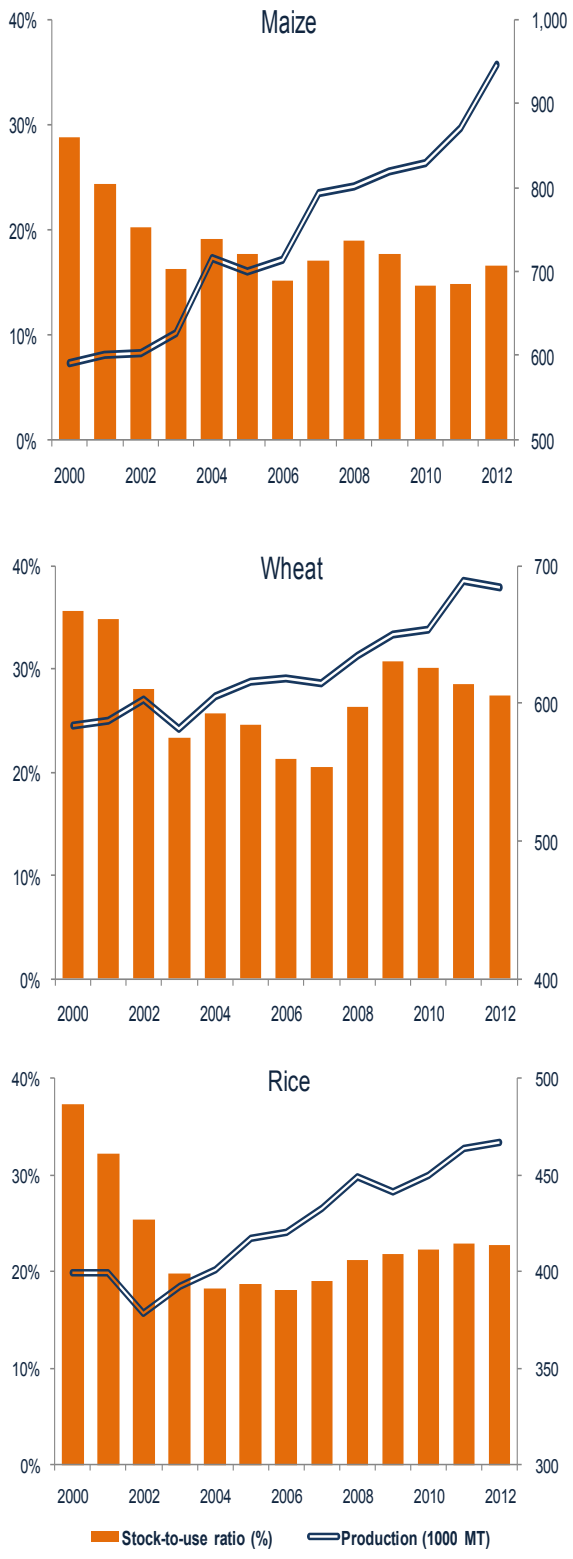
A number of assumptions underpin this outlook. First, the next crop year will be better supplied than 2011/12. The US Department of Agriculture's May 10th outlook—the first projection for the 2012/13 crop, estimated next season's global grain availability (production plus beginning stocks) to reach 2.52 billion tons, up 2.8% from the current season, and 21% higher than the lows reached in 2006/07. Global maize production and end-of-season stocks are set to increase by 8.7-and 19.4% respectively in 2012/13, while moderate increases are expected in the global rice market. The wheat market is expected to be tight next season, however, with production and end-of-season stocks down 2.5- and 4.5% respectively. (figure Comm.11).

Second, there are no foreseeable policy responses that would upset food markets. Such risk however, depends crucially on the degree to which markets are well-supplied. If the assumed outlook materializes, policy actions are unlikely and, if take place, their impact will be limited. For example, when the market conditions for rice and cotton were tight in 2008 and 2010, the respective export bans had a major impact on market prices. However, last year's Thai rice program and the Indian export ban of March 2012 had very limited impact on prices because the markets are well-supplied.

Third, it is assumed that that energy and fertilizer prices will stay at current levels, the former already expected to average 1.3 percent above 2011 and the latter projected to remain at the roughly the same levels . Because agriculture is energy intensive—4 to 5 times more energy intensive than manufacturing—an energy price spike (or decline for that mater) would be followed by food price increases (or declines). The price transmission elasticity from energy to agriculture is about 0.20, implying that for any 10 percent change in energy prices, agricultural prices are expected to change by 2 percent.

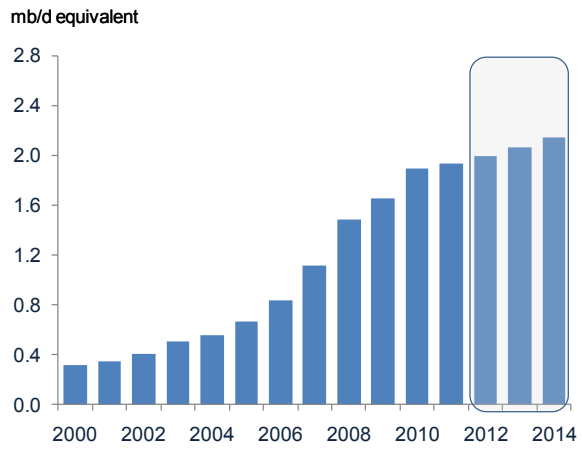
Lastly, biofuels are expected to play a key role in food markets, especially in the long run. Production of biofuels increased only marginally in 2011; it currently accounts for 2/bbl of crude oil equivalent (figure Comm.12). OECD expects it to increase by an annual average of about 3 percent for the next few years, corresponding roughly to 2 percent of global land allocated to grains and oilseeds. Yet, the impact of biofuels on food prices is more complex as it goes far beyond the land diversion. It will depend crucially on (i) whether current energy prices make biofuels profitable and (ii) whether technological developments on existing biofuel crops (maize, edible oils, and sugar cane) or new crops increase the energy content of these crops, thus making them more attractive sources of energy. Thus high energy prices in combination with technological improvements may pose enormous upside risks for food prices in the longer term.

Figure Comm.11 Global Grain Supplies



Source: US Department of Agriculture (May 10, 2012 update).

Figure Comm.12 Biofuel production



Source: BP Statistical Review (history) and OECD (projections).

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