A World Bank Quarterly Report

JANUARY 2015

Commodity Markets Outlook

WORLD BANK GROUP

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Acronyms

bbl	barrel of oil
BP	British Petroleum
DAP	Diammonium Phosphate
GDP	gross domestic product
GTAP	Global Trade Analysis Project
ICE	Intercontinental Exchange
ECB	European Central Bank
EIA	Energy Information Administration
ETF	Exchange Traded Funds
FRED	Federal Reserve Bank of St. Louis
ICA	International Coffee Agreement
IEA	International Energy Agency
ITA	International Tea Agreement
LNG	Liquefied Natural Gas
mb/d	million barrels per day
OECD	Organization of Economic Cooperation and Development
OPEC	Organization of Petroleum Exporting Countries
S/U	Stocks-to-Use ratio
TSP	Triple Superphosphate
USDA	United States Department of Agriculture
USSR	Union of Soviet Socialist Republics
WTI	West Texas Intermediate

Acknowledgments

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The World Bank's Commodity Markets Outlook is published quarterly, in January, April, July, and October. The report provides detailed market analysis for major commodity groups, including energy, metals, agriculture, precious metals, and fertilizers. Price forecasts to 2025 for 46 commodities are also presented, together with historical price data. Commodity price data updates are published separately at the beginning of each month.

The report and data can be accessed at:
www.worldbank.org/commodities

Executive Summary

Broad-based commodity price declines occurred in the second half of 2014. Crude oil prices declined the most, down 55 percent to $47/bbl (barrel) in early January, from a high of $115/bbl in late-June 2014, bringing an end to a four-year period of high and stable prices. The oil price drop is the third-largest seven-month decline of the past three decades—only the 67 percent drop from November 1985 to March 1986 and the 75 percent drop from July to December 2008 were larger. Agricultural, metal, and precious metal prices weakened as well, down by 6, 8, and 9 percent, respectively, in 2014Q4 from the previous quarter (Figures 1 and 2). Ample supplies, disappointing global growth prospects, and an appreciating U.S. dollar have all weighed on prices. In oil markets, a sequence of (upward) supply and (downward) demand revisions, along with OPEC's abandoning of supply management, have played a pivotal role in the price collapse.

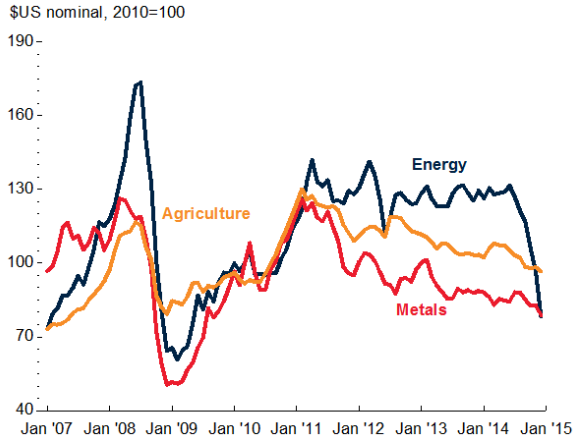
Trends. Although the energy price index experienced the largest drop in 2014Q4 (mostly due to oil), all three industrial commodity price indices (energy, metals and minerals, and agricultural raw materials) have experienced nearly identical declines from their 2011Q1 peaks: 37, 36, and 35 percent lower as of December 2014. The moderate decline in agricultural prices (down 24 percent during this period) reflects strengthening beverage prices (led by the rally in Arabica coffee prices) and some other food items (mostly meat products).

Outlook and risks. The broad-based weakness in commodity prices is expected to extend in 2015 (Table 1). In fact, 2015 is a rare case in which all nine key commodity price indices are expected (as of January) to decline for the year. In the baseline scenario, which assumes no further deterioration in the global macroeconomic environment and OPEC abstaining from any form of supply management, **oil prices** are expected to average $53/bbl in 2015, 45 percent lower than 2014. The large production capacity currently in place points to a continuation of low prices for some time, with prices recovering only modestly, by $4/bbl, in 2016. The weakness in crude oil prices will extend to other energy markets, especially natural gas in Europe and Asia. The European natural gas and the Japanese liquefied natural gas (LNG) price benchmarks are projected to decline 15 and 30 percent, respectively, in 2015. Moderate price declines are expected for coal and U.S. natural gas as well. There are two risks to these forecasts.

- **Further demand and supply pressures**: On the supply side, despite the fact that the costs of extracting unconventional oil may be above current oil prices, because most of these costs are sunk, it will take at least a year before supply moderates and is likely to occur through cancelation of new projects. Furthermore, most energy companies have engaged in cost reduction measures, enabling them to sustain most projects. On the demand side, the International Energy Agency expects further weakening, with oil consumption projected to average 93.3 mb/d in 2015, according to the January 2015 assessment, down from 94.1 mb/d in July 2014 .

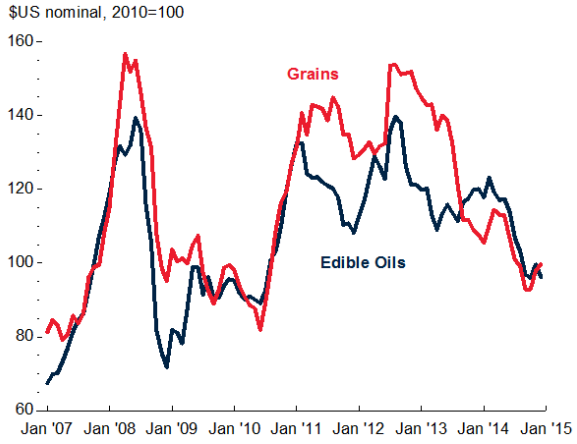
- **OPEC's policies**: A significant part of the decline in oil prices has been driven by the cartel's November 27 decision to let markets determine the price rather than engaging in supply management. Prior to the November decision, Saudi Arabia—OPEC's largest and most influential member—engaged in a series of price discounts to various Asian oil importers, thus signaling the cartel's intention to abandon

FIGURE 1 Commodity price indices



Source: World Bank.

FIGURE 2 Food price indices



Source: World Bank.

TABLE 1 Nominal price indices, actual and forecasts (2010 = 100)

	ACTUAL					FORECAST		CHANGE (%)		
	2010	2011	2012	2013	2014	2015	2016	2013/14	2014/15	2015/16
Energy	100	129	128	127	118	70	75	-7.2	-40.5	6.4
Non-Energy	100	120	110	102	97	92	93	-4.6	-4.9	0.6
Metals	100	113	96	91	85	80	81	-6.6	-5.3	1.2
Agriculture	100	122	114	106	103	98	98	-3.4	-4.8	0.4
Food	100	123	124	116	107	103	103	-7.2	-4.2	0.2
Grains	100	138	141	128	104	100	101	-19.0	-3.7	0.6
Fats and oils	100	121	126	116	109	101	102	-6.0	-7.1	0.5
Other food	100	111	107	104	108	107	107	4.3	-1.0	-0.6
Beverages	100	116	93	83	102	96	95	22.2	-5.6	-1.4
Raw Materials	100	122	101	95	92	86	88	-3.6	-6.0	2.1
Fertilizers	100	143	138	114	100	98	98	-11.6	-2.1	-0.8
Precious metals	100	136	138	115	101	98	98	-12.1	-2.9	-0.7
Memorandum items										
Crude oil ($/bbl)	79	104	105	104	96	53	57	-7.5	-44.8	7.1
Gold ($/toz)	1,225	1,569	1,670	1,411	1,266	1,240	1,225	-10.3	-2.0	-1.2

Source: World Bank.

Note: Definition of prices can be found in the "Description of Price Series" section.

price targeting. OPEC has repeatedly stated that the cartel will not act even if prices decline to $20/bbl.

Agricultural prices, which fell 3.4 percent in 2014, will decline almost 5 percent in 2015 (before recovering marginally in 2016) given that current good crop prospects are unlikely to be reversed during the remainder of the season. Some variation in agricultural prices is expected, however. Grain prices are projected to decline almost 4 percent in 2015, while prices of edible oils and meals will drop more than 7 percent. Although prices of other food items will remain almost unchanged in 2015, some small declines (e.g., shrimp and chicken) will be offset by increases in beef. Beverage prices will decline almost 6 percent, driven by coffee (Arabica) prices as the market rebuilds lost supplies due to Brazil's crop failure in early 2014. Most price risks in agriculture are on the downside.

- **Well-supplied markets:** In its January 2015 assessment, the U.S. Department of Agriculture maintained its comfortable supply outlook for most grains and oilseeds. The stock-to-use ratio, a measure of whether markets are well supplied, is expected to increase for wheat and maize and most oilseeds (but decline for rice).

- **Trade policies**: Given the well-supplied nature of most grain and oilseed markets, export restrictions are unlikely to be imposed (as they were on 2008/09) and, if they are, they will be sporadic and, thus, ineffective.

- **Biofuels**: The collapse in oil prices removes one of the key forces that supported biofuel production in recent years: energy scarcity and security concerns. While biofuel production received broad-based support when oil was above $100/bbl, it is unlikely that policymakers will be able to justify transfers from consumers to grain and oilseed producers at $45/bbl, pointing to a drop in biofuel production in the near term.

Metal prices are expected to decline 5.3 percent in 2015 on top of last year's 6.6 percent decline. Fertilizer prices are projected to fall marginally (2.1 percent) after last year's 11.6 percent decline, as price moderation in natural gas feeds into prices of nitrogen-based fertilizers. A moderate decline is also expected in **precious metal prices** as institutional investors view them less attractive "safe haven" investment vehicles; reduced demand by China and India will also contribute to the weakness. The key risk on metals prices is a sharp slowdown in the Chinese economy, as China accounts for almost half of world metal consumption. However, a sharp slowdown of the Chinese economy remains a low probability scenario at present.

SPECIAL FOCUS

Putting the Recent Plunge in Oil Prices in Perspective

Special Focus: Putting the Recent Plunge in Oil Prices in Perspective

Oil prices fell sharply in the second half of 2014, bringing an end to a four-year period of high and stable prices and, perhaps, to the "commodity super-cycle" that began in the early part of 2000s (Figures F.1 and F.2). This section highlights three main aspects of the plunge in oil prices. First, although revisions of supply and demand expectations have played a key role during the course of the current episode of declining oil prices, such revisions are neither unique nor unusually large; what is unique is that these changing expectations unfolded together with a number of other key developments: change in OPEC's objectives, receding geopolitical risks, and U.S. dollar appreciation. Together, these forces have formed a "perfect storm" of conditions that are exerting strong downward pressure on prices. Second, low oil prices, if they persist, will push other commodity prices down, especially those of natural gas, fertilizers, and food commodities. Third, the 2014 plunge in oil prices has two key similarities with the 1985/86 episode. Both price collapses unfolded after the emergence of unconventional oil sources (biofuels, oil sands, and shale oil now, and production in Alaska, the North Sea, and the Gulf of Mexico then), and in both cases the decline was accompanied by OPEC abandoning supply management.

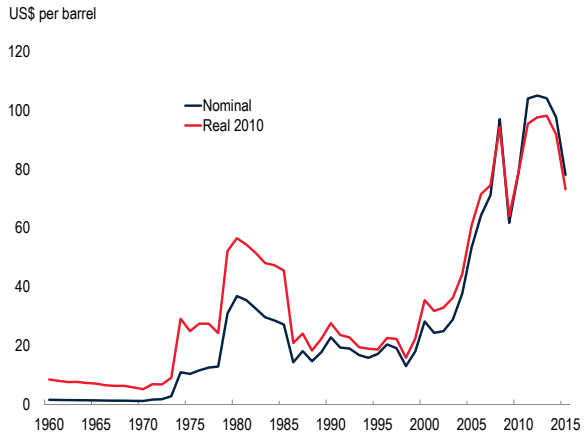
What are the drivers of the plunge in oil prices?

Revisions of expectations

Recent developments in global oil markets took place against the backdrop of longer-term strong supply growth, especially from unconventional oil in the United States, and to a lesser degree Canadian oil sands and the production of biofuels. During the second half of 2014, the 2014 oil production outlook for the United States was revised upwards, from 11.44 mb/d in July to 11.71 mb/d in December. The 2015 outlook was revised upwards as well by 0.52 mb/d during the same time period. Global oil demand forecasts, on the other hand, have been revised downwards repeatedly, consistent with the fragile recovery of the global economy, from 92.7 mb/d in July 2014 to 92.4 mb/d in December 2014. Likewise, the global demand outlook for 2015 was revised downward by 0.8 mb/d during the same period (IEA 2014a and 2014b).

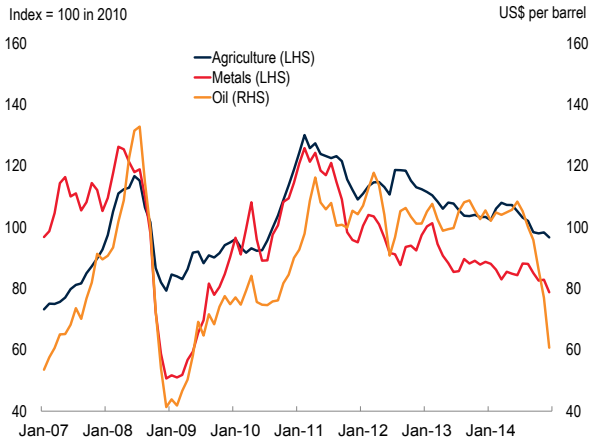
Yet, such revisions are neither unique to the 2014H2 period nor unusually large. During the four years of the U.S. shale oil boom (2011-14), the International Energy Agency (IEA) consistently underestimated U.S. oil production growth by almost 1 mb/d from the publication of the first outlook assessment (July of the previous year) to December of the current year, when output was known with certainty (Figure F.3). Likewise, the downward revisions to the 2015 global oil demand outlook (a cumulative 0.8 mb/d from July to December 2014), is not very different from the 0.7 and 0.4 mb/d revisions to the 2012 and 2013 global oil demand assessments (Figure F.4). Indeed, while the U.S. supply and global demand revisions between July and December were accompanied by a 40 percent decline in oil prices during the same period, similar adjustments in 2012 were associated with a 4.6 percent increase in oil prices while adjustments in 2011 were associated with a 3.4 percent decline in oil prices (Table F.1, last row). Thus, what makes the adjustments in

FIGURE F.1 Nominal and real oil prices



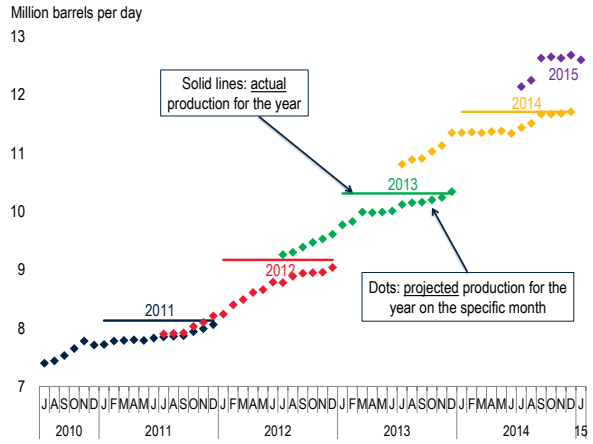
Source: World Bank.
Note: 2015 is projection as of January 20, 2015.

FIGURE F.2 Oil, agriculture, and metal prices



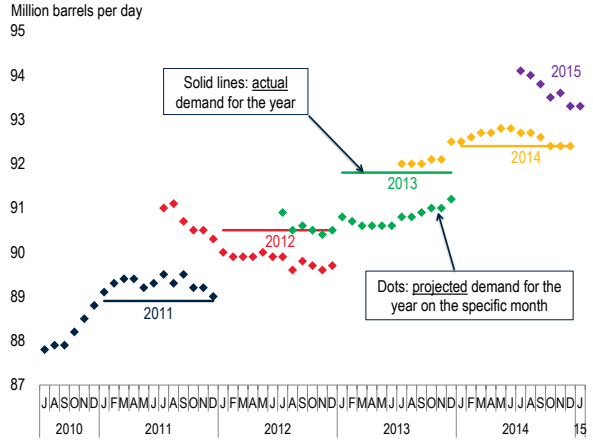
Source: World Bank.
Note: Last observation is December 2013.

FIGURE F.3 Projected and actual U.S. oil production



Source: International Energy Agency.

FIGURE F.4 Projected and actual global oil demand



Source: International Energy Agency

TABLE F.1 Revisions to U.S. oil production and global oil demand forecasts from July to December (percent)

	Revisions to:				Oil price change
	U.S. oil production		Global oil demand		
	Current year	Subsequent year	Current year	Subsequent year	Current year
2010	+4.9	+4.2	+1.0	+1.1	+20.7
2011	+2.7	+3.9	-0.6	-0.8	-3.4
2012	+3.0	+3.8	-0.2	-0.4	+4.6
2013	+2.2	+5.0	+0.4	+0.5	+0.2
2014	+2.4	+4.4	-0.3	-0.9	-39.2

Source: International Energy Agency and World Bank

2014H2 important, is that they unfolded alongside a number of other significant (predominantly supply-driven) forces in commodity markets, as discussed below.

OPEC's changing objectives

OPEC (especially its large producers) has traditionally acted as the global oil market's swing producer, using its spare capacity to adjust oil supply and stabilize prices within the desired price range (set to $100-110/bbl during 2011-14). This targeting of an oil price band dramatically reversed course on November 27, 2014, when OPEC decided to focus instead on preserving its market share by maintaining its production level of 30 mb/d. But even prior to the November decision, several OPEC members (Saudi Arabia and Iran in September, followed by Iraq in October), engaged in a series of discounts to various Asian oil importers, thus signaling OPEC's intentions to abandon price targeting. The change in policy also implies that OPEC will no longer act as the swing oil producer. Instead, the marginal cost (unconventional oil) producers may play this role (Kaletsky 2015).

Receding concerns on geopolitical tensions

In the second half of 2014, it became apparent that conflict in the Middle East and Eastern Europe weighed less heavily than expected on oil supply. Libya, despite internal conflict, added 0.5 mb/d of production in the third quarter of 2014 (Figure F.5). In Iraq, as the advance of ISIS stalled, it became apparent that oil output would not be disrupted. Markets placed considerable weight on Iraq's performance because it was expected to account for 60 percent of OPEC's additional capacity during 2015-19, according to the IEA. Iraq's oil output turned out to be remarkably stable, at 3.3 mb/d during 2014, the highest average since 1979, when it reached 3.5 mb/d. Finally, the sanctions and counter-sanctions imposed after June 2014 as a result of the Russia-Ukraine conflict have had little impact on European oil and natural gas markets.

Appreciation of the U.S. dollar

In the second half of 2014, the U.S. dollar appreciated by more than 10 percent against major currencies in trade-weighted nominal terms (Figure F.6). Typically, appreciation of the U.S. dollar (in which the majority of international commodity transactions are denominated) is negatively associated with the U.S. dollar prices of commodities, including oil (Frankel 2014; Zhang et al 2008; Akram 2009).

How will low oil prices impact the prices of other commodities?

Low oil prices have numerous implications, including redistribution of income from oil producers to consumers,

shifts in global growth and inflation, likely changes in monetary policy, and environmental implications, especially increased CO_2 emissions, depending on how much demand will increase due to lower prices (World Bank 2015). Low oil prices will exert downward price pressure on other commodity markets as well, in particular natural gas, fertilizers, and food commodities (mostly grains and oilseeds).

Natural gas

Low oil prices will translate into low natural gas prices, especially in Europe and Asia. U.S. natural gas and LNG (Japan) prices declined 25 and 15 percent, respectively, from June to December 2014. If low oil prices persist, the price of LNG, mostly destined to Asian markets, will be affected the most in the longer term because its pricing arrangements are linked to oil prices. Low oil prices will also put downward pressure on European natural gas prices, since they are partly linked to oil prices. U.S. natural gas prices will be affected the least (perhaps through some limited substitutability) because they are determined by domestic (U.S.) supply and demand conditions.

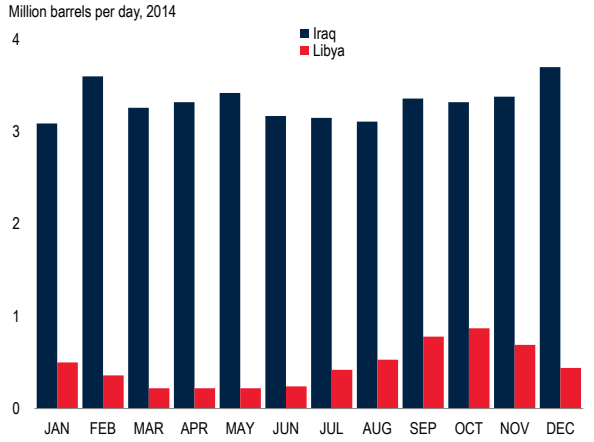
Fertilizers

Low natural gas prices will, in turn, put more downward pressure on fertilizer prices, especially the nitrogen-based ones, most of which use natural gas as a major component. Already, fertilizer prices are down 45 percent since 2011 and more than 50 percent lower since their all-time high in 2008. Following the psot-2005 collapse of natural gas prices in the United States due to the shale boom, many fertilizer companies began moving their fertilizer plants to the Unite States in order to capitalize on the "energy premium," a move that may be reversed if low oil (and, hence, natural gas) prices persist.

Grains and oilseeds

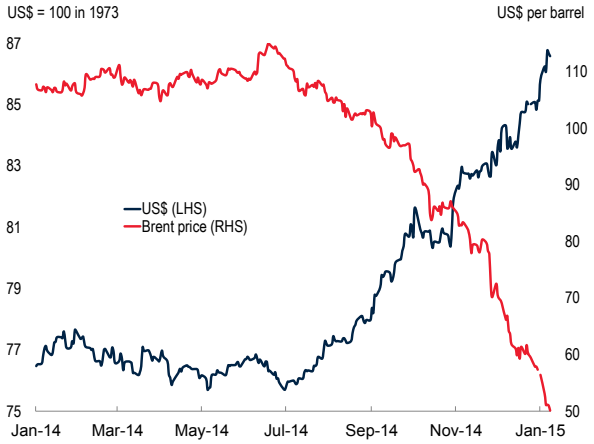
Lower oil prices will impact most agricultural crops (agriculture is an energy intensive sector, four to five time more energy intensive than manufacturing, Figure F.7). There are multiple channels though which low energy prices will impact agriculture, especially grains and oilseeds. A first channel reflects the fuel cost side, in which falling fuel prices reduce the cost of producing and transporting food commodities (link A, Figure F.8) and the cost of chemicals and fertilizers, some of which are crude oil byproducts or directly made from natural gas (links B/C). A second channel relates to policies favoring the production of biofuels, which are often driven by the policy objective of reducing dependence on imported crude oil (links D/F). In a third channel, lower oil prices render biofuel production less profitable, or even unprofitable (link G). While link G is largely irrelevant at low oil prices, links D/F are important and complex in terms of

FIGURE F.5 Iraqi and Libyan oil production in 2014



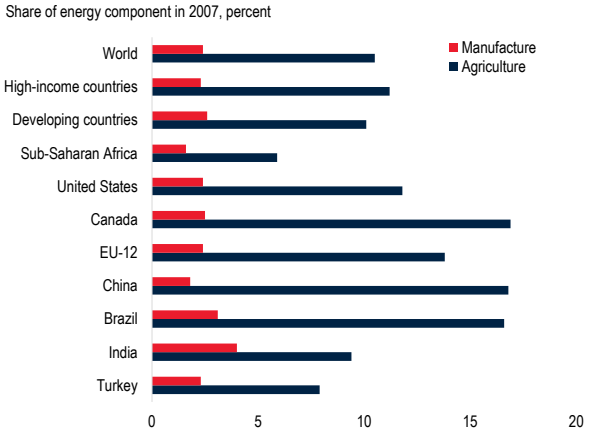
Source: International Energy Agency.

FIGURE F.6 U.S. dollar and oil prices



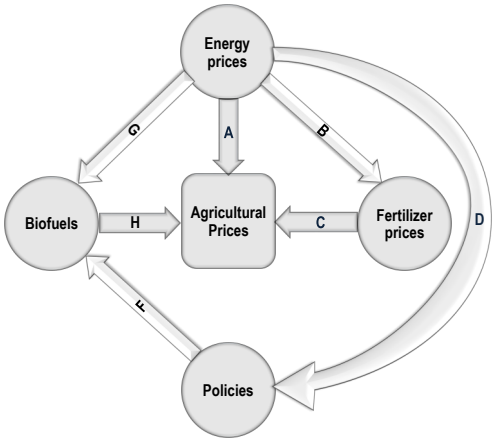
Source: FRED, ICE, and World Bank.
Note: Last observation is January 20, 2015.

FIGURE F.7 Energy intensities



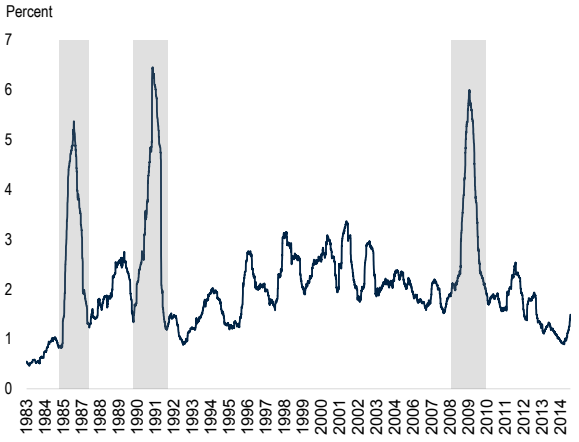
Source: World Bank.
Note: Calculations based on the GTAP database.

FIGURE F.8 Energy and agricultural markets



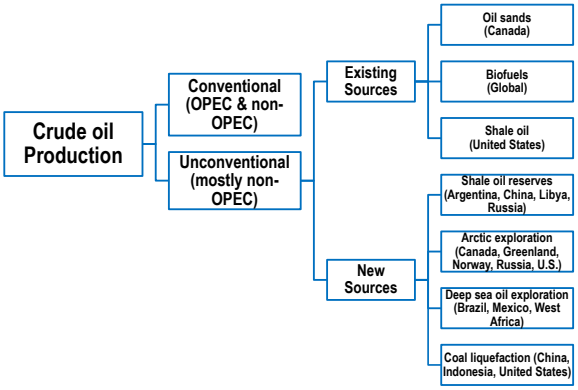
Source: Baffes (2013)
Note: A: Crude oil; B/C: Natural gas; D/F: Policy-driven; Biofuels G: Profitable biofuels

FIGURE F.9 Oil price volatility



Source: World Bank.
Note: Price volatility is the standard deviation of daily changes in prices (over a 125-day window).

FIGURE F.10 Conventional and unconventional sources of oil



Source: World Bank.

their impact on food commodities. Because most diversion of food commodities to biofuels is mandated, low oil prices (which will induce more consumption of oil) may, in fact, increase diversion of grains and oilseeds to the production of biofuels.

How does the current oil price decline compare with past episodes?

There have been only three occasions since 1984 (when oil futures contracts were introduced) when the price of oil dropped by 60 percent or more in any seven-month period. First, during 1985-86, when the West Texas Intermediate nearby futures contract (WTI was the world oil price barometer at the time) declined by 67 percent from $31.72/bbl (November 20, 1985) to 10.42/bbl (March 31, 1986). Second, in 2008, when Brent nearby futures contract (today's world price indicator) declined by 75 percent from $146.08/bbl (July 3, 2008) to $36.61/bbl (December 24, 2008). Third, during 2014-15, when the Brent nearby futures contract declined by 60 percent from $115.06/bbl (June 19, 2014) to 46.77/bbl (January 13, 2015).

Since the mid-1980s, oil prices have experienced three major spikes in volatility (Figure F.9). The first spike coincided with the 1985-86 oil price collapse, when Saudi OPEC abandoned price targeting in favor of increasing their share in the global oil market to prevent erosion of oil revenues. The second volatility spike occurred shortly before the first Gulf War, due to supply disruption concerns emanating from Iraq, Kuwait, and (possibly) Saudi Arabia. The third volatility spike took place alongside the oil price drop of the second half of 2008, reflecting concerns about the global economy, especially liquidity constrains associated with the financial crisis. Volatility in most commodity prices and main equity indices spiked as well in 2008.

2014 versus 2008: Differences in magnitude and the relation with other markets

The 2008 episode is different from the 2014 episode in a number of respects. First, the decline in 2014H2 was considerably sharper for oil than for other commodities whereas virtually all commodity prices declined by similar magnitudes in 2008. For example, while oil prices declined 45 percent from July to December 2014, the largest price declines among other commodity prices were half as much (iron ore fell by 27 percent, U.S. natural by and cotton by 25 percent each, rubber by 23 percent, and palm oil by 20 percent). Second, daily price volatility during 2014H2 was lower than the average volatility post-2000 while volatility spiked in 2008. Third, during the 2008 episode, oil returns were strongly correlated with daily future returns for most commodities traded in futures markets, while in the current episode, oil returns exhibit low correlation with those

of most other commodities. Fourth, daily oil price changes during the current decline are not correlated with daily changes in global equity indices, as they were in 2008 (Baffes and Kshirsagar 2015).

Taken together, these observations suggest that oil prices may not rebound as quickly in 2015 as they did in 2009. More fundamentally, the differences between the 2014 and 2008 episodes indicate that the current price decline is driven by expectations regarding fundamental drivers of the oil market, while the 2008 decline and attendant volatility was driven by the substantial uncertainty associated with the global financial crisis.

2014 versus 1985/86: Similarities in expansion of unconventional production and OPEC policy adjustment

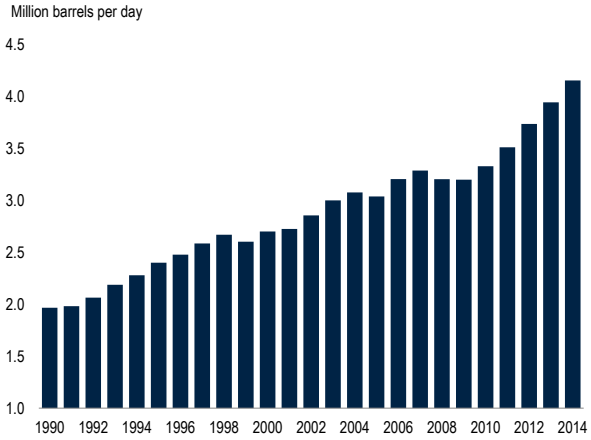
Oil market developments that led to the 2014 price collapse share two key similarities with the 1985/86 price collapse. On the technology front, there was a boom in unconventional oil production on both occasions. On the policy front, the drop in oil prices in both episodes coincided with OPEC's movement toward targeting market share rather than prices.

Although most of the discussion of unconventional oil supplies relates to the U.S. shale oil boom, unconventional oil production began more than a decade ago with the Canadian oil sands and the (mostly mandated) diversions of food crops to the production of biofuels. Furthermore, in addition to these sources, unconventional oil exploration has also included oil sands and shale oil reserves by countries other than the United States, oil reserves in the Arctic region, deep sea oil reserves, and coal liquefaction (Figure F.10).

Canadian oil sands. Despite the cost of extracting oil from the Canadian oil sands being perhaps the highest of any source of oil in the world (the cost is often used by the oil industry as the long-run marginal cost of oil production, estimated until recently between $80-90/bbl in 2014 real terms), Canada's oil output reached almost 4 mb/d in 2014, up from 3 mb/d one decade prior. Most of this growth came from oil sands (Figure F.11).

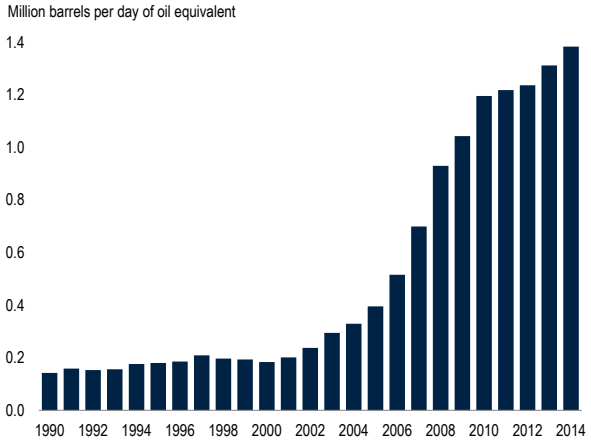
Biofuels. Biofuels account for almost 1.4 mb/d of oil equivalent, corresponding to 1.5 percent of global oil consumption (Figure F.12). The United States accounts for 44 percent of global biofuel production, mostly in the form of maize-based ethanol, followed by Brazil (24 percent share, mostly from sugarcane-based ethanol), and the European Union (17 percent share, mostly from edible oil-based biodiesel). Production of biofuels, which currently account for about 3 percent of global arable land, is largely policy-driven, and its profitability has been

FIGURE F.11 Canadian oil production



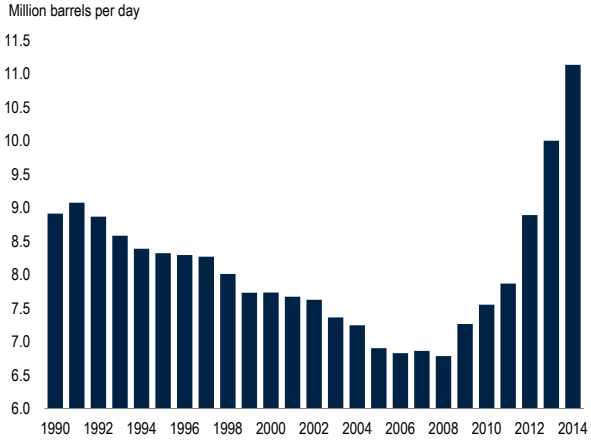
Source: BP Statistical Review, IEA, World Bank

FIGURE F.12 Global biofuels production



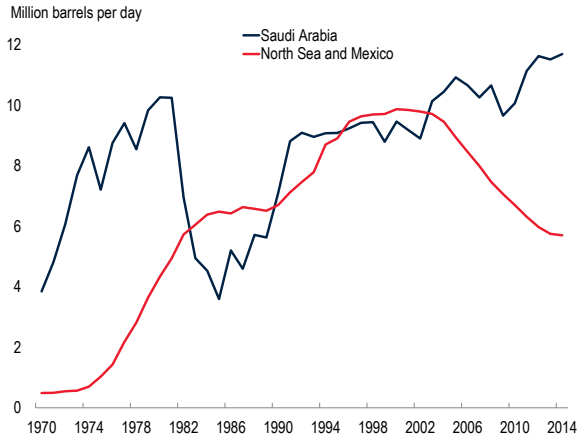
Source: BP Statistical Review, IEA, World Bank.

FIGURE F.13 U.S. oil production



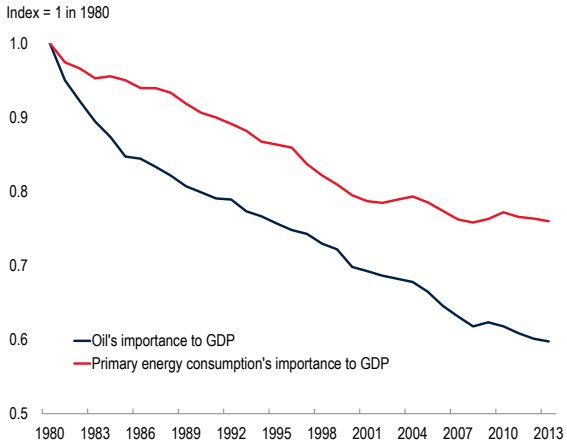
Source: BP Statistical Review, IEA, and World Bank

FIGURE F.14 Oil production: Saudi Arabia, North Sea, and Mexico



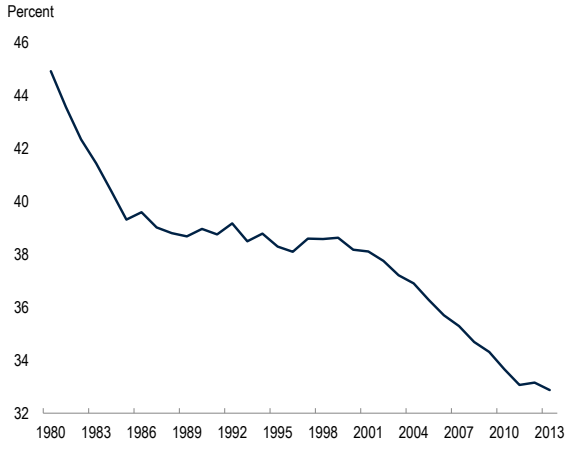
Source: BP Statistical Review, IEA, and World Bank

FIGURE F.15 Importance of oil and energy in GDP



Source: BP Statistical Review, IEA, and World Bank

FIGURE F.16 Share of oil in global energy consumption



Source: BP Statistical review and IEA

questioned, even at oil prices above $100/bbl (De Gorter et al. 2013).

U.S. shale oil. Although technologies to extract oil and natural gas trapped in tight rock formations (hydraulic fracturing and horizontal drilling) have existed for three decades, the post-2005 energy price boom made this type of production profitable. While many countries have large shale reserves, only the United States has developed them extensively: from 2008 to 2014, the U.S. added almost 4 mb/d to the global oil market, most from shale projects in the states of Texas and North Dakota (Figure F.13). Because of shale oil, U.S. production expanded to rival that of Saudi Arabia and Russia. Shale oil projects have relatively short life spans, typically 2.5 to 3 years (as opposed to oil sands and conventional oil projects which span 2-3 decades). With oil prices expected to be low in the medium term, while existing projects will stay in business (due to high sunk costs), fewer new projects will be undertaken (see the Energy section). Indeed, recent media reports indicate that some energy companies have already cancelled or put on hold projects.

In many respects, the recent unconventional oil boom resembles the unconventional oil supplies that were brought in to the market from North Sea and the Gulf of Mexico. Again, the technology to extract oil from the sea was available but the high oil prices of the 1970s made such technology profitable. Interestingly, during 1973-83, North Sea and the Gulf of Mexico together added some 6 mb/d to global markets as much as unconventional sources added to the global oil market during 2004-14 (Figure F.14).

OPEC's abandonment of price targeting. OPEC's latest decision to abandon price targeting has some parallels to its actions during the 1985/86 episode. Following the 1979 peak in oil prices, OPEC began reducing its supply to maintain high market prices. Upholding its price target necessitated the cartel slashing its oil supply over the following six years, from 30 mb/d in 1979 to 16 mb/d in 1985. However, despite such a drastic supply cut, real oil prices declined 20 percent during this period. In response, OPEC stopped targeting prices and reverted to supplying 30 mb/d over the next decade.

Partly because of this policy change, oil prices collapsed and remained low for almost two decades. Other factors also contributed to the prolonged period of low prices, however: a decline in the importance of oil in the global economy (Figure 15 and 16), an increase in global oil supply following the collapse of the USSR, and a series of financial crises in the late 1990s and early 2000s (World Bank 2009).

BOX 1 International agreements to "manage" commodity markets

Attempts to manage world commodity markets in order to achieve price objectives are not unique to the oil market. The 1970s commodity price boom brought renewed interest to "managing" markets, following earlier attempts after WWI and WWII. Numerous United Nations-backed International Commodity Agreements were put in place, often negotiated among producing and consuming nations in order to stabilize prices at levels deemed fair to both consumers and producers. International agreements covering coffee, cocoa, sugar, tin, and natural rubber were all in place during part of the final decades of the 20st century (Gilbert 1996). All of these agreements eventually collapsed (the last, covering rubber, ended when the East Asian financial crisis hit Indonesia, Malaysia, and Thailand, the three key natural rubber producing countries). The tin and coffee agreements provide important insights because of their long-lasting impacts in their respective markets and their similarities to recent developments in oil market, including OPEC's policy decision.

The International Tin Agreement

First negotiated in 1954 with the objective of maintaining tin prices within a desired range through the management of buffer stocks, the International Tin Agreement (ITA) collapsed in 1985 following several years of insufficient funds to maintain the stocks (Chandrasekhar 1989). The ITA had two long-lasting implications, however. First, because tin prices under the agreement were higher and more stable than in absence of the ITA, tin producers that were not members of the Agreement came into the market: Brazil, for example, increased its market share from 1 percent in the 1960s to 10 percent in the 1980s. Second, higher tin prices during the existence of the ITA encouraged the development of a substitute product, aluminum, which gained market share by capturing the growing demand from the beverage can market. Between the 1950s and 2000s, global tin output grew by 65 percent while that of aluminum grew by 125 percent.

The International Coffee Agreement

In 1962, coffee-producing countries accounting for 90 percent of global coffee output and almost all developed coffee-consuming countries signed the International Coffee Agreement (ICA) with the objective of stabilizing world coffee prices through mandatory export quotas. As did the ITA for tin, the ICA brought a new producer of coffee to the fore in global markets. During the course of successive ICAs (until 1989, when the final iteration collapsed), the USSR and the German Democratic Republic (not ICA members) provided Vietnam with technical and financial assistance to develop its coffee industry (Baffes, Lewin, and Varangis 2005). In 1970, Vietnam produced 39 thousand bags of coffee, just 0.7 percent of the 59 million bags of global production. By the early 2000s, Vietnam had overtaken Colombia as the world's second-largest coffee producer after Brazil; today it accounts for 20 percent of global coffee production.

Historical experience suggests that a policy of supply management at the global level in order to support prices tends to bring new suppliers and/or lead to the creation of substitute products. Such experience is not limited to oil but applies to other commodities as well (Box 1).

Conclusions

The recent oil price decline was the third largest during the past 30 years (when oil began trading in futures exchanges). This section presented three observations to put the recent plunge in a broader context.

- *A perfect storm.* Although revisions of supply and demand expectations played a key role during the 2014 oil price plunge, these revisions were neither unique nor unusually large. However, the recent episode was unique since the changes in expectations have coincided three other major developments: a significant shift in OPEC's objectives, receding geopolitical risks, and U.S. dollar appreciation. These factors together formed a "perfect storm" of conditions that exerted strong downward pressure on oil prices.

- *Significant implications for other commodities.* Low oil prices, if they persist, will push other commodity prices down, especially those of natural gas, fertilizers, and food commodities.

- *Differences and similarities.* The 2014 plunge in oil prices has two key similarities with the 1985/86 episode. Both episodes took place after the rapid expansion of supply from unconventional oil sources and were accompanied by OPEC abandoning supply management. But, the latest episode differs from the 2008 collapse in one respect: the 2008 decline was driven mostly by global macroeconomic concerns and liquidity problems, while the current decline appears to have been driven by sector-specific forces.

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Energy

Energy prices, as measured by the World Bank energy index, dropped 23 percent in 2014Q4, the largest quarterly drop since 2008Q4, at the start of the global recession. The current drop was driven by the plunge in crude oil prices (down 26 percent for the quarter) while coal and natural gas prices followed with smaller declines of 7 and 1 percent respectively.

Recent developments

The oil market is at a historic turning point. After fluctuating within a tight band around $105/bbl between 2011 and 2013 (figure 3), one of the least volatile three-year periods in recent history, prices began to dive in 2014H2. OPEC's decision to abandon targeting of prices led to a further sharp correction. Crude oil price averaged $74.6/bbl in 2014Q4, down from $100.4/bbl in the previous quarter. Price continued to fall in early January 2015, averaging less than $50/bbl.

For the last three-and-a-half years, rapid expansion of unconventional oil production in North America was offset by supply disruptions in the Middle East almost barrel for barrel (figure 4). These developments kept the global oil market broadly in balance and prices in the $100-110/bbl range. However, at the start of 2014H2, some of the oil that off the market began returning, while the United States continued its steady production growth of 1 mb/d per year. Saudi Arabia—the balancing producer with the largest spare capacity—would normally lead OPEC in production cuts to stabilize the prices. However, at its November 27, 2014 meeting, OPEC decided to maintain its current quota and, in effect, ceased to manage the global supply in favor of protecting its market share. The policy decision led to the largest supply-driven correction in prices since 1986.

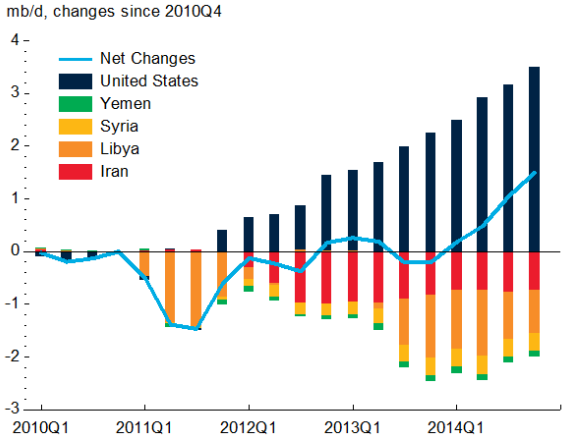
As oil price plunged, the price differential between West Texas Intermediate (WTI, the U.S. mid-continent price) and Brent (the international marker) has been nearly eliminated, from 30 percent in late 2011 to 5 percent in December 2014 (figure 5). The large gap between the two benchmark prices in 2011 and 2012 emerged as WTI production soared and pipelines were built to transport the crude to the refineries in the Gulf of Mexico, while the decline in spread observed recently follows oil futures going into contango (upward sloping curve), incentivizing storage.

Non-OPEC oil output growth remains strong as producers added some 0.7 mb/d to global supplies in

FIGURE 3 Oil prices (average of Brent, WTI, and Dubai)

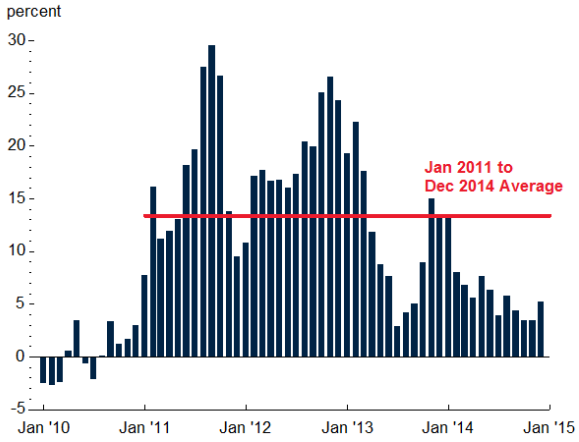
Source: World Bank.

FIGURE 4 U.S. crude oil supply growth and disruptions elsewhere



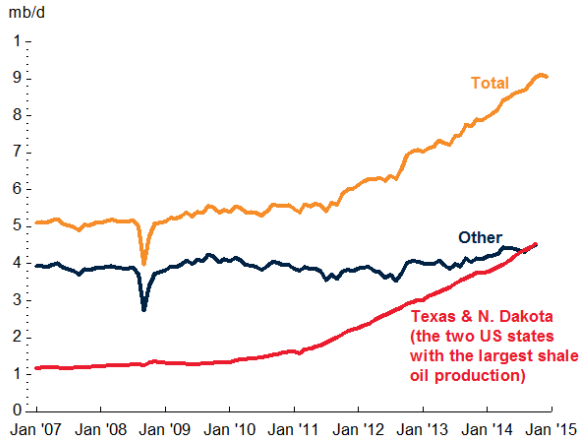
Source: : World Bank, International Energy Agency.

FIGURE 5 Brent/WTI price differential



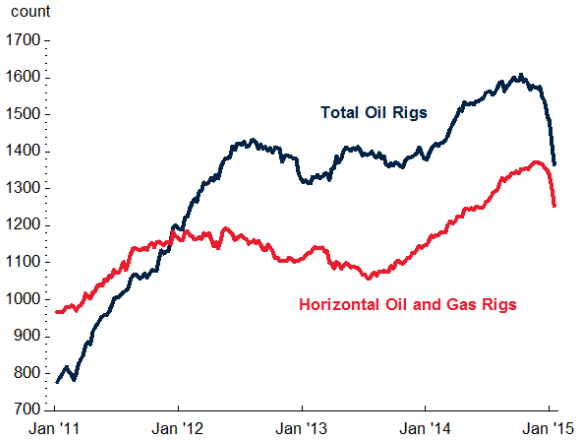
Source: World Bank.

FIGURE 6 U.S. crude oil production



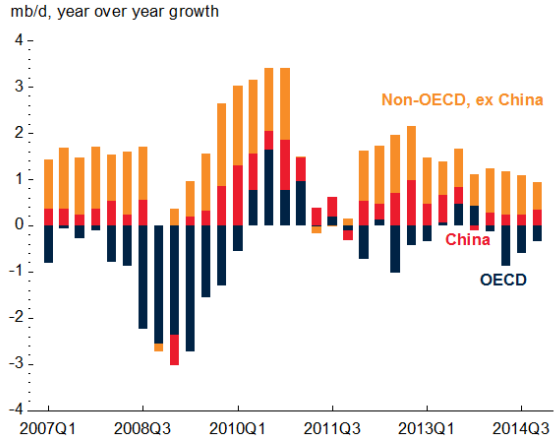
Source: U.S. Energy Information Administration.

FIGURE 7 U.S. oil rig count



Source: Baker Hughes.

FIGURE 8 World oil demand growth



Source: World Bank, International Energy Agency.

2012 and 1.3 mb/d in 2013, reflecting large-scale investments. Output picked up further in 2014, to 56.6 mb/d, up 2 mb/d for the year, as production expanded in the United States, Canada, and Russia. The United States has some 3.5 mb/d to global crude oil supplies since the beginning of 2011, largely reflecting growing shale oil production (figure 6). However, sharply falling oil prices will likely curtail investments and production. The U.S. oil rig count is already down 14 percent since its October 2014 peak and the rig count in North Dakota is now at a level that will keep production constant at the 2014 level (figure 7).

Oil supply shortfalls in Libya and Nigeria during 2014 were offset by increases by Iraq and Saudi Arabia, thus resulting in an increase in OPEC output by an average of 37 mb/d in 2014Q4, a 0.8 mb/d increase from 2014Q4. December was the eighth straight month in which OPEC supply exceeded its official target output.

World oil demand increased by 0.6 mb/d in 2014Q4 (y/y), with all of the growth coming from non-OECD countries (0.9 mb/d versus -0.3 mb/d for OECD countries, figure 8). In contrast to 2013H2, demand in OECD countries during all four quarters of 2014 contracted. Non-OECD countries are contributing positively to the global demand, though their contribution softened during 2014 as well. In fact, for the year a whole, the IEA estimates that global demand will be 92.4mb/d (up 0.6 mb/d for the year) and will record the slowest annual expansion since the contraction of 2009.

Surging supplies and weak demand have resulted in growing oil inventories. OECD industry stocks recovered to around 2,700 million barrels at the end of December 2014 and now exceed their 5-year average. The build-up in stocks were near continuous during 2014 from their 9-year lows at the end of 2013. Inversely, OPEC's spare production capacity eased back to 3.7 mb/b in 2014Q4 on increased output after peaking at almost 5 mb/d at the end of 2013 (figure 9).

The global natural gas market remains segregated by geography, with price differentials between U.S., European, and Asian prices (figures 10 and 11). Shale gas production in the United States has created a glut of supplies that have been walled off from the global markets as U.S. companies lacked both export infrastructure and permits. Natural gas prices in Asia remain largely linked to oil, while those in Europe reflect a mixture of spot and oil-linked contracts. Demand for natural gas has been weak during the relatively mild 2014/15 winter, resulting in lower prices and brimming inventories. Coal prices have been affected by a chronic oversupply.

Outlook and risks

Nominal oil prices are expected to average $53/bbl in 2015, 45 percent lower than 2014 (table 1). This forecast is significantly lower than the October 2014 edition of the *Commodity Outlook* and reflects the shift in OPEC's policy, easing of geopolitical tensions, ample supplies, and moderating demand. The large production capacity currently in place points to a continuation of low prices for some time, with prices expected to recover only modestly, by $4/bbl, in 2016.

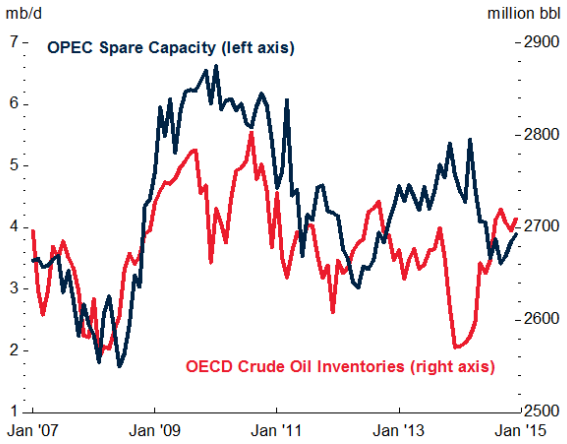
The weakness in crude oil prices will extend to other energy markets as well, especially natural gas in Europe and Asia. The European natural gas and the Japanese liquefied natural gas (LNG) price benchmarks are projected to decline 15 and 30 percent, respectively, in 2015. Moderate price declines are expected for coal and U.S. natural gas as well.

There are two main risks to the energy price forecasts:

- Further demand and supply pressures: On the supply side, despite the fact that the costs of extracting unconventional oil may be above current oil prices, because most of these costs are sunk, it will take at least a year before supply moderates and is likely to occur through cancelation of new projects. Furthermore, most energy companies have engaged in cost reduction measures, enabling them to sustain most projects. On the demand side, the IEA expects further weakening, with oil consumption projected to average 93.3 mb/d in 2015, according to its January 2015 assessment, down from 94.1 mb/d its first assessment in July 2014.

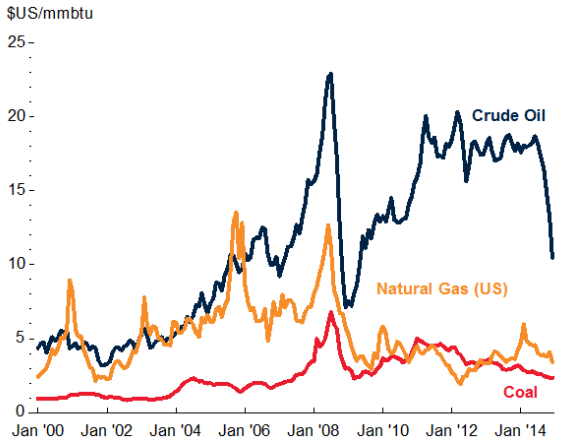
- OPEC's policies: A significant part of the decline in oil prices has been driven by the cartel's November 27 decision to let markets determine the price rather than engaging in supply management. Prior to the November decision, Saudi Arabia—OPEC's largest and most influential member—engaged in a series of price discounts to various Asian oil importers, thus signalling its intention to abandon price targeting. OPEC officials have repeatedly stated that the cartel will not act even if prices decline to $20/bbl.

FIGURE 9 Spare capacity and inventories



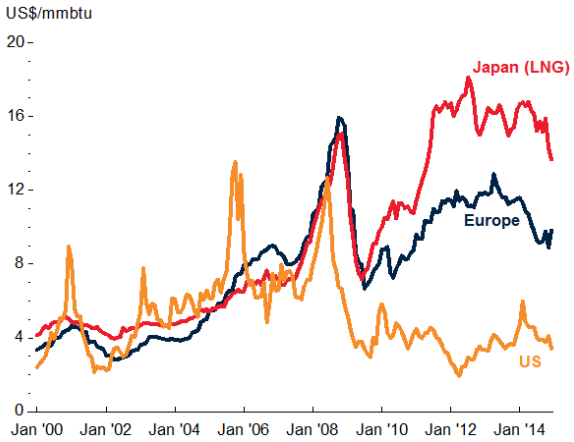
Source: International Energy Agency.

FIGURE 10 Energy prices



Source: World Bank.

FIGURE 11 Natural gas prices



Source: World Bank.

Metals

The World Bank metals price index reached a high of 126 in February 2011 (2010 = 100), up 164 percent since its December 2008 low (Figure 12). This increase, together with the sustained increases prior to the financial crisis, generated large new investments and a strong supply response that has resulted in a four-year-long slow decline. Almost all of the additional metal supply went to meet demand from China, which consumed 47 percent of the world's refined metals as of the end of 2013, up from 45 percent in the previous year (and up from 5 percent two decades ago).

The decline in prices resumed in 2014Q4, with the World Bank metals price index falling 6.5 percent (q/q). Both base metals (down 4.7 percent, q/q) and iron ore (down 18 percent q/q) contributed to the decline. The steep drop in iron ore prices, down for the fourth consecutive quarter, reflects expansion of low-cost producers, particularly Australia and Brazil, in an oversupplied market. The weakening of base metal prices in 2014Q4 was broadly based, with prices of nickel, tin, lead, copper, zinc, and aluminum decreasing by a respective 15, 9, 8, 5, 3 and 1 percent (q/q) on slowing demand from China. The growth of Chinese imports of all metals except for copper was negative in three months to November (Figure 13).

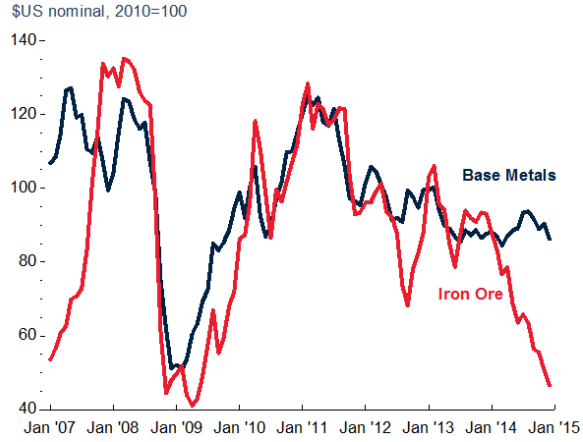
For the whole of 2014, iron ore, copper, lead, and tin prices all fell. The declines in iron ore and tin markets are driven by supply issues, while those for copper and lead were dominated by weak demand, namely by China. Prices of aluminum, nickel, and zinc rose in 2014 on a variety of supply issues. Aluminum prices strengthened as production cuts outside of China moved the market excluding China into deficit. Indonesia's export ban on unprocessed ore affected the nickel market in particular. Zinc prices have increased on continuously falling inventories and concerns that future mine closures will leave the market in deficit.

Global inventories of metals at major metals exchanges declined by 7.6 percent during 2014Q4. Aluminum inventories, which have been rising since end-2008, decreased 22 percent at the end-2014Q3 (y/y), but remain elevated. However, a substantial volume of aluminum inventories are tied up in warehouse financing arrangements and are not available to the market. Inventories of lead, zinc, and copper are also all down (between 6 and 40 percent, respectively) over a year ago, while tin and nickel inventories are up 25 and 58 percent respectively during the same period.

Metal prices are expected to decline by more than 5 percent in 2015 (which comes on top of last year's 6.6 percent drop) as new supplies will be coupled with weaker demand by China. Specifically, iron ore is expected to decline the most in 2015 (-22 percent), followed by tin (-8.6 percent), copper and nickel (-5.3 percent each). Zinc and aluminum prices are expected to gain 1.8 and 3 percent respectively.

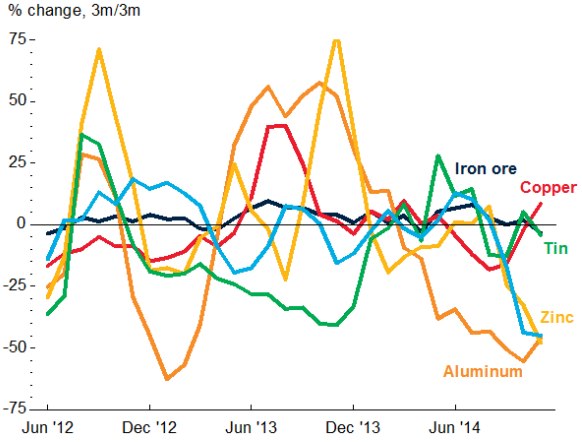
The key risk on metals prices is a sharp slowdown in the Chinese economy. However, a sharp slowdown of the Chinese economy remains a low probability scenario at present.

FIGURE 12 Metal prices



Source: World Bank.

FIGURE 13 China's imports of metals



Source: China Customs, World Bank.

Precious metals

The precious metals price index declined 8.4 percent in 2014Q4 compared to the previous quarter (Figure 14). The index fell to a four-year low in November, with platinum, gold and silver down 7, 10, and 20 percent for the year, respectively.

After finding some price support in 2014H1 due to receding geopolitical risks, fundamental weakness of the markets contributed to the declines in 2014H2. Physical demand for precious metals by traditional buyers, notably China and India, is off compared to the last year, when a large drop in prices induced buying. Outflows from exchange traded funds (ETFs) accelerated in 2014Q4 at 5 percent (q/q) rate with holdings down 9 percent (y/y) as investors expect normalization of U.S. monetary policy.

Low gold prices have prompted mergers and acquisitions in South Africa's gold mining industry, with companies seeking to reduce operating costs and insulate investors from labor strike risks. Precious metal price weakness will persist in 2015, with the index averaging 3 percent lower as institutional investors consider these commodities as less "safe haven" holdings, and to fall an additional 1 percent in 2016.

Long-term risks are balanced and will be impacted by policy decisions by major central banks. While downward pressure on precious metal prices is expected to become more pronounced when the U.S. Federal Reserve raises interest rates (expected in mid-2015), the European Central Bank's plan to purchase €60 billion of assets per month through September 2016 may put upward pressure on prices.

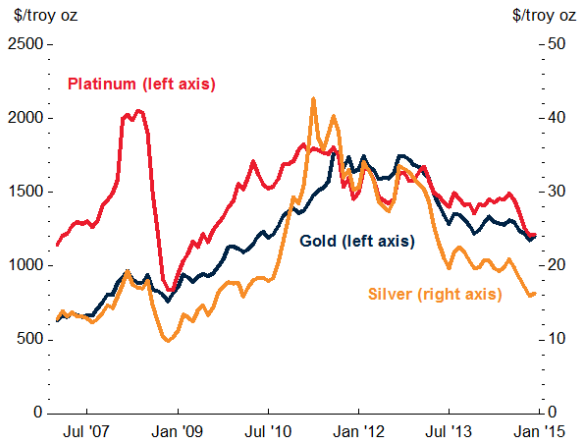
Fertilizers

The fertilizer price index increased slightly less than 1 percent in 2014Q4—the only price index that did not decline in the quarter. Yet, the index is more than 60 percent down since its all-time high of 2008 (Figure 15). Fertilizers are a key input to the production of most grains and oilseeds, often exceeding half of purchased input costs in the agricultural sectors of high income countries. Because natural gas is used to produce most nitrogen-based fertilizers, the shale natural gas boom in the U.S. and the resultant lower gas prices is impacting the global fertilizer industry both in terms of lower fertilizer prices and the structure of the industry as many companies are moving to the U.S. to take advantage of the "energy price" premium. As noted in the Special Focus, oil crude prices is likely to decelerate this trend.

The fertilizer price index is expected to decline 2 percent in 2015 and an additional 1 percent next year. These declines come on top of the 12 percent decline in 2013. Yet, individual components of the index will follow different paths. While DAP and urea will decline about 5 percent each, potassium chlorite and TSP will gain 1 percent each. This outlook is based on the assumption that both oil and natural gas prices will remain weak.

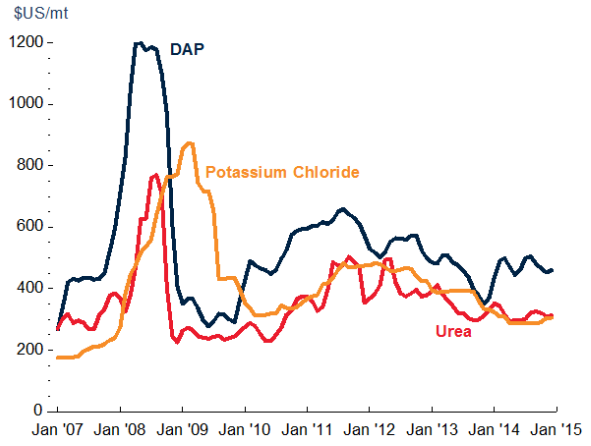
Short term price risks are on the downside. On the policy front, some countries (e.g., India and China) are reconsidering fertilizer subsidies, which if reduced they will dampen demand. On the consumption front, weakening agricultural prices are likely to reduce planting next season, thus reducing fertilizer consumption (and prices).

FIGURE 14 Precious metal prices



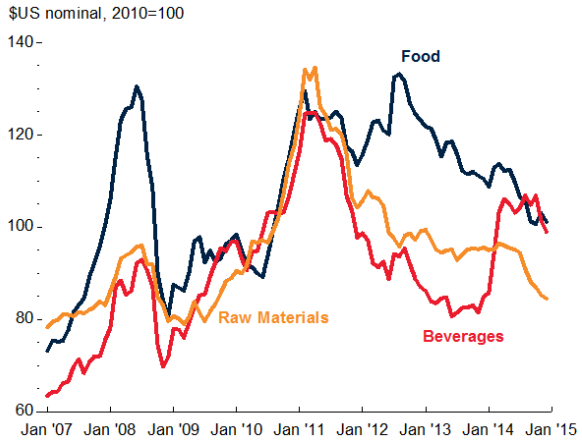
Source: World Bank.

FIGURE 15 Fertilizer prices



Source: World Bank.

FIGURE 16 Agriculture price indices



Source: World Bank.

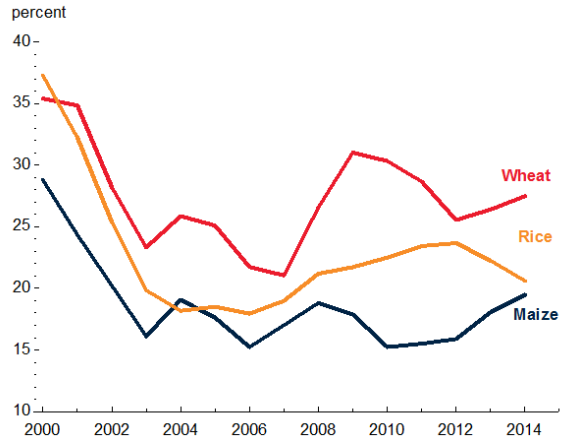
Note: Last observation is December 2014.

TABLE 2 Global production of agricultural commodities (million tons)

	Maize	Rice	Wheat	Soybeans	Palm oil
1960/61	199.6	150.8	233.5	-	-
1970/71	268.1	213.0	306.5	42.1	1.9
1980/81	408.7	269.9	435.9	80.9	4.9
1990/91	482.0	351.4	588.8	104.3	11.0
2000/01	591.8	399.3	583.3	175.8	24.2
2005/06	700.7	417.9	618.9	220.9	35.8
2006/07	716.6	420.5	596.5	236.3	37.4
2007/08	795.5	432.9	612.7	219.0	41.2
2008/09	800.9	449.1	683.5	211.9	44.2
2009/10	825.6	440.9	687.1	260.5	46.1
2010/11	835.9	450.0	650.8	263.9	48.8
2011/12	889.3	467.0	695.9	239.7	52.1
2012/13	868.6	472.0	658.3	267.8	56.0
2013/14	987.6	477.0	715.4	283.7	59.1
2014/15	988.1	475.5	723.4	314.4	62.8

Source: U.S. Department of Agriculture (January 2015 update).

FIGURE 17 Stocks-to-use ratios for wheat, maize, and rice



Source: U.S. Department of Agriculture (January 2015 update).

Agriculture

Agricultural prices experienced broad-based declines in 2014Q4, with the overall agricultural price index down 4.2 percent for the quarter and almost 6 percent lower than a year prior (Figure 16). The three key sub-indices—grains, edible oils and meals, and other food items—declined by 1, 5, and 2 percent for the quarter, respectively. Beverage prices declined 3 percent in 2014Q4 but they are up 23 percent from a year ago, due to the weather-induced rally in coffee (Arabica) prices.

In it January 2015 assessment, the U.S. Department of Agriculture maintained its comfortable outlook for the current season, with global production of wheat projected to increase more than 1 percent while output for maize and rice will remain at roughly the 2013/14 levels (Table 2). The stocks-to-use (S/U) ratios are expected to increase in maize and wheat but decline for rice (Figure 17). The edible oil and meal outlook is comfortable as well, with global supplies of the 17 most consumed edible oils set to reach a record 203 million tons in 2014/15, up 1.6 percent from the previous season's 200 million tons. Global production of oilmeals is expected to increase as well, from 306 million tons in 2013/14 to almost 318 tons in 2014/15, a 4 percent increase.

Recent developments

Among key grains, the wheat and maize markets are well-supplied—the former much better than anticipated earlier in the year, while the latter will approach last year's high. Wheat prices declined 2 percent in 2014Q4, following the 20 percent decline in Q3, on improved crop prospects in EU and Russia, which will offset downward adjustments in Brazil, Turkey, and the U.S. (Figure 18). Maize prices did not change much during the quarter but they are down 13 percent compared to a year prior, as favorable growing conditions will drive U.S. production (the world's largest maize supplier) to an all-time high. China, the European Union, and Mexico are expected to have good maize crops as well.

Rice prices averaged 421/ton during 2014Q4, down 3 percent for the quarter and more than 5 percent lower than a year ago. The U.S. Department of Agriculture outlook assessed global rice production for the 2014/15 season at 475.5 million tons (slightly lower than last season's 477 million tons), consistent with an S/U ratio of 20.6 percent, lower than last season's 22.3 percent but well above the 2006/07 lows. Production declines are expected to take place in most of Asia's key

rice producers, including, India, Indonesia, Sri Lanka, and Thailand.

The edible oil and meal index price declined 5 percent in 2014Q4 (Figure 19). This broad-based weakness reflects record area expansion in soybeans, with global production projected to reach an all-time peak both in the United States and South America, where yields will also reach a record high. Weakening of imports by China and India has also played a role.

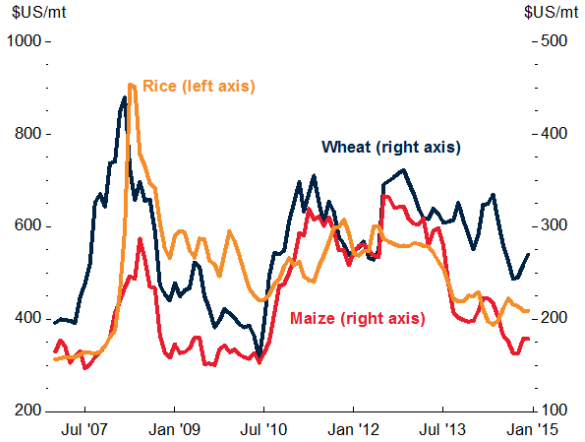
The beverage price index has been relatively stable during the past three quarters but was up 23 percent in 2014Q4 versus a year before, mostly aided by the rally in Arabica coffee earlier in 2014 (Figure 20). A drought in Brazil was a major contributor to a reduction in global coffee production from 150 million bags in 2013 to 143.5 million bags in 2014. Some weakening in Arabica prices in December reflects expectations that Brazil's coffee production will return to normal next year. Robusta coffee prices moved very little during the quarter but cocoa prices fell 5.6 percent on expectations of another season of strong output from West Africa and slowing economic growth in some consuming regions, especially Europe. Tea prices also fell 5.6 in 2014Q4 on good supplies by India and some African tea producers.

The raw material price index declined 6 percent in 2014Q4, more than 10 percent down since a year ago. Natural rubber and cotton prices are down 35 and 22 percent, respectively in 2014Q4. The former due to high stocks as production has outpaced consumption for the past three years and the latter as 2014/15 will mark the fifth consecutive year in which production exceeds consumption. The S/U ratio for cotton will reach 22.4 million tons, close to the expected production of 26.2 million tons—most cotton stocks have been accumulated by China.

Outlook and risks

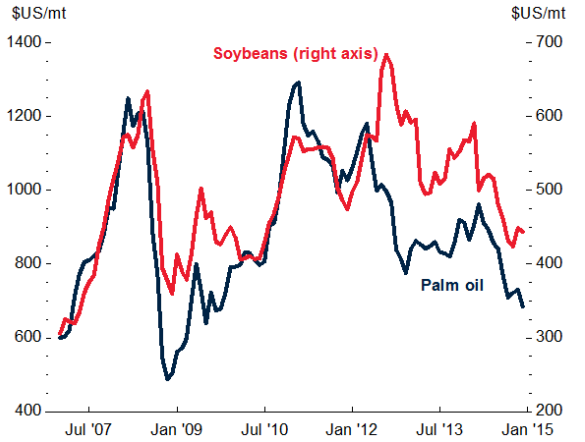
Agricultural prices are expected to experience a 4.8 percent decline in 2015, on top of the 3.4 percent decline in 2014. Food commodity prices are expected to decline 4.2 percent. Edible oils and meals are expected to decline the most (7.1 percent down), followed by grains (-3.7 percent), and other food items (-1 percent). Among grains, the largest decline will be in maize (7 percent down in 2015) followed by wheat and rice (each 2 percent down in 2015). Among edible oils, palm and soybean oil will decline 15 and 10 percent, respectively, while soybeans will drop 8 percent. Raw material prices are expected to decline as well, cotton and natural rubber by 13 percent each, and timber 3 percent.

FIGURE 18 Grain prices



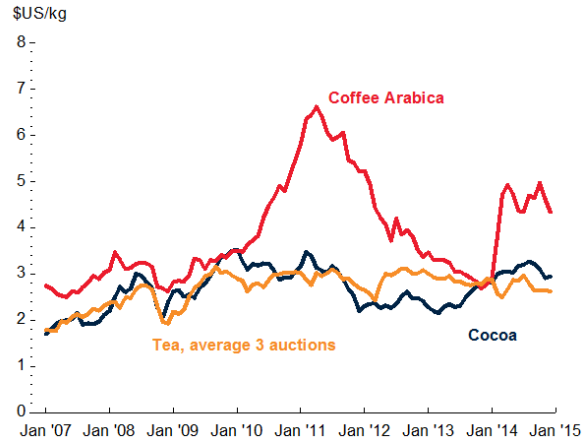
Source: World Bank.
Note: Last observation is December 2014.

FIGURE 19 Edible oil prices



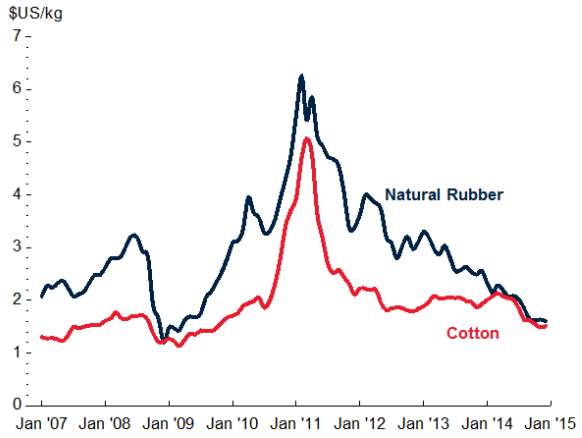
Source: World Bank.
Note: Last observation is December 2014.

FIGURE 20 Beverage prices



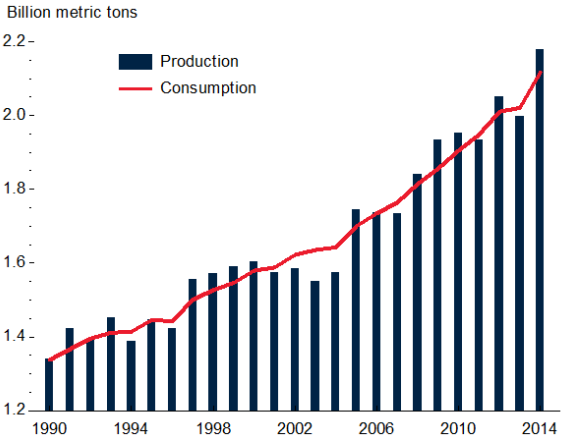
Source: World Bank.
Note: Last observation is December 2014.

FIGURE 21 Raw material prices



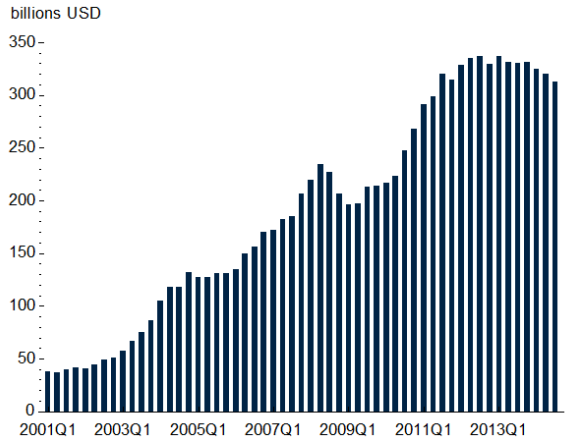
Source: World Bank.
Note: Last observation is December 2014.

FIGURE 22 Global grain production and consumption



Source: U.S. Department of Agriculture (January 2015 update.)

FIGURE 23 Assets under management



Source: Barclayhedge.
Note: Last observation is 2014Q3.

A number of assumptions, along with associated risks, underpin the agricultural commodity outlook. On crop conditions, it is assumed that the 2014/15 season's outlook will be along normal trends—a highly likely outcome since the season is well advanced. In its January assessment, the U.S. Department of Agriculture estimated the 2014/15 season's grain supplies (production plus stocks of maize, wheat, and rice) at 2.76 billion tons, marginally higher than last season's 2.65 billion tons (Figure 22). This level of supplies is deemed adequate to maintain S/U ratios at normal levels, after the historical lows reached a few years ago. The upside price risks related to El Niño have also diminished.

As noted earlier in the report, oil prices are expected to average $53/bbl in 2015 before increasing (slightly) to $57/bbl in 2016. Fertilizer prices are expected to fall 2.1 percent in 2015 (on top of last year's 11.6 percent decline). Given the high energy intensity of agriculture, low oil prices will hold back the input price pressure that most food commodities experienced during the post-2005 price boom.

The outlook for agricultural prices also assumes that biofuels will continue to play a key role in the behavior of agricultural commodity markets but that the role will become less important than in the recent past. Currently, biofuels account for almost 1.4 mb/d in energy-equivalent terms, up from 0.4 mb/d a decade ago. Biofuels are expected to grow moderately over the projection period (much slower than earlier assessments), as policy makers are increasingly realizing that their environmental and energy independence benefits may not necessarily outweigh their costs. Low oil prices will only add to this skepticism. However, to the extent that production of biofuels is supported by policy mandates, a likely increase in transport fuel demand due to lower oil prices may also increase demand for biofuels in the short term.

Lastly, investment fund activity which has been on the rise for almost 15 years (with the exception of the financial crisis) has stabilized (Figure 23). According to Barclayhedge, which tracks developments in the hedge fund industry, assets under management in commodity markets, declined for the third consecutive quarter in 2014Q3, to $321.6 billion (the highest level was $337.2 billion in 2013Q1). The oil price collapse is likely to perpetuate the outflow from funds invested in commodities.

APPENDIX

Historical commodity prices and price forecasts

TABLE A.1 World Bank commodities price data

Commodity	Unit		Annual Averages			Quarterly Averages					Monthly Averages		
			Jan-Dec 2012	Jan-Dec 2013	Jan-Dec 2014	Oct-Dec 2013	Jan-Mar 2014	Apr-Jun 2014	Jul-Sep 2014	Oct-Dec 2014	Oct 2014	Nov 2014	Dec 2014
Energy													
Coal, Australia	$/mt	a/	96.4	84.6	70.1	82.0	77.1	72.7	67.9	62.8	63.7	62.6	62.2
Coal, Colombia	$/mt		84.0	71.9	65.9	71.1	68.4	64.8	66.8	63.7	63.8	63.5	63.8
Coal, South Africa	$/mt		92.9	80.2	72.3	83.0	78.4	75.0	70.2	65.8	65.7	65.7	66.1
Crude oil, average	$/bbl		105.0	104.1	96.2	104.5	103.7	106.3	100.4	74.6	86.1	77.0	60.7
Crude oil, Brent	$/bbl	a/	112.0	108.9	98.9	109.4	107.9	109.8	102.1	76.0	87.3	78.4	62.3
Crude oil, Dubai	$/bbl	a/	108.9	105.4	96.7	106.7	104.4	106.1	101.5	74.6	86.6	76.7	60.5
Crude oil, WTI	$/bbl	a/	94.2	97.9	93.1	97.4	98.7	103.1	97.5	73.2	84.4	75.8	59.3
Natural gas, Index	2010=100		99.2	112.1	111.5	111.9	127.8	115.5	102.0	100.8	103.0	101.8	97.7
Natural gas, Europe	$/mmbtu	a/	11.5	11.8	10.1	11.4	11.3	10.2	9.2	9.5	9.8	8.9	9.8
Natural gas, US	$/mmbtu	a/	2.8	3.7	4.4	3.9	5.2	4.6	3.9	3.8	3.8	4.1	3.4
Natural gas, LNG Japan	$/mmbtu	a/	16.6	16.0	15.8	15.7	16.7	16.4	15.4	14.6	15.9	14.3	13.7
Non Energy Commodities													
Agriculture													
Beverages													
Cocoa	$/kg	b/	2.39	2.44	3.06	2.77	2.95	3.08	3.23	2.99	3.10	2.91	2.95
Coffee, arabica	$/kg	b/	4.11	3.08	4.42	2.77	3.82	4.67	4.56	4.64	4.97	4.62	4.34
Coffee, robusta	$/kg	b/	2.27	2.08	2.22	1.85	2.12	2.26	2.22	2.26	2.31	2.27	2.20
Tea, average	$/kg		2.90	2.86	2.72	2.82	2.65	2.80	2.80	2.64	2.65	2.65	2.62
Tea, Colombo auctions	$/kg	b/	3.06	3.45	3.54	3.77	3.72	3.60	3.45	3.38	3.42	3.33	3.37
Tea, Kolkata auctions	$/kg	b/	2.75	2.73	2.58	2.56	1.94	2.81	2.93	2.65	2.61	2.71	2.62
Tea, Mombasa auctions	$/kg	b/	2.88	2.40	2.05	2.14	2.29	1.98	2.01	1.90	1.91	1.90	1.88
Food													
Oils and Meals													
Coconut oil	$/mt	b/	1,111	941	1,280	1,175	1,343	1,387	1,204	1,184	1,144	1,194	1,215
Copra	$/mt		741	627	854	791	896	923	805	792	769	795	812
Fishmeal	$/mt		1,558	1,747	1,712	1,600	1,583	1,693	1,767	1,805	1,689	1,836	1,890
Groundnuts	$/mt		2,175	1,378	1,297	1,370	1,329	1,224	1,276	1,358	1,338	1,370	1,367
Groundnut oil	$/mt	b/	2,436	1,773	1,313	1,537	1,311	1,228	1,345	1,368	1,365	1,368	1,370
Palm oil	$/mt	b/	999	857	821	897	911	887	772	713	722	731	685
Palmkernel oil	$/mt		1,110	897	1,121	1,057	1,278	1,262	988	955	935	971	960
Soybean meal	$/mt	b/	524	545	528	570	582	566	493	470	459	486	466
Soybean oil	$/mt	b/	1,226	1,057	909	991	977	967	865	827	835	830	816
Soybeans	$/mt	b/	591	538	492	555	552	518	457	439	424	449	444
Grains													
Barley	$/mt	b/	240.3	202.2	137.6	150.7	129.5	137.9	130.1	152.8	124.6	158.4	175.4
Maize	$/mt	b/	298.4	259.4	192.9	199.4	209.9	214.0	174.1	173.5	163.1	178.7	178.7
Rice, Thailand 5%	$/mt	b/	563.0	505.9	422.8	442.7	443.7	393.3	433.0	421.3	428.0	418.0	418.0
Rice, Thailand 25%	$/mt		543.8	473.0	382.2	408.9	375.0	351.3	400.0	402.3	409.0	400.0	398.0
Rice, Thailand A1	$/mt		525.1	474.0	425.1	411.8	426.7	397.8	448.6	427.5	437.6	423.8	421.2
Rice, Vietnam 5%	$/mt		434.4	392.4	407.2	397.2	391.2	388.6	435.2	413.8	437.0	422.0	382.4
Sorghum	$/mt		271.9	243.3	207.2	202.1	224.2	219.4	184.3	201.0	187.8	199.6	215.6
Wheat, US HRW	$/mt	b/	313.2	312.2	284.9	308.0	297.1	322.1	262.5	257.9	245.4	258.7	269.6
Wheat, US SRW	$/mt		295.4	276.7	245.2	276.4	264.0	263.7	213.8	239.3	220.1	236.0	261.8
Other Food													
Bananas, EU	$/kg		1.10	1.02	1.04	0.94	1.05	1.14	0.99	0.99	1.01	1.00	0.95
Bananas, US	$/kg	b/	0.98	0.92	0.93	0.93	0.95	0.92	0.94	0.90	0.90	0.90	0.91
Meat, beef	$/kg	b/	4.14	4.07	4.95	4.03	4.23	4.30	5.58	5.68	5.90	5.77	5.37
Meat, chicken	$/kg	b/	2.08	2.29	2.43	2.31	2.31	2.40	2.49	2.51	2.51	2.51	2.51
Meat, sheep	$/kg		6.09	5.65	6.39	6.06	6.32	6.70	6.49	6.05	6.19	6.07	5.89
Oranges	$/kg	b/	0.87	0.97	0.78	0.83	0.78	0.84	0.77	0.74	0.73	0.72	0.77
Shrimp, Mexico	$/kg		10.06	13.84	17.25	16.70	17.09	17.75	18.08	16.08	16.04	16.09	16.09
Sugar, EU domestic	$/kg	b/	0.42	0.43	0.43	0.44	0.45	0.45	0.43	0.41	0.41	0.41	0.40
Sugar, US domestic	$/kg	b/	0.64	0.45	0.53	0.46	0.47	0.55	0.56	0.55	0.58	0.53	0.54
Sugar, World	$/kg	b/	0.47	0.39	0.37	0.39	0.37	0.40	0.38	0.35	0.37	0.36	0.34

Commodity	Unit		Annual Averages			Quarterly Averages					Monthly Averages		
			Jan-Dec 2012	Jan-Dec 2013	Jan-Dec 2014	Oct-Dec 2013	Jan-Mar 2014	Apr-Jun 2014	Jul-Sep 2014	Oct-Dec 2014	Oct 2014	Nov 2014	Dec 2014
Raw Materials													
Timber													
Logs, Cameroon	$/cum		451.4	463.5	465.2	476.5	479.6	480.0	464.0	437.1	443.5	436.6	431.2
Logs, Malaysia	$/cum	b/	360.5	305.4	282.0	296.3	289.8	291.5	286.5	260.4	275.6	256.1	249.4
Plywood	¢/sheets		610.3	560.2	517.3	543.6	531.5	534.7	525.5	477.6	505.6	469.8	457.4
Sawnwood, Cameroo	$/cum		759.3	749.2	789.5	776.0	792.9	806.5	800.0	758.4	770.0	756.0	749.2
Sawnwood, Malaysia	$/cum	b/	876.3	852.8	897.9	882.7	901.9	917.3	910.0	862.6	875.8	859.9	852.2
Woodpulp	$/mt		762.8	823.1	876.9	858.7	870.2	887.5	875.0	875.0	875.0	875.0	875.0
Other Raw Materials													
Cotton, A Index	$/kg	b/	1.97	1.99	1.83	1.92	2.07	2.04	1.70	1.52	1.55	1.49	1.51
Rubber, RSS3	$/kg	b/	3.38	2.79	1.96	2.53	2.25	2.12	1.84	1.62	1.62	1.64	1.60
Rubber, TSR20	$/kg		3.16	2.52	1.71	2.31	1.98	1.73	1.63	1.51	1.51	1.54	1.48
Fertilizers													
DAP	$/mt	b/	539.8	444.9	472.5	366.1	476.1	458.9	495.3	459.6	466.5	452.8	459.6
Phosphate rock	$/mt	b/	185.9	148.1	110.2	110.0	104.4	109.8	111.7	115.0	115.0	115.0	115.0
Potassium chloride	$/mt	b/	459.0	379.2	297.2	341.6	314.0	287.0	287.0	300.6	290.7	305.5	305.6
TSP	$/mt	b/	462.0	382.1	388.3	301.3	365.9	369.2	413.0	405.3	410.0	405.0	401.0
Urea, E. Europe	$/mt	b/	405.4	340.1	316.2	313.9	337.5	296.0	316.4	314.9	321.1	311.3	312.4
Metals and Minerals													
Aluminum	$/mt	b/	2,023	1,847	1,867	1,767	1,709	1,800	1,990	1,970	1,946	2,056	1,909
Copper	$/mt	b/	7,962	7,332	6,863	7,163	7,030	6,795	6,996	6,632	6,737	6,713	6,446
Iron ore	$/dmt	b/	128	135	97	135	120	103	90	74	81	74	68
Lead	$/mt	b/	2,065	2,140	2,095	2,114	2,101	2,097	2,182	2,001	2,034	2,030	1,938
Nickel	$/mt	b/	17,548	15,032	16,893	13,909	14,661	18,468	18,584	15,860	15,812	15,807	15,962
Tin	$/mt	b/	21,126	22,283	21,899	22,897	22,636	23,146	21,915	19,898	19,830	20,033	19,830
Zinc	$/mt	b/	1,950	1,910	2,161	1,909	2,026	2,071	2,311	2,235	2,277	2,253	2,176
Precious Metals													
Gold	$/toz	c/	1,670	1,411	1,266	1,271	1,293	1,289	1,281	1,199	1,222	1,175	1,201
Platinum	$/toz	c/	1,551	1,487	1,384	1,396	1,427	1,446	1,433	1,228	1,260	1,208	1,215
Silver	$/toz	c/	31.1	23.8	19.1	20.8	20.5	19.7	19.7	16.5	17.2	16.0	16.3
World Bank commodity price indices for low and middle income countries (2010=100)													
Energy			127.6	127.4	118.3	127.7	128.3	129.6	121.6	93.6	106.2	96.3	78.4
Non Energy Commodities			109.5	101.7	97.0	98.6	99.1	99.3	96.8	92.7	93.3	93.6	91.2
Agriculture			114.5	106.3	102.7	103.6	105.5	106.6	101.2	97.7	98.0	98.3	96.7
Beverages			92.6	83.3	101.8	83.1	94.5	104.8	105.3	102.4	106.8	101.4	99.0
Food			124.5	115.6	107.4	111.2	111.8	111.5	104.5	101.6	100.7	103.0	101.2
Fats and Oils			126.1	115.9	109.0	119.2	120.1	116.1	102.3	97.3	96.0	99.6	96.2
Grains			141.3	128.2	103.9	109.5	110.1	110.9	97.7	96.9	92.9	98.0	99.6
Other Food			107.1	103.9	108.4	102.4	102.4	105.9	113.4	111.7	113.9	112.1	109.2
Raw Materials			101.3	95.4	92.0	95.4	95.6	95.6	91.1	85.6	87.0	85.2	84.5
Timber			109.1	102.6	104.9	104.6	105.8	107.4	106.3	99.9	102.3	99.3	98.1
Other Raw Materials			92.8	87.6	77.8	85.4	84.3	82.6	74.5	69.9	70.1	69.8	69.6
Fertilizers			137.6	113.7	100.5	97.9	102.5	95.8	101.5	102.1	102.7	101.9	101.8
Metals and Minerals			96.1	90.8	84.8	88.5	85.7	84.9	87.1	81.4	82.6	82.9	78.8
Base Metals		d/	98.0	90.3	89.0	87.6	86.5	88.3	92.9	88.5	88.9	90.4	86.3
Precious Metals			138.5	115.1	101.1	103.1	104.3	103.3	102.8	94.2	96.3	92.1	94.0

Sources: Bloomberg, Cotton Outlook, Datastream, Fertilizer Week, INFOFISH, INTERFEL Fel Actualités hebdo, International Cocoa Organization, International Coffee Organization, International Rubber Study Group, International Tea Committee, International Tropical Timber Organization, Internatonal Sugar Organization, ISTA Mielke GmbH Oil World, Japan Lumber Journal, MLA Meat & Livestock Weekly, Platts International Coal Report, Singapore Commodity Exchange, Sopisco News, Sri Lanka Tea Board, US Department of Agriculture, US NOAA Fisheries Service, World Gas Intelligence.

Notes:
a/ Included in the energy index, b/ Included in the non-energy index, c/ Included in the precious metals index, d/ Metals and Minerals exluding iron ore.
Abbreviations: $ = US dollar bbl = barrel cum = cubic meter dmt = dry metric ton kg = kilogram mmbtu = million British thermal units mt = metric ton toz = troy oz .. = not available

TABLE A.2 World Bank commodities price forecast in nominal U.S. dollars

Commodity	Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Energy														
Coal, Australia	$/mt	84.6	70.1	67.0	69.7	72.6	75.6	78.6	81.9	85.2	88.7	92.3	96.1	100.0
Crude oil, avg, spot	$/bbl	104.1	96.2	53.2	56.9	60.8	65.0	69.4	74.1	79.2	84.6	90.4	96.7	103.4
Natural gas, Europe	$/mmbtu	11.8	10.1	8.5	8.6	8.8	8.9	9.1	9.2	9.4	9.5	9.7	9.8	10.0
Natural gas, US	$/mmbtu	3.7	4.4	4.0	4.2	4.5	4.7	5.0	5.3	5.6	5.9	6.3	6.6	7.0
Natural gas LNG, Japan	$/mmbtu	16.0	15.8	11.0	11.1	11.3	11.4	11.6	11.7	11.9	12.0	12.2	12.3	12.5
Non Energy Commodities														
Agriculture														
Beverages														
Cocoa	$/kg	2.4	3.1	2.9	2.8	2.7	2.6	2.6	2.5	2.4	2.4	2.3	2.3	2.2
Coffee, Arabica	$/kg	3.1	4.4	4.1	4.0	4.0	3.9	3.8	3.8	3.7	3.7	3.6	3.6	3.5
Coffee, robusta	$/kg	2.1	2.2	2.1	2.1	2.0	2.0	2.0	1.9	1.9	1.9	1.9	1.8	1.8
Tea, avg, 3 auctions	$/kg	2.9	2.7	2.8	2.8	2.8	2.9	2.9	3.0	3.0	3.1	3.1	3.2	3.2
Food														
Oils and Meals														
Coconut oil	$/mt	941	1,280	1,200	1,166	1,133	1,101	1,070	1,039	1,010	981	953	926	900
Groundnut oil	$/mt	1,773	1,313	1,400	1,440	1,480	1,522	1,565	1,609	1,655	1,702	1,750	1,799	1,850
Palm oil	$/mt	857	821	700	709	719	729	738	748	758	769	779	789	800
Soybean meal	$/mt	545	528	525	520	516	511	507	502	498	493	489	484	480
Soybean oil	$/mt	1,057	909	820	836	853	870	888	906	924	942	961	980	1,000
Soybeans	$/mt	538	492	450	457	463	470	477	484	491	498	505	513	520
Grains														
Barley	$/mt	202.2	137.6	140.0	143.6	147.2	151.0	154.8	158.7	162.8	166.9	171.2	175.5	180.0
Maize	$/mt	259.4	192.9	180.0	183.6	187.4	191.2	195.0	199.0	203.0	207.1	211.3	215.6	220.0
Rice, Thailand, 5%	$/mt	505.9	422.8	415.0	411.4	407.8	404.2	400.6	397.1	393.6	390.2	386.8	383.4	380.0
Wheat, US, HRW	$/mt	312.2	284.9	280.0	279.5	279.0	278.5	278.0	277.5	277.0	276.5	276.0	275.5	275.0
Other Food														
Bananas, EU	$/kg	0.92	0.93	0.94	0.94	0.94	0.93	0.93	0.93	0.93	0.93	0.92	0.92	0.92
Meat, beef	$/kg	4.07	4.95	5.00	4.91	4.83	4.75	4.66	4.58	4.50	4.43	4.35	4.27	4.20
Meat, chicken	$/kg	2.29	2.43	2.40	2.36	2.31	2.27	2.23	2.19	2.15	2.11	2.07	2.04	2.00
Oranges	$/kg	0.97	0.78	0.80	0.81	0.83	0.84	0.86	0.87	0.89	0.90	0.92	0.93	0.95
Shrimp, Mexico	$/kg	13.84	17.25	16.50	16.11	15.73	15.36	15.00	14.65	14.30	13.96	13.63	13.31	13.00
Sugar, World	$/kg	0.39	0.37	0.35	0.35	0.36	0.36	0.36	0.36	0.37	0.37	0.37	0.38	0.38
Raw Materials														
Timber														
Logs, Cameroon	$/cum	463.5	465.2	450.0	457.4	465.0	472.6	480.4	488.4	496.4	504.6	512.9	521.4	530.0
Logs, Malaysia	$/cum	305.4	282.0	270.0	277.9	286.0	294.3	302.9	311.8	320.9	330.2	339.9	349.8	360.0
Sawnwood, Malaysia	$/cum	852.8	897.9	870.0	889.0	908.4	928.3	948.6	969.3	990.5	1,012.2	1,034.3	1,056.9	1,080.0
Other Raw Materials														
Cotton A Index	$/kg	1.99	1.83	1.60	1.65	1.71	1.76	1.82	1.88	1.94	2.00	2.06	2.13	2.20
Rubber, Malaysian	$/kg	2.79	1.96	1.70	1.77	1.85	1.93	2.01	2.10	2.19	2.29	2.39	2.49	2.60
Tobacco	$/mt	4,589	4,999	4,700	4,658	4,617	4,576	4,536	4,496	4,456	4,416	4,377	4,338	4,300
Fertilizers														
DAP	$/mt	444.9	472.5	450.0	449.0	448.0	447.0	446.0	445.0	444.0	443.0	442.0	441.0	440.0
Phosphate rock	$/mt	148.1	110.2	110.0	107.8	105.7	103.6	101.5	99.5	97.5	95.6	93.7	91.8	90.0
Potassium chloride	$/mt	379.2	297.2	300.0	301.0	302.0	303.0	304.0	305.0	306.0	307.0	308.0	309.0	310.0
TSP	$/mt	382.1	388.3	390.0	385.8	381.7	377.5	373.5	369.5	365.5	361.5	357.7	353.8	350.0
Urea, E. Europe, bulk	$/mt	340.1	316.2	300.0	297.9	295.9	293.9	291.8	289.8	287.8	285.9	283.9	281.9	280.0
Metals and Minerals														
Aluminum	$/mt	1,847	1,867	1,925	1,946	1,968	1,990	2,012	2,034	2,057	2,080	2,103	2,126	2,150
Copper	$/mt	7,332	6,863	6,500	6,529	6,559	6,589	6,618	6,648	6,678	6,709	6,739	6,769	6,800
Iron ore	$/dmt	135.4	96.9	75.0	77.9	81.0	84.1	87.4	90.8	94.4	98.1	101.9	105.9	110.0
Lead	$/mt	2,140	2,095	2,000	2,037	2,074	2,112	2,151	2,191	2,231	2,272	2,314	2,357	2,400
Nickel	$/mt	15,032	16,893	16,000	16,190	16,381	16,575	16,772	16,971	17,172	17,375	17,581	17,789	18,000
Tin	$/mt	22,283	21,899	20,000	20,281	20,567	20,856	21,150	21,448	21,749	22,056	22,366	22,681	23,000
Zinc	$/mt	1,910	2,161	2,200	2,228	2,257	2,286	2,315	2,345	2,375	2,406	2,437	2,468	2,500
Precious Metals														
Gold	$/toz	1,411	1,266	1,240	1,225	1,211	1,196	1,182	1,168	1,154	1,140	1,127	1,113	1,100
Silver	$/toz	23.8	19.1	18.0	18.3	18.6	18.9	19.1	19.4	19.7	20.1	20.4	20.7	21.0
Platinum	$/toz	1,487	1,384	1,250	1,245	1,240	1,235	1,230	1,225	1,220	1,215	1,210	1,205	1,200

Next update: April 2015.

TABLE A.3 World Bank commodities price forecast in real 2010 U.S. dollars

Commodity	Unit	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Energy														
Coal, Australia	$/mt	79.7	66.2	63.4	64.8	66.3	68.0	69.6	71.3	73.1	74.8	76.6	78.4	80.2
Crude oil, avg, spot	$/bbl	98.1	90.9	50.3	52.9	55.6	58.4	61.4	64.6	67.9	71.4	75.0	78.9	82.9
Natural gas, Europe	$/mmbtu	11.1	9.5	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Natural gas, US	$/mmbtu	3.5	4.1	3.8	3.9	4.1	4.3	4.4	4.6	4.8	5.0	5.2	5.4	5.6
Natural gas LNG, Japan	$/mmbtu	15.0	14.9	10.4	10.4	10.3	10.3	10.2	10.2	10.2	10.2	10.1	10.1	10.0
Non Energy Commodities														
Agriculture														
Beverages														
Cocoa	$/kg	2.30	2.89	2.70	2.58	2.47	2.37	2.28	2.18	2.09	2.01	1.92	1.84	1.76
Coffee, Arabica	$/kg	2.90	4.18	3.88	3.75	3.63	3.52	3.41	3.30	3.20	3.10	3.00	2.90	2.81
Coffee, robusta	$/kg	1.96	2.09	1.99	1.92	1.86	1.80	1.75	1.69	1.64	1.59	1.54	1.49	1.44
Tea, avg, 3 auctions	$/kg	2.70	2.57	2.60	2.59	2.59	2.59	2.59	2.59	2.58	2.58	2.58	2.57	2.57
Food														
Fats and Oils														
Coconut oil	$/mt	887	1,209	1,136	1,083	1,035	990	947	906	866	828	791	756	722
Groundnut oil	$/mt	1,672	1,240	1,325	1,337	1,353	1,369	1,386	1,402	1,419	1,436	1,452	1,468	1,484
Palm oil	$/mt	808	775	663	659	657	655	654	652	650	649	646	644	642
Soybean meal	$/mt	514	498	497	483	471	460	448	437	427	416	406	395	385
Soybean oil	$/mt	996	859	776	777	780	783	786	789	792	795	798	800	802
Soybeans	$/mt	508	464	426	424	423	423	422	422	421	420	419	418	417
Grains														
Barley	$/mt	190.6	129.9	132.5	133.4	134.5	135.8	137.1	138.3	139.6	140.9	142.1	143.2	144.4
Maize	$/mt	244.6	182.2	170.4	170.6	171.2	172.0	172.7	173.4	174.1	174.8	175.4	175.9	176.4
Rice, Thailand, 5%	$/mt	477.0	399.4	392.8	382.2	372.7	363.6	354.7	346.1	337.6	329.2	320.9	312.8	304.8
Wheat, US, HRW	$/mt	294.4	269.1	265.0	259.7	255.0	250.5	246.1	241.8	237.6	233.3	229.0	224.8	220.6
Other Food														
Bananas, EU	$/kg	0.87	0.88	0.89	0.87	0.86	0.84	0.83	0.81	0.80	0.78	0.77	0.75	0.74
Meat, beef	$/kg	3.84	4.67	4.73	4.56	4.41	4.27	4.13	3.99	3.86	3.73	3.61	3.49	3.37
Meat, chicken	$/kg	2.16	2.29	2.27	2.19	2.11	2.04	1.98	1.91	1.85	1.78	1.72	1.66	1.60
Oranges	$/kg	0.91	0.74	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Shrimp, Mexico	$/kg	13.05	16.29	15.62	14.97	14.38	13.82	13.28	12.76	12.27	11.78	11.31	10.86	10.43
Sugar, World	$/kg	0.37	0.35	0.33	0.33	0.33	0.32	0.32	0.32	0.32	0.31	0.31	0.31	0.30
Raw Materials														
Timber														
Logs, Cameroon	$/cum	437.1	439.3	425.9	425.0	425.0	425.1	425.4	425.6	425.8	425.8	425.7	425.4	425.1
Logs, Malaysia	$/cum	288.0	266.4	255.6	258.2	261.4	264.8	268.2	271.7	275.2	278.6	282.0	285.4	288.7
Sawnwood, Malaysia	$/cum	804.1	848.1	823.5	825.9	830.3	835.0	839.9	844.7	849.5	854.0	858.3	862.3	866.2
Other Raw Materials														
Cotton A Index	$/kg	1.88	1.73	1.51	1.53	1.56	1.58	1.61	1.63	1.66	1.69	1.71	1.74	1.76
Rubber, Malaysian	$/kg	2.63	1.85	1.61	1.65	1.69	1.74	1.78	1.83	1.88	1.93	1.98	2.03	2.09
Tobacco	$/mt	4,327	4,721	4,449	4,328	4,220	4,116	4,016	3,918	3,821	3,726	3,632	3,540	3,449
Fertilizers														
DAP	$/mt	419.5	446.3	425.9	417.1	409.4	402.1	394.8	387.8	380.8	373.8	366.8	359.8	352.9
Phosphate rock	$/mt	139.7	104.1	104.1	100.2	96.6	93.2	89.9	86.7	83.6	80.7	77.7	74.9	72.2
Potassium chloride	$/mt	357.5	280.7	284.0	279.6	276.0	272.5	269.1	265.8	262.4	259.0	255.6	252.1	248.6
TSP	$/mt	360.2	366.8	369.1	358.4	348.8	339.6	330.7	322.0	313.5	305.1	296.8	288.7	280.7
Urea, E. Europe, bulk	$/mt	320.7	298.7	284.0	276.8	270.4	264.3	258.4	252.6	246.9	241.2	235.6	230.0	224.6
Metals and Minerals														
Aluminum	$/mt	1,741	1,764	1,822	1,808	1,799	1,790	1,781	1,773	1,764	1,755	1,745	1,735	1,724
Copper	$/mt	6,913	6,482	6,152	6,066	5,994	5,926	5,860	5,794	5,728	5,661	5,592	5,523	5,454
Iron ore	$/dmt	127.6	91.6	71.0	72.4	74.0	75.7	77.4	79.2	80.9	82.7	84.6	86.4	88.2
Lead	$/mt	2,018	1,979	1,893	1,892	1,896	1,900	1,905	1,909	1,914	1,917	1,920	1,923	1,925
Nickel	$/mt	14,173	15,955	15,144	15,041	14,972	14,910	14,849	14,789	14,727	14,661	14,590	14,514	14,437
Tin	$/mt	21,010	20,683	18,930	18,843	18,797	18,760	18,725	18,691	18,653	18,610	18,560	18,506	18,447
Zinc	$/mt	1,801	2,041	2,082	2,070	2,063	2,056	2,050	2,044	2,037	2,030	2,022	2,014	2,005
Precious Metals														
Gold	$/toz	1,331	1,195	1,174	1,138	1,106	1,076	1,046	1,018	990	962	935	908	882
Silver	$/toz	22.5	18.0	17.0	17.0	17.0	17.0	17.0	16.9	16.9	16.9	16.9	16.9	16.8
Platinum	$/toz	1,402	1,307	1,183	1,157	1,133	1,111	1,089	1,067	1,046	1,025	1,004	983	962

Next update: April 2015.

TABLE A.4 World Bank indices of commodity prices and inflation, 2010 = 100

Commodity	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Price indices in nominal US dollars (2010=100)													
Energy	127.4	118.3	70.4	74.9	79.7	84.7	90.0	95.7	101.7	108.2	115.1	122.6	130.6
Non-energy commodities	101.7	97.0	92.3	92.8	93.4	94.0	94.7	95.3	96.0	96.7	97.5	98.3	99.1
Agriculture	106.3	102.7	97.8	98.2	98.7	99.1	99.7	100.2	100.8	101.4	102.0	102.7	103.4
Beverages	83.3	101.8	96.1	94.8	93.5	92.2	91.0	89.9	88.7	87.6	86.5	85.5	84.5
Food	115.6	107.4	102.8	103.0	103.2	103.5	103.8	104.1	104.3	104.6	105.0	105.3	105.7
Fats and oils	115.9	109.0	101.3	101.8	102.4	103.0	103.6	104.2	104.9	105.6	106.3	107.0	107.7
Grains	128.2	103.9	100.1	100.7	101.3	102.0	102.6	103.3	104.0	104.7	105.5	106.3	107.1
Other food	103.9	108.4	107.3	106.7	106.1	105.6	105.0	104.5	103.9	103.4	102.8	102.3	101.8
Raw materials	95.4	92.0	86.4	88.2	90.1	92.1	94.1	96.1	98.3	100.5	102.8	105.1	107.5
Timber	102.6	104.9	101.3	103.7	106.1	108.6	111.2	113.8	116.5	119.2	122.0	124.8	127.8
Other Raw Materials	87.6	77.8	70.1	71.3	72.6	74.0	75.4	76.9	78.4	80.0	81.8	83.5	85.4
Fertilizers	113.7	100.5	98.4	97.6	96.8	96.1	95.3	94.6	93.9	93.2	92.5	91.8	91.1
Metals and minerals a/	90.8	84.8	80.3	81.2	82.2	83.3	84.3	85.4	86.4	87.6	88.7	89.9	91.0
Base Metals b/	90.3	89.0	87.0	87.7	88.5	89.2	90.0	90.7	91.5	92.3	93.1	93.9	94.7
Precious Metals	115.1	101.1	98.2	97.5	96.9	96.2	95.6	94.9	94.3	93.7	93.2	92.6	92.0
Price indices in real 2010 US dollars (2010=100) c/													
Energy	120.1	111.7	66.6	69.6	72.8	76.2	79.7	83.4	87.2	91.3	95.6	100.0	104.7
Non-energy commodities	95.9	91.6	87.3	86.2	85.4	84.6	83.8	83.1	82.3	81.6	80.9	80.2	79.5
Agriculture	100.2	97.0	92.5	91.2	90.2	89.2	88.2	87.3	86.4	85.6	84.7	83.8	82.9
Beverages	78.5	96.1	91.0	88.1	85.4	83.0	80.6	78.3	76.1	73.9	71.8	69.7	67.8
Food	109.0	101.4	97.3	95.7	94.4	93.1	91.9	90.7	89.5	88.3	87.1	85.9	84.8
Fats and oils	109.3	102.9	95.8	94.6	93.6	92.6	91.7	90.8	89.9	89.1	88.2	87.3	86.4
Grains	120.9	98.1	94.7	93.5	92.6	91.7	90.9	90.0	89.2	88.4	87.5	86.7	85.9
Other food	98.0	102.4	101.6	99.1	97.0	95.0	93.0	91.1	89.1	87.2	85.3	83.4	81.6
Raw materials	90.0	86.9	81.8	82.0	82.4	82.8	83.3	83.8	84.3	84.8	85.3	85.8	86.3
Timber	96.7	99.0	95.9	96.4	97.0	97.7	98.4	99.2	99.9	100.6	101.2	101.9	102.5
Other Raw Materials	82.6	73.5	66.3	66.3	66.4	66.5	66.7	67.0	67.3	67.5	67.8	68.2	68.5
Fertilizers	107.2	94.9	93.1	90.7	88.5	86.4	84.4	82.5	80.5	78.6	76.7	74.9	73.1
Metals and minerals a/	85.6	80.1	76.0	75.5	75.2	74.9	74.6	74.4	74.1	73.9	73.6	73.3	73.0
Base Metals b/	85.2	84.1	82.3	81.5	80.8	80.2	79.7	79.1	78.5	77.9	77.2	76.6	75.9
Precious Metals	108.5	95.5	93.0	90.6	88.5	86.5	84.6	82.7	80.9	79.1	77.3	75.5	73.8
Inflation indices, 2010=100 d/													
MUV index e/	106.1	105.9	105.7	107.6	109.4	111.2	112.9	114.8	116.6	118.5	120.5	122.6	124.7
% change per annum	-1.4	-0.2	-0.2	1.9	1.7	1.6	1.6	1.6	1.6	1.6	1.7	1.7	1.7
US GDP deflator	105.4	106.9	108.5	110.7	113.0	115.3	117.6	120.0	122.4	124.9	127.4	130.0	132.6
% change per annum	1.5	1.3	1.6	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0

Notes:

a/ Base metals plus iron ore

b/ Includes aluminum, copper, lead, nickel, tin and zinc

c/ Real price indices are computed from unrounded data and deflated by the MUV index.

d/ Inflation indices for 2013-2025 are projections

e/ Unit value index of manufacture exports (MUV) in US dollar terms for fifteen countries (Brazil, Canada, China, Germany, France, India, Italy, Japan, Mexico, Republic of Korea, South Africa, Spain, Thailand, United Kingdom, and United States).

Next update: April 2015.

Description of Price Series

ENERGY

Coal (Australia), thermal, f.o.b. piers, Newcastle/Port Kembla, 6,700 kcal/kg, 90 days forward delivery beginning year 2011; for period 2002-2010, 6,300 kc/kg (11,340 btu/lb); prior to year 2002, 6,667 kcal/kg (12,000 btu/lb).

Coal (Colombia), thermal, f.o.b. Bolivar, 6,450 kcal/kg, (11,200 btu/lb); during years 2002-July 2005 11,600 btu/lb, less than .8% sulfur, 9% ash, 90 days forward delivery.

Coal (South Africa), thermal, f.o.b. Richards Bay, 90 days forward delivery; 6,000 kcal/kg, during 2002-2005, 6,200 kcal/kg (11,200 btu/lb); during 1990-2001 6390 kcal/kg (11,500 btu/lb).

Crude oil, average price of Brent, Dubai and West Texas Intermediate, equally weighed.

Crude oil, U.K. Brent 38° API. Crude oil, Dubai Fateh 32° API. Crude oil, West Texas Intermediate (WTI) 40° API.

Natural Gas Index (Laspeyres), weights based on 5-year consumption volumes for Europe, US and Japan (LNG), updated every 5 years, except the 11-year period 1960-70.

Natural Gas (Europe), average import border price, including UK. As of April 2010 includes a spot price component. Between June 2000 - March 2010 excludes UK.

Natural Gas (U.S.), spot price at Henry Hub, Louisiana.

Natural gas LNG (Japan), import price, cif, recent two months' averages are estimates.

NON ENERGY COMMODITIES

BEVERAGES

Cocoa (ICCO), International Cocoa Organization daily price, average of the first three positions on the terminal markets of New York and London, nearest three future trading months.

Coffee (ICO), International Coffee Organization indicator price, other mild Arabicas, average New York and Bremen/Hamburg markets, ex-dock.

Coffee (ICO), International Coffee Organization indicator price, Robustas, average New York and Le Havre/Marseilles markets, ex-dock.

Tea, average three auctions, arithmetic average of quotations at Kolkata, Colombo and Mombasa/Nairobi.

Tea (Colombo auctions), Sri Lankan origin, all tea, arithmetic average of weekly quotes.

Tea (Kolkata auctions), leaf, include excise duty, arithmetic average of weekly quotes.

Tea (Mombasa/Nairobi auctions), African origin, all tea, arithmetic average of weekly quotes.

OILS AND MEALS

Coconut oil (Philippines/Indonesia), bulk, c.i.f. Rotterdam.

Copra (Philippines/Indonesia), bulk, c.i.f. N.W. Europe.

Groundnuts (US), Runners 40/50, shelled basis, c.i.f. Rotterdam.

Groundnut oil (any origin), c.i.f. Rotterdam.

Fishmeal (any origin), 64-65%, c&f Bremen, estimates based on wholesale price, beginning 2004; previously c&f Hamburg.

Palm oil (Malaysia), 5% bulk, c.i.f. N. W. Europe.

Palmkernel Oil (Malaysia), c.i.f. Rotterdam.

Soybean meal (any origin), Argentine 45/46% extraction, c.i.f. Rotterdam beginning 1990; previously US 44%.

Soybean oil (Any origin), crude, f.o.b. ex-mill Netherlands.

Soybeans (US), c.i.f. Rotterdam.

GRAINS

Barley (US) feed, No. 2, spot, 20 days To-Arrive, delivered Minneapolis from May 2012 onwards; during 1980 - 2012 April Canadian, feed, Western No. 1, Winnipeg Commodity Exchange, spot, wholesale farmers' price.

Maize (US), no. 2, yellow, f.o.b. US Gulf ports.

Rice (Thailand), 5% broken, white rice (WR), milled, indicative price based on weekly surveys of export transactions, government standard, f.o.b. Bangkok.

Rice (Thailand), 25% broken, WR, milled indicative survey price, government standard, f.o.b. Bangkok.

Rice (Thailand), 100% broken, A.1 Super from 2006 onwards, government standard, f.o.b. Bangkok; prior to 2006, A1 Special, a slightly lower grade than A1 Super.

Rice (Vietnam), 5% broken, WR, milled, weekly indicative survey price, Minimum Export Price, f.o.b. Hanoi.

Sorghum (US), no. 2 milo yellow, f.o.b. Gulf ports.

Wheat (US), no. 1, hard red winter, ordinary protein, export price delivered at the US Gulf port for prompt or 30 days shipment.

Wheat (US), no. 2, soft red winter, export price delivered at the US Gulf port for prompt or 30 days shipment.

OTHER FOOD

Bananas (Central & South America), major brands, free on truck (f.o.t.) Southern Europe, including duties; prior to October 2006, f.o.t. Hamburg.

Bananas (Central & South America), major brands, US import price, f.o.t. US Gulf ports.

Meat, beef (Australia/New Zealand), chucks and cow forequarters, frozen boneless, 85% chemical lean, c.i.f. U.S. port (East Coast), ex-dock, beginning November 2002; previously cow forequarters.

Meat, chicken (US), broiler/fryer, whole birds, 2-1/2 to 3 pounds, USDA grade "A", ice-packed, Georgia Dock preliminary weighted average, wholesale.

Meat, sheep (New Zealand), frozen whole carcasses Prime Medium (PM) wholesale, Smithfield, London beginning January 2006; previously Prime Light (PL).

Oranges (Mediterranean exporters) navel, EEC indicative import price, c.i.f. Paris.

Shrimp (Mexico), west coast, frozen, white, No. 1, shell-on, headless, 26 to 30 count per pound, wholesale price at New York.

Sugar (EU), European Union negotiated import price for raw unpackaged sugar from African, Caribbean and Pacific (ACP) under Lome Conventions, c.i.f. European ports.

Sugar (US), nearby futures contract, c.i.f.

Sugar (world), International Sugar Agreement (ISA) daily price, raw, f.o.b. and stowed at greater Caribbean ports.

TIMBER

Logs (West Africa), sapele, high quality (loyal and marchand), 80 centimeter or more, f.o.b. Douala, Cameroon beginning January 1996; previously of unspecified dimension.

Logs (Malaysia), meranti, Sarawak, sale price charged by importers, Tokyo beginning February 1993; previously average of Sabah and Sarawak weighted by Japanese import volumes.

Plywood (Africa and Southeast Asia), Lauan, 3-ply, extra, 91 cm x 182 cm x 4 mm, wholesale price, spot Tokyo.

Sawnwood (Cameroon), sapele, width 6 inches or more, length 6 feet or more, f.a.s. Cameroonian ports.

Sawnwood (Malaysia), dark red seraya/meranti, select and better quality, average 7 to 8 inches; length average 12 to 14 inches; thickness 1 to 2 inch(es); kiln dry, c. & f. UK ports, with 5% agents commission including premium for products of certified sustainable forest beginning January 2005; previously excluding the premium.

Woodpulp (Sweden), softwood, sulphate, bleached, air-dry weight, c.i.f. North Sea ports.

OTHER RAW MATERIALS

Cotton (Cotton Outlook "CotlookA index"), middling 1-3/32 inch, traded in Far East, C/F beginning 2006; previously Northern Europe, c.i.f.

Rubber (Asia), RSS3 grade, Singapore Commodity Exchange Ltd (SICOM) nearby contract beginning 2004; during 2000 to 2003, Singapore RSS1; previously Malaysia RSS1.

Rubber (Asia), TSR 20, Technically Specified Rubber, SICOM nearby contract.

FERTILIZERS

DAP (diammonium phosphate), standard size, bulk, spot, f.o.b. US Gulf.

Phosphate rock (Morocco), 70% BPL, contract, f.a.s. Casablanca.

Potassium chloride (muriate of potash), standard grade, spot, f.o.b. Vancouver.

TSP (triple superphosphate), bulk, spot, beginning October 2006, Tunisian origin, granular, fob; previously US origin, f.o.b. US Gulf.

Urea (Black Sea), bulk, spot, f.o.b. Black Sea (primarily Yuzhnyy) beginning July 1991; for 1985-91 (June) f.o.b. Eastern Europe.

METALS AND MINERALS

Aluminum (LME) London Metal Exchange, unalloyed primary ingots, high grade, minimum 99.7% purity, settlement price beginning 2005; previously cash price.

Copper (LME), grade A, minimum 99.9935% purity, cathodes and wire bar shapes, settlement price.

Iron ore (any origin) fines, spot price, c.f.r. China, 62% Fe beginning December 2008; previously 63.5%.

Lead (LME), refined, 99.97% purity, settlement price.

Nickel (LME), cathodes, minimum 99.8% purity, settlement price beginning 2005; previously cash price.

Tin (LME), refined, 99.85% purity, settlement price.

Zinc (LME), high grade, minimum 99.95% purity, settlement price beginning April 1990; previously special high grade, minimum 99.995%, cash prices.

PRECIOUS METALS

Gold (UK), 99.5% fine, London afternoon fixing, average of daily rates.

Platinum (UK), 99.9% refined, London afternoon fixing.

Silver (UK), 99.9% refined, London afternoon fixing; prior to July 1976 Handy & Harman. Grade prior to 1962 unrefined silver.

The second half of 2014 was marked by broad-based commodity price declines. Crude oil prices dropped the most, by more than 50 percent from their June 2014 highs, ending a four-year period of high and stable oil prices. Agricultural, metal, and precious metal prices weakened as well, but by much less than oil. Ample supplies, disappointing global growth prospects, and appreciation of the U.S. dollar, have all weighed on commodity prices. For oil, a sequence of supply and demand revisions, along with OPEC's abandoning of price targeting, have played a pivotal role.

The World Bank's Commodity Markets Outlook is published quarterly, in January, April, July, and October. The report provides detailed market analysis for major commodity groups, including energy, metals, agriculture, precious metals, and fertilizers. Price forecasts to 2025 for 46 commodities are also presented, together with historical price data. Commodity price data updates are published separately at the beginning of each month.

The report and data can be accessed at:

www.worldbank.org/commodities.

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