A World Bank Report

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Commodity Markets Outlook

Implications of COVID-19 for Commodities

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WORLD BANK GROUP

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The World Bank's *Commodity Markets Outlook* is published twice a year, in April and October. The report provides detailed market analysis for major commodity groups, including energy, agriculture, fertilizers, metals, and precious metals. Price forecasts to 2030 for 46 commodities are presented, together with historical price data. The report also contains production, consumption, and trade statistics for major commodities. 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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Executive Summary

Almost all commodity prices saw sharp declines during the past three months as the COVID-19 pandemic worsened. Mitigation measures have significantly reduced transport, causing an unprecedented decline in demand for oil, while weaker economic growth will further reduce overall commodity demand. Crude oil prices are expected to average $35/bbl this year and $42/bbl in 2021—a sharp downward revision from October in both years. Non-energy prices are also expected to fall this year. Metals are projected to decline more than 13 percent in 2020, before recovering in 2021 while food prices are expected to be broadly stable. The risks to the price forecasts are large in both directions and depend on the speed at which the pandemic is contained and mitigation measures are lifted. A Special Focus investigates the impact of COVID-19 on commodity markets and compares it with previous disruption episodes. It finds that the impact of COVID-19 has already been larger than most previous events and may lead to long-term shifts in global commodity demand and supply. A Box examines the impact of international commodity production agreements, with a particular focus on OPEC, and concludes that OPEC+, the last remaining international agreement to manage supply, is subject to the same forces that led to the collapse of its predecessors.

Recent trends

Commodity markets have been buffeted by the COVID-19 pandemic, which has already caused a historical sudden stop in economic activity (Special Focus). The pandemic has affected both the demand and supply of commodities through the impact of mitigation measures on activity and supply chains. The prices of most commodities have fallen since January, especially those that are related to the transportation industry (Figure 1.A, Figure 1.B).

Energy prices fell 18.4 percent (q/q) in 2020 Q1, with a marked deterioration throughout the quarter as the severity of COVID-19 became increasingly apparent. *Crude oil prices* averaged $32/bbl in March, a decline of 50 percent compared with January. Prices reached a historic low in April with some benchmarks trading at negative levels. Demand for oil has collapsed as a result of COVID-19 mitigation measures which have sharply curtailed travel and transport, which account for around two-thirds of oil demand. The fall in prices was exacerbated by the breakdown of the production agreement between OPEC and its partners in early March, and prices failed to rally when a new agreement to reduce production by 9.7mb/d disappointed markets in April (Box, Energy section). While *natural gas prices* have also seen sizeable declines, albeit less than for crude oil, *coal prices* have seen smaller declines partly because demand for heating and electricity has been somewhat less affected by mitigation measures.

Most *non-energy prices* also fell in 2020 Q1, but by less than energy prices. The *metals and minerals price index* fell 5 percent on the quarter, but with significant variation among its components. Copper and zinc prices declined by around 15 percent relative to their January peak, reflecting their close relationship with global economic activity. In contrast, iron ore prices have fallen just 7 percent, with weakening demand partly balanced by supply disruptions. Among *precious metals*, gold prices rose modestly amid heightened uncertainty and safe-haven flows, while platinum prices dropped by 23 percent reflecting their heavy use in the production of catalytic converters in the transportation industry. With some exceptions, *agricultural commodity prices* saw minor declines during the first quarter reflecting their indirect relationship to economic growth. However, natural rubber prices fell 25 percent from their January peak largely because two-thirds of the crop is used in the manufacture of tires. Prices of maize and some edible oils fell as well due to the collapse of biofuel demand.

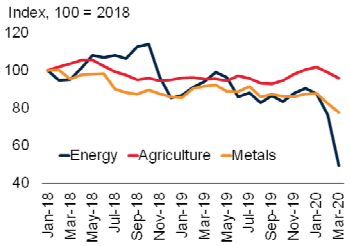
Outlook and risks

Energy prices are expected to average 40 percent lower in 2020 than in 2019 (a major downward revision from October) but see a sizeable rebound in 2021 (Table 1). *Non-energy prices* are projected to decline 5 percent in 2020 (a smaller downward

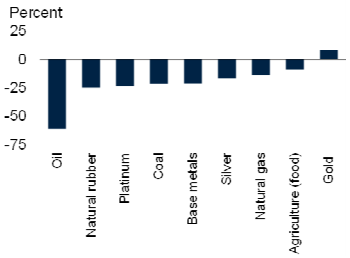
FIGURE 1 Commodity market developments

COVID-19 caused widespread declines in commodity prices in February and March, with energy the most affected. Oil prices have been hit by a plunge in transport, weaker economic growth despite cuts by OPEC and its partners. Oil prices are forecast to average $35/bbl in 2020, which would be the weakest price recovery in history, reflecting the unprecedented collapse in oil demand expected this year.

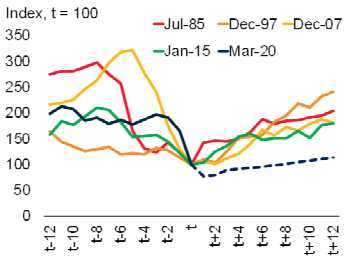
A. Commodity price indexes, monthly



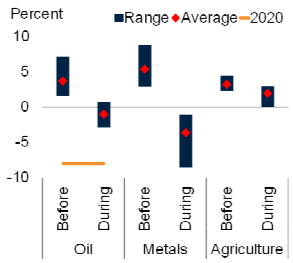
B. Commodity price changes since January 20th



C. Oil prices during collapse and recovery episodes and 2020 forecast



D. Commodity demand growth around global recessions



Source: Bloomberg; BP Statistical Review; IEA; USDA; World Bank; World Bureau of Metal Statistics

A. Last observation is March 2020.

B. Last observation is April 17 2020.

C. Lines indicate oil prices for 12 months before and after the trough (t) of major price collapses, indexed to 100 at the trough (t). Dashed line indicates forecast for 2020.

D. Dates of recessions taken from Kose, Sugawara, and Terrones (2020). Four recessions are included: 1974-75; 1981-82; 1990-91; and 2008-09. "Before" shows average annual growth rates in commodity consumption over the three years before the recession. "During" shows average annual growth rates of recession years. note that in 1980 a global slowdown occurred with similar negative growth rates in consumption; as such the "Before" period covers 1977-79. 2020 line shows the IEA's forecast for oil demand growth in 2020. Demand forecasts are not available for metals and agriculture.

revision from October) and stabilize in 2021. The outlook is exceptionally uncertain and depends on the duration and severity of the pandemic, and how quickly mitigation measures can be lifted.

Oil prices are projected to average $35/bbl in 2020 before recovering to $42/bbl in 2021, substantially lower than the October forecast of $58/bbl and $59/bbl. Oil prices are expected to recover only very gradually from their current low levels, before picking up more strongly into next year, which would be among the weakest recovery from a price collapse in history (Figure 1.C). The forecast reflects an expected plunge in oil demand of almost 10 percent (9.3mb/d), which would be unprecedented in history. The largest prior decline was in 1980 when oil demand fell by 4 percent (Figure 1.D). Against this drop, the production cuts by OPEC and its partners may be insufficient, with a major surplus expected in 2020Q2, which will likely overwhelm storage capacity and cause widespread shutdowns of production among other producers, particularly in the U.S. and Canada. Prices are expected to rise in 2021 as demand recovers, albeit to a lower level than previously forecast. Risks are predominately to the downside and include a slower end to the pandemic that could lead to much lower demand than currently forecast, as well as a deeper-than-expected recession. To the upside, a faster fall in production could cause oil prices to rise more sharply in the latter half of 2020 and into 2021.

Metal prices are projected to fall 13 percent in 2020 before rebounding modestly in 2021, as slowing global demand and the shutdown of key industries weigh heavily on the market. Risks to this outlook are to the downside, including a greater-than-expected slowdown in global growth.

Agricultural prices are expected to remain broadly stable in 2020 as they are less sensitive to economic activity than industrial commodities, while production levels and stocks for most staple foods are at all-time highs. However, concerns about food security remain. Some countries have already announced temporary trade restrictions such as export bans, while others began stockpiling food commodities through accelerated imports. Although these measures have not yet been used widely, they could lead to problems if they are used extensively. Also, there may be problems with food availability (and price spikes) at the local level due to supply chain disruptions and border closures in response to containment strategies, that may restrict food flows or movement of labor.

This edition of the *Commodity Markets Outlook* features a *Special Focus* on the implications of COVID-19 for commodity markets, and a *Box* on the impact of commodity production agreements, with a particular focus on OPEC.

TABLE 1 Nominal price indexes and forecast revisions

	Price Indexes (2010=100)[1]					Change (%) q/q		Change (%) y/y		Forecast revision[3]	
	2017	2018	2019	2020f[2]	2021f[2]	2019Q4	2020Q1	2020f[2]	2021f[2]	2020f[2]	2021f[2]
Energy	68	87	76	45	54	1.7	-18.4	-40.3	18.9	-35.1	17.1
Non-Energy[4]	84	85	82	78	79	1.9	-0.7	-5.1	2.5	-4.6	0.9
Agriculture	87	87	83	82	84	4.1	1.2	-1.1	1.8	-0.9	-0.1
Beverages	83	79	76	72	74	5.1	-0.9	-5.3	2.3	-4.4	0.2
Food	90	90	87	87	88	4.9	1.5	-0.5	1.9	-1.2	2.1
Oils and meals	87	85	77	78	80	7.2	3.1	0.1	2.7	-1.8	5.2
Grains	81	89	89	88	89	0.8	4.4	-1.5	1.8	-1.6	0.4
Other food	102	99	98	97	98	6.0	-2.5	-0.4	0.9	0.0	0.2
Raw Materials	81	81	78	77	79	1.2	1.6	-0.8	1.6	-5.3	0.3
Fertilizers	74	82	81	73	76	-7.0	-4.5	-9.9	3.1	-12.9	1.0
Metals and Minerals	78	83	78	68	71	-1.8	-4.7	-13.2	4.0	-11.6	2.9
Precious Metals	98	97	105	119	119	0.7	5.4	13.2	-0.3	7.7	0.7
Memorandum items											
Crude oil ($/bbl)[5]	53	68	61	35	42	1.0	-18.7	-43.0	20.0	-37.5	18.1
Gold ($/toz)	1,258	1,269	1,392	1,600	1,590	0.5	6.9	14.9	-0.6	9.3	0.6

Source: World Bank.
Note: (1) Numbers may differ from tables A.1-4 due to rounding. (2) "f" denotes forecasts. (3) Denotes percentage points revision to the growth forecasts from the October 2019 report. (4) The non-energy price index excludes precious metals. (5) Average of Brent, Dubai and WTI. See Appendix C for definitions of prices and indexes.

Special focus: A shock like no other: The implications of COVID-19 for commodity markets

The outbreak of COVID-19 has been accompanied by widespread declines in commodity prices. The combination of both major demand and supply shocks occurring simultaneously is unprecedented among previous events. The mitigation measures taken to control the spread of the virus have resulted in an unprecedented collapse in oil demand and the steepest one-month decline in oil prices on record. In the short-run, in addition to weaker demand, disruptions to supply chains could cause dislocations in the consumption and production of other commodities and imperil food security.

In the longer-term, the pandemic could have lasting impacts on commodity demand and supply, affecting both commodity exporters and importers. A shift toward remote working may reduce travel and hence demand for oil, while a preference for near-shoring and the retrenchment of global value chains could cause a persistent shift in the configuration of supply chains and associated commodity demand. Policymakers in both commodity-exporting and commodity-importing emerging and developing economies should take advantage of these shifts to reduce commodity market distortions. This is particularly true for energy markets, and the plunge in oil prices is an opportunity to eliminate subsidies.

Box: Set up to fail? The inevitable collapse of commodity agreements

OPEC+ is the only surviving internationally-coordinated effort to manage commodity supplies. Previous efforts since World War II, including agreements for tin, coffee, and rubber production, have all collapsed. Commodity production agreements tend to sow the seed of their own collapse, by keeping prices artificially high, which in turn encourages new producers to enter the market, as well as inducing innovation and substitution. The economic forces created by supply management of the oil market since 1985 resemble those observed in these previous coordination efforts. While OPEC and its partners agreed to new production cuts in April, in the longer term, the current arrangement will most likely be subjected to the same forces that led to the collapse of its predecessors.

SPECIAL FOCUS

A Shock Like No Other: The Impact of COVID-19 on Commodity Markets

A Shock Like No Other: The Impact of COVID-19 on Commodity Markets

The outbreak of COVID-19 has been accompanied by widespread declines in global commodity prices. The pandemic represents a unique shock that has a major impact on both the demand and supply of commodities. Oil markets have been most affected, given the collapse in travel arising from mitigation measures, and have seen an unprecedented collapse in demand and steepest one-month decline in oil prices on record. Metals prices have also fallen, albeit less than oil, while agricultural prices have been much less affected so far given their indirect relationship with economic activity. Over the short-term, in addition to weaker demand, disruptions to supply chains could cause dislocations in commodity markets, with food security a key concern. The ultimate impact of the pandemic will depend on its severity and duration, but it is likely to have lasting implications. Changing consumer behavior could cause a structural shift in work patterns, reducing travel and demand for fuel. An unwinding of complex global value chains may occur, which could reduce commodity demand. For policymakers in EMDEs, the plunge in oil prices provides an opportunity to eliminate energy subsidies.

Introduction

On March 19, the World Health Organization announced that COVID-19 was a global pandemic—the first pandemic since the 2009 outbreak of H1N1 (swine flu). The number of infections and deaths continue to rise sharply across the world, and the outbreak presents a major shock to an already fragile global outlook. Prior to the outbreak, global growth was expected to rise marginally to 2.5 percent in 2020 from a post-crisis low of 2.4 percent in 2019 (World Bank 2020a). Consensus estimates of growth now suggest deep recessions are likely in many advanced economies, while growth in emerging market and developing economies (EMDEs) is expected to slow sharply. Weaker growth will also result in reduced demand for commodities.

The direct impact of COVID-19 and measures taken to contain it have had substantial impacts on commodity markets and supply chains. Prices of most major commodities have fallen since January, led by oil which experienced its largest one-month fall on record in March (Figure SF.1A; Figure SF.1B). While mitigation measures to control the spread of COVID-19 are essential, they have caused severe economic dislocations and a sharp reduction in travel. For example, passenger journeys in China in March fell by three-fifths compared to their normal level, while subway journeys in New York City have fallen by one-third (Figure SF.1C). There has also been a reduction in the volume of shipping as a result of shrinking global trade. As a result, the International Energy Agency expects global oil demand to decline almost 10 percent in 2020, more than twice as large as the next largest plunge in 1980 (IEA 2020; Figure SF.1D).

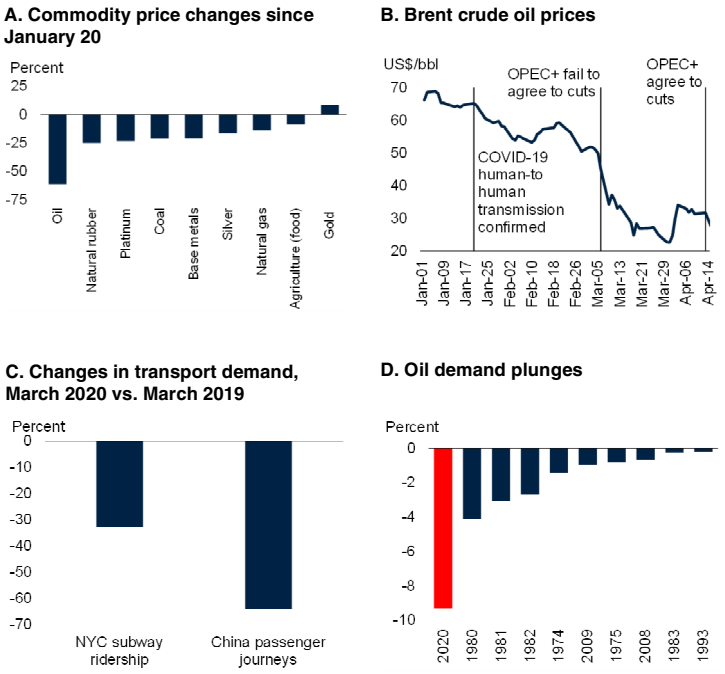
The prospects for commodity prices were already muted when the pandemic hit. Rising trade tensions and slowing growth in China were adversely affecting demand, and most commodities were in ample supply. U.S. oil production reached record levels in 2019, while most food commodity markets experienced near-record high production and stock levels.

While the current pandemic has few precedents in history, past episodes of major economic recessions or disruptions, as well as previous major disease outbreaks, can provide valuable insights into how commodity markets may be affected. For example, the terrorist attacks on the United States on September 11, 2001, led to widespread travel disruptions and reduced demand for oil. Past outbreaks of disease have had substantial localized impacts, particularly on agricultural markets. Past global recessions have been accompanied by sharp declines in industrial commodity demand.

The consequences of COVID-19 are large and likely to persist, with widely varying impacts on individual commodities. Against this backdrop, this Focus examines the implications of COVID-19 for

FIGURE SF.1 The impact of COVID-19 on commodity markets

The outbreak of COVID-19 has had a substantial impact on commodity prices, with declines in most commodities, particularly crude oil. Natural rubber and platinum (both used extensively in the production of transport equipment) also experienced large price declines. Oil prices have declined by two-thirds since January due to the unprecedented combination of a major demand and supply shock. On the demand side, COVID-19 containment measures have sharply reduced travel, and therefore oil demand. Oil demand is forecast to fall by almost 10 percent in 2020, more than twice as large as the previous record.



Source: Bloomberg Institute of Shipping Economics and Logistics, International Energy Agency; Johns Hopkins University, Metropolitan Transportation Authority, WIND, World Bank.

A. Change in commodity price since January 20, the date of the first confirmed human-to-human transmission. Base metals includes aluminum, copper, lead, nickel, tin, and zinc. Agriculture (food) shows an average of the three main grains: corn, soybeans, and wheat.

C. Chart shows the change in passenger demand from March 2019 to March 2020. "NYC subway ridership" is the sum of entries into each station in New York's Metropolitan Transportation Authority network, which serves a population of 15.3 million people across a 5,000-square-mile travel area surrounding New York City, including Long Island, southeastern New York State, and Connecticut. "China passenger journeys" include all daily passenger journeys in China.

D. Chart shows all historical episodes where oil demand has fallen since 1965. 2020 shows IEA forecasts.

commodity markets. Specifically, it addresses the following questions:

- What has been the impact thus far on commodity markets?
- How does COVID-19 compare with earlier shocks to commodity markets?
- What are the potential long-term implications of the pandemic for commodity markets?

What has been the impact thus far on commodity markets?

COVID-19 unleashed a unique combination of shocks to commodity markets, impacting both demand and supply simultaneously. Mitigation measures, while essential, disrupt both demand and supply of commodities. The unfolding economic recession presents a further major shock to demand. The combination of these demand and supply shocks manifest themselves through a variety of channels, with varying impacts on different commodities.

Reduced energy demand for travel. The shutdown of travel has resulted in a substantial fall in demand for fuel for transport, which accounts for two-thirds of global oil demand. Many countries have implemented wide-ranging travel bans and stay-at-home orders, sharply reducing travel. Lower demand and prices for oil also reduces the price of crops used for biofuels, such as corn and soybean oil.

Lower demand during economic downturn. The global recession is resulting in weaker commodity demand. Unlike demand for agricultural goods, demand for energy and metals is strongly affected by a slowdown in economic activity given its higher income elasticity (Baffes, Kabundi, and Nagle 2020).

Disruption to supply chains. Some mitigation measures drive a wedge between consumer and producer prices of commodities, or between commodity exporters and importers. For example, disruptions to food supply chains may result in food security concerns, which in turn can trigger hoarding by consumers. That could push prices higher at the consumer level, while at the same time ample harvests, such as for grains, could lead to lower producer prices. Similarly, for metals, shutdowns of refineries could create a wedge between the prices of refined metals and ores.

Disruptions to agricultural commodity production. For agriculture, the upcoming growing season may be affected by shortages of available inputs resulting from mitigation measures. The labor force available for commodity production

may be curtailed if vast numbers of people are subject to movement restrictions, including across borders. This is of great concern for agricultural production, especially in advanced economies, where there is a heavy reliance on migrant workers who may no longer be able to travel.

Disruptions to industrial commodity production. Mitigation measures may result in the closure of key commodity-producing operations. This could lead to lower production of affected commodities. For example, several copper mines have temporarily closed and new projects put on hold in major copper-producing countries.

Adverse impact of policy responses. Trade restrictions could also impact food markets, for example, if food-exporting countries restrict exports, or if border closures affect the trade of commodities. During the 2007-08 food crisis, as many as one-third of countries adopted trade restrictions, increasing global food prices. An estimated 45 percent of the increase in world rice prices and almost 30 percent of the increase in world wheat prices during this period was due to such policies (Martin and Anderson 2011; World Bank 2019a). Currently, global food markets are markedly less vulnerable than in 2007-08, with production and stocks-to-use ratios of key food commodities near record highs, and prices unusually stable. Nevertheless, policy action by individual large countries could yet destabilize markets, as discussed below.

Oil markets

The impact of COVID-19 has been most severe for the crude oil market. Crude oil prices have fallen by two-thirds since January 20, the date of the first recorded human-to-human infection. The oil market has been hit by an unprecedented combination of negative-demand and positive-supply shocks. Mitigation measures to stem the pandemic and a global recession have coincided with the collapse of the production agreement by OPEC and its partners in early March (OPEC+, Box 1, Energy section).[1] This stands in contrast with supply shocks facing many other industries, which likely face a reduction in supply due to mitigation measures.

Weaker demand. Transport disruptions and an economic decline have weakened demand.

- *Transport disruptions.* The largest factor driving the collapse in oil prices has been the sharp reduction in demand arising from mitigation measures. The unprecedented drop in transport in many countries has led to a sharp fall in fuel demand. Oil demand fell by 6 percent (6 mb/d) in 2020 Q1, and the International Energy Agency anticipates it will fall by 23 percent (23 mb/d) in 2020 Q2, as a growing number of countries have put in place mitigation measures, particularly the United States (the largest consumer of oil).

- *Slowdown in economic activity.* The slowdown in economic growth will also reduce global oil consumption. Oil has a relatively high-income elasticity of demand, which suggests that declines in economic growth can lead to falls in oil demand (World Bank 2018a, 2018b).

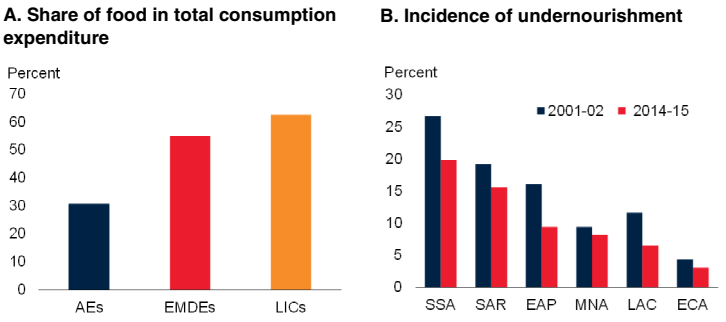
Fluctuations in supply. Oil prices have also been buffeted by the collapse and rebirth of production agreements among OPEC+ members.[2] The breakdown of the OPEC+ production agreement in early March exacerbated the ongoing fall in oil prices, with a decline of 24 percent the day after the announcement. While the potential increase in supply arising from the end of production restraint (around 2-3 million barrels per day) was small compared with the expected fall in demand, it nonetheless aggravated expectations of chronic oversupply. In mid-April, the group agreed on historically large production cuts of 9.7mb/d. However, the announcement did little to support prices, given the uncertainty of demand and

[1] The relative importance of demand and supply factors in driving prices can ordinarily be estimated using a structural vector autoregression model (Baumeister and Hamilton 2019; Caldara, Cavallo, and Iacoviello 2019; Kilian and Murphy 2014; Kilian and Zhou 2017). However, the implementation of mitigation measures has led to a structural break in the relationship between income and oil demand, limiting the usefulness of these models at present.

[2] OPEC+ includes OPEC countries and Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, Sudan, and South Sudan.

FIGURE SF.2 Food security

Lo-income countries are particularly vulnerable to food insecurity, as food accounts for a larger share of their total consumption. Despite substantial improvements in the incidence of undernourishment among EMDEs, levels remain high, particularly in Sub-Saharan Africa.



Source: USDA; World Bank.
A. AE = advanced economies, EMDE = emerging and developing market economies, LIC = low-income countries. Indicates share of food in total consumption expenditure of households. Data is available for 19 AEs, 63 non-LIC EMDEs, and 25 LICs. The base year of the household surveys differs but the data has been converted to a common reference year, 2010. The share of income spent on food is likely to be different.
B. SSA = Sub-Saharan Africa, SAR = South Asia, EAP = East Asia and the Pacific, MNA = Middle East and North Africa, LAC = Latin America and the Caribbean, ECA = Europe and Central Asia.

worries the announced supply cuts will be insufficient.

Industrial and precious metals

Industrial metals. The prices of most industrial metals have fallen but substantially less than oil prices. The largest declines have been in copper and zinc, which have fallen by around 15 percent since January (Metals and Minerals section). Metals are most affected by the slowdown in global activity, particularly in China which accounts for more than half of global metals demand. However, production disruptions resulting from mine and refinery shutdowns arising from COVID-19 are also impacting supply. Industry estimates suggest 15 percent of copper mines and 20 percent of zinc mines are currently either offline or operating at reduced capacity. Conversely, major iron ore operations in Australia and Brazil are less impacted because of their highly automated and remote operations.

Precious metals. Gold prices have risen 8 percent since January 20 but have fluctuated significantly as investor sentiment has evolved. Uncertainty and safe-haven flows have driven prices higher, although declines were seen in March (possibly reflecting gold sales to cover margin calls amid a broader market sell-off). Silver and platinum prices fell sharply in March and remained lower in April, dropping by as much as one-third, although with some recovery more recently. Price declines were driven both by concerns about economic activity—silver and platinum prices correlate with industrial metals prices more closely than gold prices—as well as investor selling to meet margin calls. Since more than 40 percent of platinum demand is for catalytic converters, demand for platinum has also been affected by plunging automobile production. On the supply side, a 21-day stoppage at mines in South Africa—which produces over half of the world's platinum—gave some reprieve to prices.

Agricultural commodities

Global agricultural markets have been less affected so far than industrial commodities. Prices of the main food commodities have declined about 9 percent since January 20 (Agriculture section). This modest decline reflects a lower income elasticity of demand for agricultural commodities (compared to industrial commodities) and, hence, less demand pressure from the global recession currently underway. Natural rubber (used purely in industrial purposes) was an exception. It has declined 25 percent largely because almost two-thirds of its consumption is accounted for by the production of tires for the transport sector. In addition, the decline in crude oil prices and gasoline production have affected crops used in biofuels, such as corn and soybeans.

Food security. Global food markets remain amply supplied following recent bumper harvests, especially in maize and wheat. For major staple food commodities, stock-to-use ratios are very high by historical standards. Nevertheless, recent announcements of trade restrictions by some key exporters (e.g., Russia for wheat and Vietnam for rice), as well as "excess" buying by some importers (e.g., Philippines for rice, Egypt and Saudi Arabia for wheat), have raised concerns about food security (Glauber et al. 2020). If such concerns become widespread, hoarding may result (Schmidhuber, Pound, and Qiao 2020). Low-income countries (LICs) are especially vulnerable

to food insecurity, as food accounts for a much larger proportion of their consumption than in other EMDEs (Figure SF.2A). Most LICs are located in Sub-Saharan Africa where about one-fifth of the population suffers from malnutrition (Figure SF.2B).

Supply chain disruption. Disruption of supply chains has already affected the export sector of EMDEs, especially for perishable products such as flowers, fruits, and vegetables (World Bank 2020b). For example, following travel disruptions from East Africa to Europe, Kenya's exports of fresh flowers dropped nearly 80 percent. Shipments to Western European markets, including the United Kingdom, the Netherlands, and Germany, fell from 60 to 15 tons per day. Production is also being affected by disruption to key inputs. For example, low availability of pesticides are already affecting crop protection efforts and will likely reduce yields later in the year. A lack of pesticides is also hampering efforts to contain pest outbreaks, including the current locust outbreak in East Africa (Schmidhuber, Pound, and Qiao 2020). Labor availability for agricultural supply chains is increasingly becoming a problem, especially for highly labor-intensive sectors, such as fruits, vegetables, meat, and dairy production.

Comparison with similar episodes

The pandemic has triggered an unprecedented combination of demand shocks—a global economic recession and a collapse in transport activity—as well as growing supply shocks due to supply chain disruptions. In addition, the oil market is simultaneously experiencing major swings in supply due to OPEC+ production decisions.

In contrast, previous major episodes affecting the global commodity market have tended to be either demand or supply shocks. However, comparisons with earlier episodes of widespread economic weakness or disruption can provide insights into the current episode. This section conducts an event study to compare the developments in commodity markets with previous major episodes, considering both prices and demand.[3] It considers three types of events: global recessions, episodes of widespread disruption (e.g., travel), and disease outbreaks. Each of these bears a similarity to some of the channels through which COVID-19 is affecting commodity markets.

Over the last 70 years, there were four *global recessions*: in 1975, 1982, 1991, and 2009 (Kose, Sugawara, and Terrones 2020; World Bank 2019b). In each of these episodes, there was a contraction in annual real per capita global GDP and broad-based weakness in other key indicators of global economic activity. Regarding *disruption*, the mitigation measures implemented during the current episode bear some similarities to the widespread travel disruptions in the aftermath of the terrorist attacks on the United States on September 11, 2001. U.S. airline demand fell by 30 percent in the immediate aftermath of the attacks and remained as much as 7 percent lower after two years (Ito and Lee 2005). The attacks also resulted in a sharp spike in uncertainty and contributed to a slowdown in global activity and a recession in the United States. Finally, there have been several instances of *disease outbreaks*: SARS in China in 2003, H1N1 (swine flu) in 2009, and Ebola in West Africa in 2014, among others.

Evolution of commodity prices

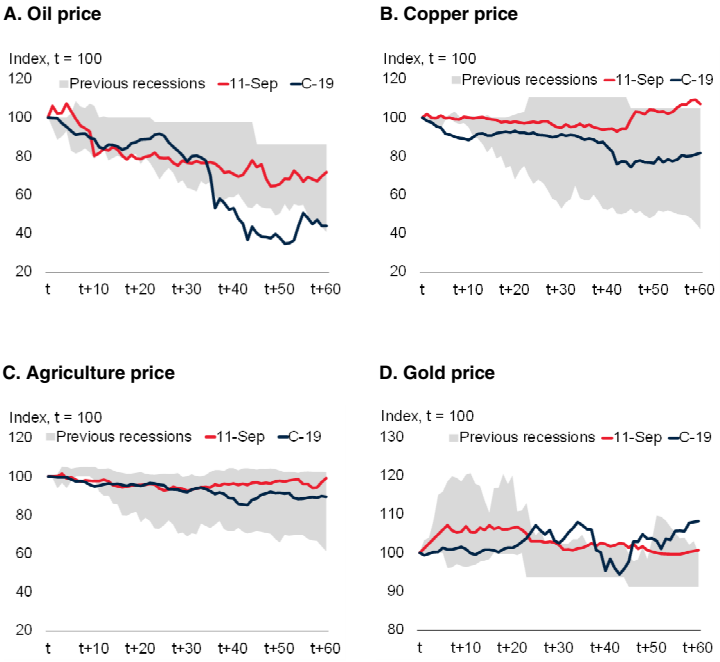
The commodity price decline since early 2020 shares some similarities, but also differs in some respects, with earlier episodes (Figure SF.3A-D).[4] The current pandemic has seen the largest one-month decline in oil prices on record—one-and-a-half times as large as the previous record. This reflects the combination of travel disruptions, a

[3] The structure and size of commodity markets have changed dramatically over the past 50 years, both for supply and demand. As such, the impact of economic shocks on commodity markets is likely to have changed over time.

[4] Crude oil and copper prices were selected as being representative of energy and metals market developments (the former due to its importance in the global economy and the latter as a barometer of industrial activity). For agriculture, an average price of the three main grains and soybean oil was used because of their widespread global use and importance in global calorific intake. Gold prices were selected to capture the effects of safe-haven flows which typically occur during periods of heightened uncertainty.

FIGURE SF.3 Commodity prices during major events

The COVID-19 global pandemic has caused widespread economic and social disruption and weaker economic growth. While its impact has been unique, historical events can offer some insights into its likely implications. Disruption in the aftermath of the September 11 attacks on the United States contributed to a decline in oil prices, while other commodities were less affected. During global recessions, commodity prices tend to fall, with the largest declines occurring during the 2009 global recession for oil and copper prices, as well as a smaller fall in agriculture. Gold prices tend to rise initially during recessions, before dropping back.



Source: Bloomberg; World Bank.
A.-D. The y-axis is a price index, with "t=100" indicating prices at the start of the events. The x-axis shows the passage of time (in days). Start dates for the two events are the first trading day before a major event occurred: 9/10/2001 for 9/11; and 1/20/2020 for COVID-19. Swath shows the four global recessions: 1974, 1981, 1990, and 2008. For the first two recessions, daily data were unavailable, so monthly percent changes were taken (assuming each month lasts 22 working days).
C. Average of wheat, corn, and soybean price.

global recession, and the collapse of the OPEC+ agreement. Copper prices initially declined only moderately, similar to the 9/11 attacks. However, as the severity of the virus has become more apparent and as estimates for economic growth have been revised down, copper prices have declined more sharply. Agriculture prices fell substantially more during the 2009 global recession than in the current episode, but that decline in large part reflected an unwinding of an unprecedented spike in prices which saw prices of wheat, soybeans, rice, and corn reach all-time highs in 2008. Movements in gold prices have been broadly similar to previous events, with an initial rise followed by a decline, reflecting investor uncertainty.

Terrorist attacks of 2001. In the aftermath of the 9/11 attacks, oil prices fell sharply, while copper and agricultural prices were less affected and gold prices increased. Disruption to travel disproportionately affected oil prices, while heightened uncertainty led higher prices for gold (as a safe haven asset). However, the moves in oil prices were considerably less pronounced than in the past two months.

Global recessions. During recessions, oil and copper prices typically fall, while agricultural prices are less affected. The sharpest declines occurred during the 2009 global recession, when oil and copper prices both fell by about 60 percent in three months, and agricultural prices fell 40 percent (unwinding their historic surge in 2008). Gold prices initially rose as uncertainty spiked but unwound after one month as investors sold their holdings to meet margin calls. Except for oil prices, these movements were often considerably more pronounced than commodity price moves over the past three months of this year.

Previous disease outbreaks. In 2014, the emergence of Ebola in West Africa resulted in second-order effects in regional food markets. Guinea, Liberia, and Sierra Leone experienced severe disruptions in food markets, with supply shortages arising from quarantine-imposed travel restrictions on sellers, while panic buying further reduced available supply (Mann et al. 2015). This resulted in very large food price spikes and regional food insecurity (IFPRI 2020). As yet, the current outbreak has not resulted in localized price spikes, while global food price movements remain muted.

Evolution of commodity demand

Developments in commodity demand in early 2020 share some similarities, but also differ in some respects, with earlier episodes (Figure SF.4.A and SF.4.B). The fall in oil demand has occurred far more rapidly than in previous episodes as a

result of mitigation measures. The International Energy Agency estimates that oil demand will fall 23 percent in 2020 Q2, and by 9.3 percent over the year as a whole, which would be more than twice as large as any previous decline (IEA 2020). Demand for metals is expected to weaken in the first half of 2020 as the global recession deepens and demand from the manufacturing sector falls. Agricultural demand is expected to be little changed, albeit with some temporary fluctuations due to hoarding.

The terrorist attacks of 2001. Commodity demand growth slowed briefly in the aftermath of the terrorist attacks in 2001. Oil demand growth averaged close to zero in the three quarters following the attacks, down from an average of 1.5 percent (y/y) in the previous four quarters. Metals demand also declined slightly in 2001 but bounced back in the following year.

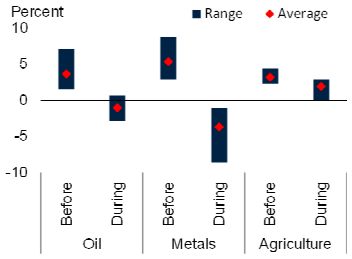
Global recessions. During global recessions, oil and metals demand typically fell, with a larger decline for metals than oil, reflecting its higher income elasticity of demand (Baffes, Kabundi, and Nagle 2020; World Bank 2019c). The largest single-year fall in oil demand was in 1980 when demand fell by just over 4 percent. The largest consecutive decline in oil consumption occurred in 1980-1982 when consumption fell by 9 percent relative to its peak in 1979. A supply-driven spike in oil prices in 1980 resulted in a drop in consumption and also contributed to the 1982 global recession, which further depressed oil consumption.

The largest fall in metal demand occurred during the 1975 global recession when consumption declined by 17 percent. In contrast, the two most recent recessions saw much smaller declines in oil and metals demand. For the 2009 global recession, this likely reflects shifts in the composition of commodity demand, specifically the growing importance of China, which was less affected by the global financial crisis (Baffes et. al 2018; World Bank 2018b). In contrast, growth in agricultural demand slowed more mildly, and typically remained positive during recessions (since its demand is more closely linked to population growth than income growth).

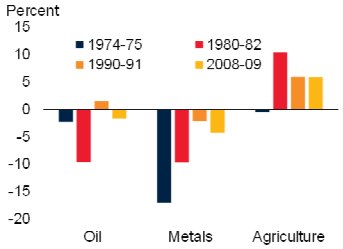
FIGURE SF.4 Commodity demand during global recessions

A fall in global growth typically results in declines in oil and metals demand, with a greater impact on metals. Agriculture, in contrast, in generally unaffected by recessions, with growth tending to remain positive throughout. Commodity demand typically falls for at least two consecutive years during recessions.

A. Commodity demand growth around recessions



B. Cumulative commodity demand growth during recessions



Source: USDA; BP Statistical Review, British Geological Survey, Metallgesellschaft, United States Department of Agriculture, U.S. Geological Survey, World Bureau of Metals Statistics, World Bank.
A. Dates of recessions taken from Kose, Sugawara, and Terrones (2020). Four recessions are included: 1974-75, 1981-82, 1990-91, and 2008-09. "During" shows average annual growth rates in recession years. "Before" shows average annual growth rates in commodity consumption over the three preceeding years with the exception of the 1981-82 recession. In this instance, "Before" refers to the period 1977-79. While technically not a recession, the economic slowdown in 1980 had similar negative growth rates in consumption.
B. Figure shows the cumulative change in commodity demand around recessions (i.e., the peak-to-trough fall). Recession years are taken from Kose, Sugawara, and Terrones (2020). Four recessions are included: 1974-75, 1981-82, 1990-91, and 2008-09. An exception is made for the 1981-82 recession—the figure includes 1980, which saw a fall in GDP per capita in one quarter (although not a technical recession) and a sharp fall in energy and metal demand.

Previous disease outbreaks. Previous disease outbreaks did not have a measurable effect on global commodity demand or supply.[5] However, they had negative localized impacts on food and nutrition security—particularly for vulnerable populations including children, women, the elderly, and the poor. In 2003, the SARS outbreak delayed China's winter wheat harvest by two weeks, triggering food market panics in Guangdong and Zhejiang, although production and prices were largely unaffected in the rest of China.

[5] There are two caveats to this. The SARS outbreak in 2003 was associated with a decline in oil prices; however, it occurred simultaneously with the invasion of Iraq which saw a precautionary spike in prices (which subsequently unwound). Similarly, H1N1 (swine flu) was a major outbreak and may have contributed to weakness in commodity demand and prices. However, it occurred during the 2009 global recession. As such, it is very difficult to disentangle any weakness in commodity demand or prices arising solely from these pandemics.

What are the potential long-run implications for commodity markets?

The impact of COVID-19 may lead to long-term shifts in global commodity markets, which will affect both commodity exporters and importers.

Increasing transport costs. Enhanced border checks arising from COVID-19 concerns may permanently increase the cost of transporting commodities, reducing trade flows. This occurred in the aftermath of the September 11 attacks, when additional border checks and security measures were introduced, increasing transport costs (Mirza and Verdier 2006). Regions that were highly open to trade were most affected, and by sector, textiles, agriculture, and food products were more affected, in part due to an already high level of protection against imports of these products (Walkenhorst and Dihel 2002).

Unwinding supply chains. Disruption to companies dependent on global supply chains could encourage "reshoring" (moving business back to the home country) or "nearshoring" of production. This may be exacerbated by national security concerns regarding the reliability of supply of critical equipment, such as personal protective equipment, which would favor local production. These shifts could result in the partial unwind of global value chains (GVCs) as corporations restructure their supply chains. For commodity markets, such a development could potentially lower transport demand if it reduces the average distance of imports. All else equal, this would result in permanently lower oil demand, as GVCs are more transport-intensive than other forms of trade (World Bank 2020c). It could also lead to shifts in the source of commodity demand as manufacturing hubs shift.

Increasing substitution among commodities. Transport cost increases and a retraction of supply chains could induce substitution between domestic and imported commodities. For example, a higher cost of imported commodities due to increased transport costs could promote the use of domestic resources. If exact replacements are costly or unavailable domestically, the use of substitutes may occur, such as the use of domestically produced glass in drinks packaging instead of imported aluminum (World Bank 2019c). This would benefit commodity importers at the expense of commodity exporters.

Changing consumer behavior. The mitigation measures implemented in many countries may lead to shifts in consumer habits and the exacerbation of existing trends. The trend toward remote working is likely to accelerate, as the pandemic has forced companies to invest in the necessary equipment, infrastructure, and processes to enable remote work. Once mitigation measures are lifted, a greater number of workers may continue operating remotely, which would reduce commuter journeys and demand for fuel. Similarly, businesses may reduce foreign travel in favor of video conferencing and other remote alternatives. The reduction in pollution resulting from the current restrictions on travel may also lead to greater pressure to implement fuel standards and transition to electric vehicles, as the benefits of lower fossil fuel consumption (and lower pollution) become more apparent. To the extent that these developments result in a permanent reduction in demand for oil, they would reduce export and fiscal revenues for oil exporters, and lead to improved current account balances for oil-importers.

Policy implications. The plunge in oil prices provides policymakers in EMDEs with an opportunity to push through energy-subsidy reforms. These reforms can help restore fiscal space, discourage wasteful energy consumption, and reallocate spending to programs that better target the poor (Baffes et. al 2018; Devarajan et al. 2014; World Bank 2018c). Following the oil price plunge of 2014-16, both oil importers and oil exporters took advantage of lower oil prices to begin dismantling energy subsidies. Between mid-2014 and end-2016, more than half of oil-exporting EMDEs reformed energy subsidies. Despite this progress, there is further to go, with substantial energy subsidies remaining in both oil exporters and importers. The additional fiscal savings could help with the fiscal challenges arising from COVID-19.

Conclusion

The outbreak of COVID-19 has presented a major shock to commodity markets at a time when prospects were already muted. The combination of both major demand and supply shocks occurring simultaneously is unprecedented among previous events. The current pandemic particularly stands out for the speed and magnitude of the decline in both oil prices and oil demand resulting from the sudden stop in activity. Other commodities have seen smaller declines in prices, as they have been less affected by mitigation measures, and are also experiencing supply disruptions. However, as the pandemic continues and the economic recession deepens, larger declines in demand and prices are possible, particularly for metals.

The impact of COVID-19 on commodity markets may persist for an extended period. In the short-term, the deepening economic contraction may further reduce demand for industrial commodities, causing additional declines in prices. Continuing mitigation measures may increasingly impact supply chains, potentially threatening food security for the most vulnerable groups.

Commodity-dependent EMDEs, particularly oil-exporters, are among the most vulnerable to COVID-19. In addition to the health and human toll and the global economic downturn, they face substantially lower export and fiscal revenue. However, lower oil prices provide policymakers in EMDEs with an opportunity to eliminate energy subsidies, freeing up fiscal space which could help meet the challenges of lower revenues (for oil-exporters) and health-care costs resulting from the pandemic (for all EMDEs).

In the long term, behavioral changes may lead to shifts in sources of commodity demand, both geographically and by industry. A shift toward remote working may reduce travel and demand for oil, while a shift to near-shoring and retrenchment of global value chains could cause a permanent restructuring of supply chains and associated commodity demand. Lower oil consumption would also reap environmental benefits.

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Commodity Market Developments and Outlook

Energy

Energy prices have plummeted since the start of the year, led by crude oil, which has fallen 70 percent since its peak in January. Mitigation measures taken to slow the spread of COVID-19 have resulted in a sudden plunge in transport around the world, and oil demand is expected to fall by an unprecedented 9 percent in 2020. Production cuts by OPEC+ are likely to be insufficient to offset this decline. Oil prices are forecast to average $35/bbl in 2020 and recover to $42/bbl in 2021. Risks to the forecast are to the downside and chiefly relate to the duration and severity of the pandemic. Natural gas prices are forecast to decline by 25 percent in 2020, reflecting their links to oil prices, as well as weaker demand for electricity and industrial uses. Coal prices are expected to fall 17 percent.

Crude oil

Recent developments

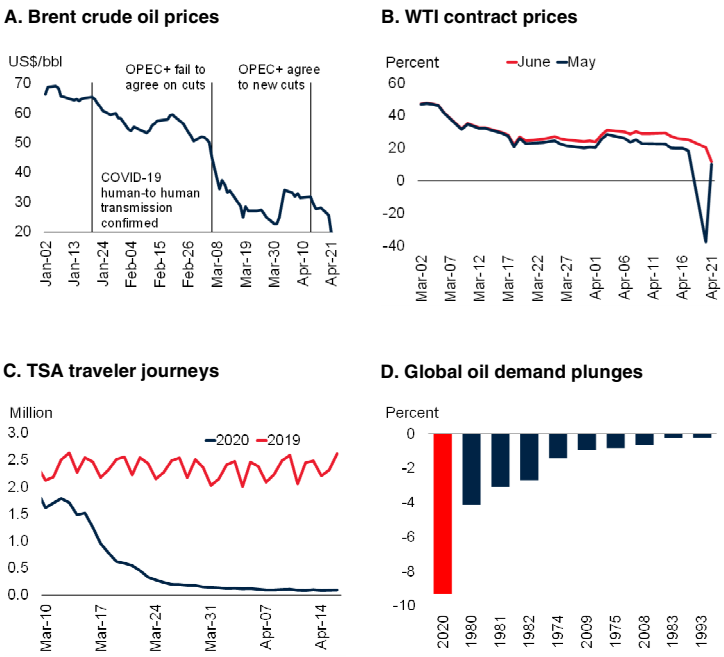
Crude oil prices fell sharply through 2020Q1, dropping 70 percent between January 20 (the date of the first known human-human transmission) and their trough in April (Figure 2A). The fall in prices was initially driven by worries about the impact of COVID-19 on oil demand in China, the world's second-largest consumer of oil, and subsequently deepened during the quarter as the virus spread and more countries imposed travel restrictions. The decline was exacerbated by the breakdown of OPEC+ talks in early March, and a new production agreement announced on April 12 failed to boost prices.[1]

Other benchmark prices have seen even more dramatic declines. On April 20 the WTI Cushing contract for delivery in May fell to -$37/bbl (Figure 2.B). The magnitude of the collapse was due to both fundamentals—weak demand and limited storage capacity—and technical factors associated with the futures market. On the technical side, the drop reflected the fact that the May contract expired on April 21, and there was very limited storage capacity available for physical deliveries for the contract. However, prices rebounded the following day, while the contract price for delivery in June (less immediately affected by these issues), did not see a decline of the same magnitude. Regardless, subsequent price movements of other benchmarks and contracts confirm that the fundamentals of weak demand and limited storage capacity are becoming increasingly severe across the crude oil market.

[1] OPEC+ includes OPEC countries and Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, Sudan, and South Sudan.

FIGURE 2 Oil prices and demand

The outbreak of COVID-19 has had the largest impact on the crude oil market. Brent crude oil prices have declined 70 percent from their January peak, and a historically large production cut by OPEC+ failed to lift prices. All crude oil benchmarks have seen sharp falls, with some, particularly those facing transport bottlenecks and lower inventory capacity, have seen prices fall to negative levels. Mitigation measures taken to slow the spread of COVID-19 have resulted in an unprecedented collapse in travel and transport. Crude oil demand is expected to decline 9 percent (y/y) in 2020, more than twice as large as any previous fall.



Source: Bloomberg; International Energy Agency; U.S. Transportation Security Administration (TSA); World Bank.
A.B. Last observation April 21.
B. Lines show WTI Cushing contract prices for delivery in May 2020 and June 2020.
C. Transport Security Administration checkpoint travel numbers for the United States.
D. Chart shows all historical episodes where oil demand has fallen since 1965. 2020 shows IEA forecasts.

Global consumption of crude oil fell 6 percent (y/y) in 2020Q1 due to the impact of COVID-19 on demand (Special Focus). Mitigation measures to reduce the spread of the virus have halted a large proportion of travel globally, with widespread flight cancellations, stay-at-home orders, and reduced global trade all reducing demand for oil. For example, passenger journeys through Transportation Security Administration (TSA) checkpoints in the United States have fallen to around 4 percent of their 2019 level (Figure 2C). The pandemic has also triggered a deep global recession, which also weaken oil demand.

Early indicators suggest oil demand will plunge further in 2020Q2. U.S. gasoline demand declined by almost 50 percent in the first two weeks of April compared with the same period in 2019, while jet fuel is down by 60 percent. The International Energy Agency (IEA) projects that demand will fall by 23 percent in 2020Q2, before gradually recovering as mitigation measures are lifted. For 2020, overall demand is expected to fall by 9.3 percent, which would be more than twice as large as any previous decline (Figure 2D). The fall is expected to be more severe among advanced economies than emerging markets: the IEA estimates that OECD demand will fall by 12 percent in 2020, given the virus's greater spread in the U.S. and Europe in particular, while non-OECD demand is projected to drop 7 percent.

Global oil production has declined since the start of the year. Oil production fell by around one percent in 2020Q1 (q/q) due to another round of output cuts by OPEC and its partners (OPEC+).[2] The move was designed to offset continued growth in U.S. shale production, which reached a high of almost 13mb/d in November 2019 (Figure 3A). In March, OPEC+ met to negotiate extending or deepening cuts in response to the growing impact of COVID-19 on demand. However, the group failed to reach an agreement, which triggered the end of the existing cuts (see Box 1). Saudi Arabia announced it would increase oil production by more than 2mb/d to 12mb/d, its maximum capacity, and invest in raising capacity to 13mb/d, triggering a further plunge in oil prices. The UAE also announced it would increase production. Collectively, OPEC oil production in April is likely to have risen by 1.5 to 2 percent (1.5-2mb/d), despite the collapse in demand.

Amid record-low prices, OPEC+ reached a new production agreement in April that included cuts of 9.7mb/d in May and June 2020, reducing to 7.7mb/d from Jul 2020 to December 2020, and 5.8mb/d from January 2021 to April 2022 (Figure 3B). At a G20 meeting, other countries also pledged to help support the oil market through market-driven cuts and government purchases to fill strategic reserves.

The actual cuts for this year are somewhat smaller than the headline numbers indicate since they are based on October 2019 production levels for most countries (i.e., before the previous agreement), while Saudi Arabia and Russia each have a baseline of 11mb/d. When compared to March, the cuts in May are closer to 8 percent, rather than the headline 9.7 percent, and substantially lower than the plunge in demand that is expected to occur in 2020 Q2.

Among non-OPEC producers, output and investment will fall dramatically in coming months as producers respond to weaker demand and lower prices by curtailing new drilling and reducing existing production. Most oil companies have already announced substantial cuts in capital expenditure with the six largest oil producers announcing cuts of around 30 percent. Existing oil production may have to be reduced or shutdown, if there is nowhere for it to be shipped or stored. The temporary fall in WTI oil prices to negative levels was an early indicator of these pressures. Shut-downs are highly likely given current levels of prices, and several companies in the U.S., Canada and Brazil have already announced reduced production levels.

However, in the short-term companies may continue producing oil, even at very low prices, because reducing oil production is challenging.

[2] While falling on the quarter, oil production has risen slightly compared to one year ago.

Oil wells can be prohibitively costly to shut down and restart, and the closure of fields leads to complications. For example, fields can fill with water or other contaminants, and may not be economical to restart, prolonging the imbalance between supply and demand.

The United States provides a microcosm for these trends. Because U.S. shale fields have particularly rapid rates of decline, reduced investment in new drilling feeds through into lower future output faster than in other countries. Among the seven main shale regions in the United States, a large proportion of new drilling activity simply goes toward offsetting the very high natural decline rate (Figure 3C). As new drilling falls, output will decline as the natural decline of production in existing fields is no longer replaced. Breakeven prices for new wells are around $50/bbl on average for U.S. shale, substantially higher than the current price of WTI (Figure 3D). The U.S. rig count has fallen by one-third since the start of the year, demonstrating the speed at which investment is contracting. However, current WTI prices are also below the average operating cost of existing wells, suggesting producers will also be forced to shut-down existing production. The EIA expects U.S. production to fall by 1.6mb/d over the course of this year to a low of 11mb/d in 2020Q4. Other high-cost or landlocked production, such as from Canadian tar sands and Brazilian offshore fields, could also see substantial declines in output.

Price forecasts and risks

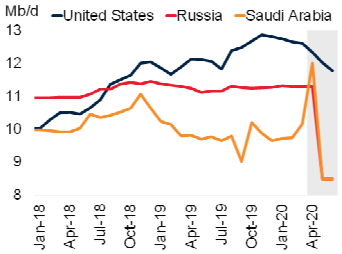
Outlook. Oil prices are projected to average $35/bbl in 2020 before recovering to $42/bbl in 2021, which is substantially lower than the October forecast of $58/bbl and $59/bbl. From their current lows, oil prices are expected to gradually recover in 2020 before strengthening into next year (Figure 4A, 4B). The expected recovery is forecast to be the weakest in history following a major collapse in oil prices (i.e., compared with 2008, 1998, and 1986). In past declines, prices rebounded from their troughs by around 50 percent within about five months, and approximately doubled after 12 months. In all previous cases, significant OPEC production cuts—sometimes delayed—contributed to the price recovery.

The sharp downward revision to the forecast reflects the weakness in oil demand, which dominates any supply response, particularly in the short-term (Figure 4C). Prices are expected to rise

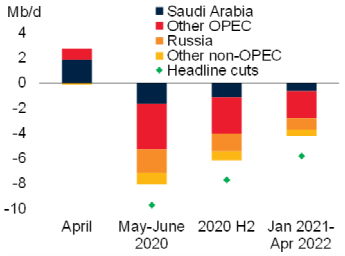
FIGURE 3 Oil supply

Oil production has been buffeted by changes to production decisions among major producers. The breakdown of OPEC+ talks in early March led to a surge in supply in April, but renewed cuts are expected to result in a dramatic plunge in production beginning in May. In the United States, high rates of natural decline from existing fields, require a substantial amount of new drilling just to stay constant. Current prices are below both new drilling costs and existing costs of production in the U.S., suggesting production will fall both as a result of a a sharp fall in new drilling, as well as the shutdown of existing production.

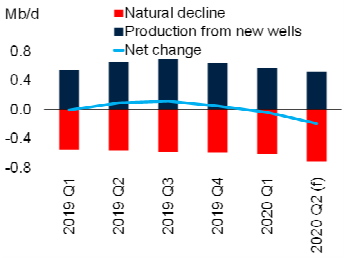
A. Crude oil production in the three largest producers



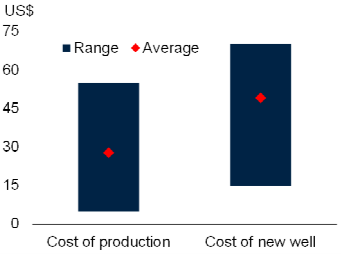
B. OPEC+ targeted production change from March 2020



C. U.S. shale oil production growth



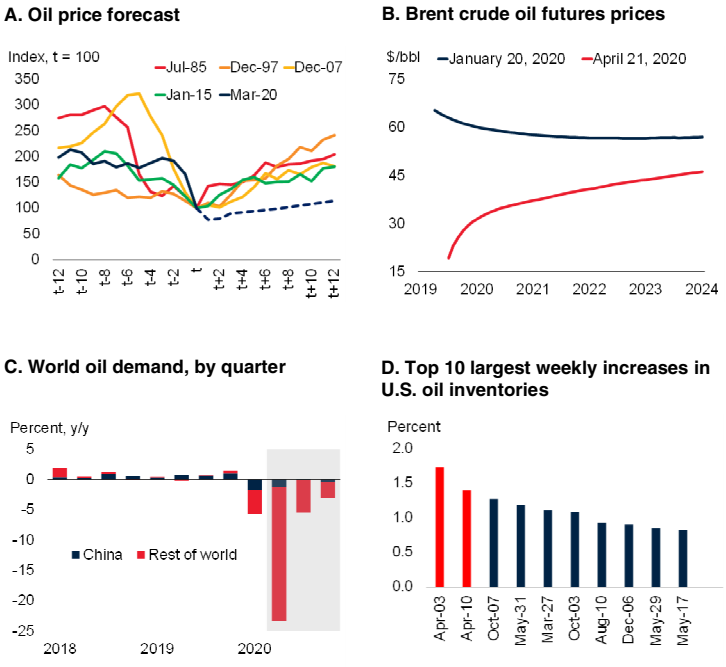
D. U.S. shale breakeven and cost of production



Source: Baker Hughes; EIA; Federal Reserve Bank of Dallas IEA; OPEC; World Bank.
A. April to June 2020 are based on IEA estimates and OPEC+ announcements.
B. Chart shows expected change in oil production among OPEC+ compared with March levels, based on production announcements. Diamonds show headline cuts—the reduction in production compared with baseline levels (October 2019 for most countries; 11mb/d for Russia and Saudi Arabia.
C. Figure shows quarterly averages of monthly production growth among the seven main shale-producing regions. Natural decline shows the decrease in production from maturing wells. 2020 Q2 (f) is an average of the EIA's forecast for April and May.
D. Data from the Dallas Fed Energy Survey 2020Q1 (Federal Reserve Bank of Dallas). Range and average from answers to survey questions with 76 responses covering four major shale oil-producing regions. First question: In the top two areas in which your firm is active: What WTI oil price does your firm need to cover operating expenses for existing wells? Second question: In the top two areas in which your firm is active: What WTI oil price does your firm need to profitably drill a new well?

FIGURE 4 Oil market outlook

Oil prices are expected to average $35/bbl in 2020 and recover to $42/bbl in 2021. The recovery, which is consistent with pricing in oil futures markets, would be the weakest in history. The forecast is driven by the weakness in demand, which is expected to recover only gradually. The outlook depends heavily on the production response and the speed at which global inventories fill—U.S. oil inventories increased at their fastest pace on record in the first two weeks in April.



Source: Bloomberg; EIA; IEA; World Bank.
A. Lines indicate oil prices for 12 months before and after the trough, indexed to 100 at the trough. Dashed line indicates forecast.
C. Shaded area denotes IEA forecast.
D. Includes crude oil and oil products.

in 2021 as mitigation measures lessen and demand gradually recovers, albeit to a lower level than previously expected. The substantial oil inventory overhang will likely cap any significant price increases over the year.

Risks. Risks to the price forecast are skewed to the downside. The greatest risk is a slower end to the pandemic, particularly if mitigation measures remain in place for longer than expected, which could cause oil demand to be even weaker than anticipated. A more prolonged or deeper global recession would also result in weaker oil demand.

The scale and speed of the drop in demand is such that global inventories will likely fill rapidly, even with a sharp fall in output among OPEC and non-OPEC producers. For example, in the United States oil inventories increased at their fastest pace on record in the first two weeks of April (Figure SF.4D). The International Energy Agency estimates that global inventories could rise by almost one-third through 2020Q2 and reach full capacity by June. If demand hasn't at least partially recovered by then, involuntary production cuts will likely be even steeper. Brent crude oil prices could drop to single digits during 2020Q2 as inventories are overwhelmed, a phenomenon already observed for some price benchmarks.

Finally, the production cuts announced by OPEC+ could prove to be smaller. During past rounds of production agreements some countries exceeded their production quotas. The scale of cuts required this time—several times larger than in previous episodes—could prove even more difficult to achieve, increasing the probability of non-compliance. An eventual breakdown of the agreement is a distinct possibility (see Box 1).

Upside risks primarily relate to production and are more likely to affect the outlook in 2021. Substantially weaker investment in new production, or greater shutdown of production this year could reduce future production capacity. Should demand recover more quickly next year, it could result in a sharper bounce-back in prices in 2021. OPEC+ could also agree to deepen their production cuts, which would provide some support to prices in the second half of 2020 and into 2021.

Natural gas and coal

Natural gas and coal prices fell during 2020Q1 due to weak demand and ample supply (Figure 5A and 5B). COVID-19 mitigation measures have had less direct impact on demand for these commodities than oil, but a reduction in industrial activity and a weakening in electricity demand arising from shutdowns has reduced demand for both commodities (Figure 5.C). Electricity demand has held up better than other areas of consumption, in part because residential demand is expected to be relatively unaffected by

the shutdown. For example, in the U.S., commercial and industrial electricity demand is expected to fall 4 to 5 percent in 2020, while residential consumption will see only a modest decline (Figure 5D).

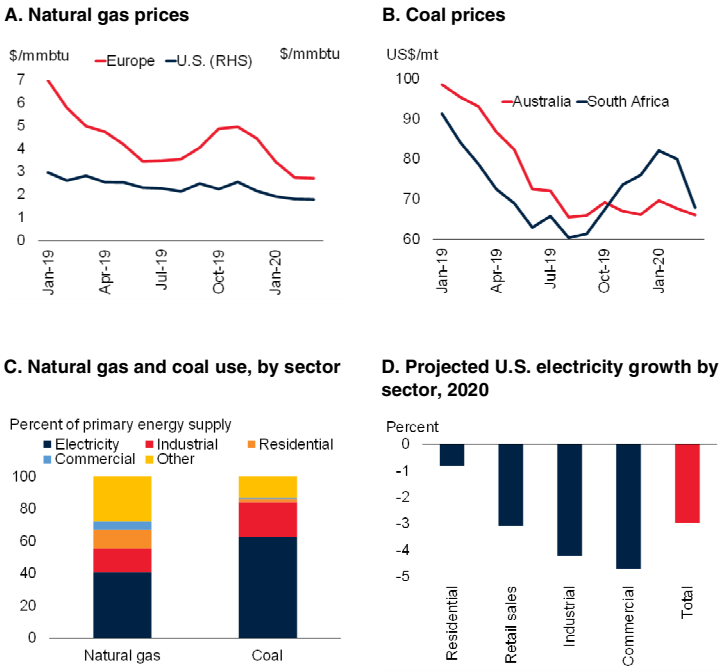
Natural gas. U.S. natural gas prices declined 12 percent between January and March, while European prices fell 25 percent, reflecting their greater indexation to oil prices. Spot gas prices in Asia have also fallen. Price differentials between natural gas grades continue to decline.

The weakness in natural gas prices was due to both weak demand and ample global supply. Heating demand at the start of 2020Q1 was particularly weak as a result of an exceptionally warm winter across the world, while demand toward the end of the quarter and into April has been increasingly impacted by COVID-19 mitigation measures. Forty percent of natural gas is used for electricity, and around 15 percent for industrial uses, both of which are increasingly being affected by shutdowns. High global production partly reflects increasing LNG exports, led by the United States. Prices have fallen close to production cost floors in the U.S. and Europe, which may induce shutdowns and reduced investment in new capacity, while some coal-to-gas switching may also occur to lift demand.

Coal. South African coal prices fell 17 percent in 2020Q1, while Australian prices fell 5 percent. Coal markets were mostly impacted by reduced demand from China in 2020Q1, which was the focus of the pandemic for much of the quarter and accounts for more than half of global coal demand. The potential impact of weak demand from China was partly muted by declining coal production within China. However, output has recovered, and prices could remain under pressure from weak demand and cheaper alternative energy supply sources. While there have been Covid-19-related mine shutdowns in Colombia and South Africa, disruption has been muted in the two largest exporting countries, Indonesia and Australia

FIGURE 5 Natural gas and coal

Natural gas and coal prices declined in 2020 Q1, but have been less affected by COVID-19 than oil because they are primarily used for electricity generation and other industrial and residential uses, rather than for transport. U.S. electricity use in the residential sector is projected to see only a minor decline in 2020, while those in sectors more exposed to mitigation measures will see larger falls.



Source: EIA; IEA; World Bank.
A.B. Last observation March 2020.
C. 2017 data.

Outlook. Price forecasts for both commodities have been revised down for 2020. Natural gas prices are expected to fall by 25 percent, and coal prices by 17 percent, before recovering in 2021. The slowdown in global economic growth will likely lead to weaker consumption for both commodities. Partially offsetting that, natural gas production growth, particularly in the United States, is expected to be weaker in 2020 as a result of a fall in new drilling activity—gas rigs have declined alongside oil rigs. The main risk to the forecast for both commodities, similar to oil, is a slower end to the pandemic, both through a longer duration of mitigation measures and a deeper global recession.

BOX 1 Set up to fail? The collapse of commodity agreements

OPEC+ (OPEC members + other major oil producers) is the only surviving internationally coordinated effort to manage commodity supplies. Previous efforts in the decades following World War II, including agreements for tin, coffee, and natural rubber, have collapsed. Since 1985, OPEC has struggled with the same economic forces that caused the demise of other efforts to control the supply of commodities. The COVID-19 pandemic, which led to an unprecedented collapse in oil demand (and prices), has once again triggered efforts to shore up the oil market. This box puts current pressures on OPEC and its partners into historical context by presenting a brief review of previous international commodity agreements, including earlier OPEC supply cuts. These agreements initially stabilized markets and supported prices but, over the longer term, higher prices led to lower demand and induced investment and innovation that brought new suppliers to the market. These agreements, and their eventual collapse, can push prices far away from their long-term trends over an extended period of time.

What has been the history of coordinated efforts to manage commodity supplies?

Several commodity agreements were put in place after World War II, including for wheat, sugar, tin, coffee, and olive oil (Gilbert 1987; Swerling 1968).[1] Such agreements were often negotiated among producing and consuming nations in order to stabilize prices at levels deemed fair to both. A renewed effort took place after the 1970s price boom, with the agreements typically backed by the United Nations and extended to other commodities, including cocoa and natural rubber (Gilbert 1996; Tilton and Guzman 2016). Most of these agreements had legal clauses on how to manage the respective markets, typically through export restrictions or inventory management. But over the long term, the restrictions triggered supply and demand responses that led to their eventual collapse, including the emergence of competitor products, entry of new producers, and (when prices remained high for many years) a contraction in demand. The last agreements covered tin, coffee, and natural rubber markets.

- *Tin.* The International Tin Agreement (ITA) was first negotiated in 1954 to maintain tin prices within a desired range through the management of buffer stocks. By most accounts, during its three decades of activity, ITA was able to raise and stabilize tin prices. However, in October 1985 ITA became insolvent and had to suspend its stabilizing activities (Chandrasekhar 1989). As the agreement collapsed, tin prices plummeted (in the short term) and numerous mines closed (Mallory 1990). The underlying causes of the collapse were years in the making: higher prices encouraged entry of new producers and a switch to substitutes. Because tin prices were higher and more stable under the Agreement than before, new tin producers who were not ITA members entered the market. Brazil, for example, increased its market share from 1 percent in the 1960s to 10 percent in the 1980s. Furthermore, higher tin prices under the ITA encouraged the use of a substitute product, aluminum, which gained market share by capturing growing demand from beverage can producers (Nappi 1990).

- *Coffee.* In 1962, most coffee-producing countries and almost all developed coffee-consuming countries signed the International Coffee Agreement (ICA) to stabilize world coffee prices through mandatory export quotas (Bates 1997; Bohman, Jarvis, and Barichello 1996). The export quota system succeeded in stabilizing coffee prices despite large fluctuations in global coffee production (Akiyama and Varangis 1990). However, pressures on ICA mounted following the emergence of new coffee supplies. Because key producers could not reach an agreement on how to allocate export quotas, the Coffee

[1] This section draws from Baffes et al. (2015) and World Bank (2016). Attempts to manage supplies and stabilize or boost prices through Commodity Agreements were common before World War II. Hutchinson (1909) and Wickizer (1943) present discussions of the 1902 (unsuccessful) International Coffee Conference that was held in New York to address price declines due to Brazil's oversupply, as well as subsequent supply management agreements led by Brazil.

BOX 1 Set up to fail? The collapse of commodity agreements *(continued)*

Agreement was suspended in July 1989. Following the suspension, coffee prices fell 40 percent. Perhaps the most important longer-term effect of the Coffee Agreement was the emergence of Vietnam as an important coffee producer. While the ICA was in effect, countries that were not members of the agreement could have access to coffee only when surplus coffee was available, which, in turn, pushed non-members to seek alternative sources of coffee. Two non-ICA members, the USSR and the German Democratic Republic, provided Vietnam with technical and financial assistance to develop its coffee industry (Baffes, Lewin, and Varangis 2005). In 1970, Vietnam produced less than 1 percent of global production. By the early 2000s, it had overtaken Colombia as the world's second-largest coffee producer after Brazil, and now accounts for nearly one-fifth of global coffee production.

- *Natural rubber.* The arrangement for natural rubber, the International Natural Rubber Agreement (INRA), went into effect in 1979 and collapsed during the East Asian Financial Crisis due to currency developments in three key producers: Indonesia, Malaysia, and Thailand. Similar to the ITA, a buffer stock of rubber was used to maintain rubber prices. The buffer stock manager was authorized to buy or sell rubber when its price (indexed to the domestic currencies of the three producers) moved outside a certain band (Khan 1980). When global demand for natural rubber collapsed in the Asian Financial crisis, U.S. dollar-denominated rubber prices declined, which should have triggered accumulation of inventories by the INRA and production cuts. Instead, the currencies of the three main rubber-producing countries devalued sharply during the Asian crisis, raising the local-currency prices of rubber. This resulted in a release of inventories (consistent with INRA rules) and an expansion in production—despite the collapse in global demand. The agreement became unsustainable under these circumstances and collapsed in December 1999 following the withdrawal of major producers, including Malaysia, Sri Lanka, and Thailand.

How has OPEC responded to developments in oil markets?

The oil market has been subjected to supply management throughout its history (McNally 2017). In the United States, the oil industry has been regulated from the mid-1930s to the early 1970s through state quotas by the Texas Railroad Commission (TRC) and import controls via the Mandatory Oil Import Quota program of 1959. Under the program, imports of crude oil and refined products were restricted while preferential access was granted to Canada, Mexico, and (later) Venezuela. The quotas depressed the price of oil received by Middle East exporters, which set the stage for the formation of OPEC (Bohi and Russel 1978). In response to these measures, OPEC was founded in 1960 and was largely modelled after TRC. Its stated objective is to "*coordinate and unify petroleum policies among Member Countries, in order to secure fair and stable prices for petroleum producers; an efficient, economic and regular supply of petroleum to consuming nations; and a fair return on capital to those investing in the industry*" (OPEC 2020).[2]

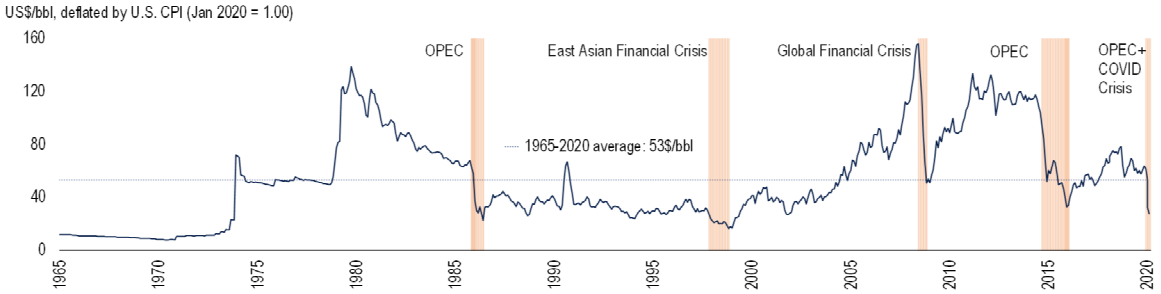
OPEC began to significantly affect the oil market in 1973. Following the Arab embargo on oil exports, it quadrupled prices to more than $10/bbl (Figure Box 1.1). A large loss of oil supply during the 1979 Iranian revolution caused oil prices to spike further.

[2] OPEC was created at the Baghdad Conference on September 10-14, 1960, by the Islamic Republic of Iran, Iraq, Kuwait, República Bolivariana de Venezuela, and Saudi Arabia. The five founding members were later joined by other countries: Qatar (1961), Indonesia (1962; it suspended its membership from January 2009 to December 2015, before rejoining and suspending it again in 2016), Libya (1962), United Arab Emirates (1967), Algeria (1969), Nigeria (1971), Ecuador (1973; it suspended its membership from December 1992 to October 2007, before rejoining and suspending it again in January 2020), Angola (2007), and Gabon (1975; which terminated its membership in January 1995 but rejoined in July 2016). Equatorial Guinea joined May 2017. Qatar terminated its membership in January 2019. OPEC currently is comprised of 13 member countries.

BOX 1 Set up to fail? The collapse of commodity agreements *(continued)*

FIGURE BOX 1.1 Crude oil price

Since 1985, oil prices have been subjected to three major OPEC shocks (1986, 2014 and 2020) and two financial crises (East Asian Financial Crisis in 1997-98 and the Global Financial Crisis in 2008-09). In 2020, in addition to the failure of OPEC+ to extend their previously agreed supply cuts, the oil market has been subjected to a plunge in demand due to the outbreak of COVID-19. In all these episodes, oil prices collapsed.



Sources: World Bank
Notes: Crude oil price is the average Brent, Dubai, and WTI. Last observation is April 2020 (as of April 17).

OPEC chose to keep prices high during the first half of the 1980s, with Saudi Arabia agreeing to act as the swing producer by absorbing the cuts needed to maintain high prices. In response to elevated oil prices, the energy intensity of generating global economic output (i.e., the energy used per unit of GDP) declined, reversing a long-term trend. This was achieved through energy conservation in consumption; innovation in transport, especially more fuel-efficient vehicles; and substitution, especially in electricity generation by coal and nuclear power (Figure Box 1.2A). High oil prices also induced investment in competing oil supplies, the largest of which came from "non-conventional" sources in Alaska, offshore from the Gulf of Mexico and the North Sea, and from Mexico and Russia.

The 1986 oil price collapse

By 1985, Saudi Arabia's oil production had fallen by almost two-thirds (to 3.5 mb/d in 1985 from more than 10 mb/d in 1980), and the country was on a path to being driven out of the market. To regain market share, Saudi Arabia raised production by more than 40 percent within a year, leading to a collapse in oil prices to a low of $8/bbl in April 1986. Following the price plunge, OPEC members agreed to cut production. Over the next decade, oil prices were broadly stable, except for a short-lived spike during the first Gulf War. Demand grew moderately during that decade and OPEC's production climbed to 29 mb/d in 1997, in line with the share it enjoyed two decades earlier (Figure BOX 1.2B).

By 1997, dissention within OPEC, however, re-emerged as some members, notably Nigeria and Venezuela, were producing above their agreed quotas. In addition, considerable surplus oil capacity emerged in ex-USSR (mainly Russia) when these countries transitioned to market economies. When the East Asian Financial Crisis erupted, it lowered demand and depressed oil prices to a low of $10/bbl in December 1998. In response, OPEC and some non-OPEC countries, including Mexico and Norway, eventually reached an agreement on production cuts in March 1999.

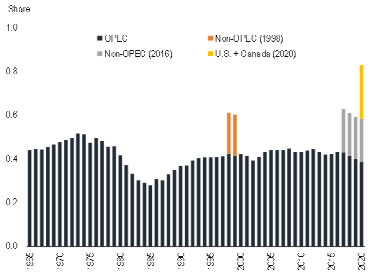
The cuts came at an important juncture: the global economy was recovering from the Asian Financial Crisis, and industrial commodity markets were

BOX 1 Set up to fail? The collapse of commodity agreements *(continued)*

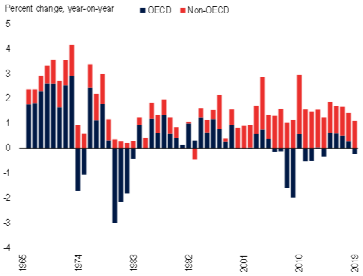
FIGURE BOX 1.2 Long-term trends in oil production and consumption

After a sharp decline in oil production in the early 1980s, Saudi Arabia's share of global output rebounded and has remained relatively stable at around 12 percent during the past three decades. Russia has also seen a stable share of production since the fall of the USSR. However, the U.S. share has increased considerably since 2010, due to the expansion of the shale industry. OPEC's share, on the other hand, which exceeded 50 percent in the early 1970s, thus its ability wield power then, has often sought assistance from non-OPEC oil producers during the past two decades. Oil demand which was driven by OECD countries until the early 2000s, has been increasingly driven by non-OECD countries during the past two decades.

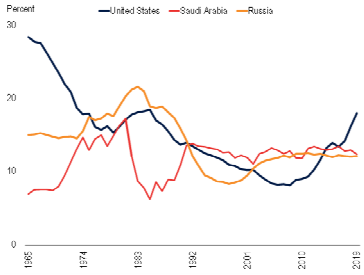
A. OPEC oil production



B. Oil demand growth



C. Oil production



Source: BP Statistical Review, International Energy Agency, and World Bank
A. The Organization of the Petroleum Exporting Countries (OPEC) member states are the following: Algeria, Angola, Congo, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Saudi Arabia, United Arab Emirates and Venezuela. Non-OPEC (1998) includes Norway, Mexico, Oman and Russia. Non-OPEC (2016) includes Azerbaijan, Bahrain, Brunei, Kazakhstan, Malaysia, Mexico, Oman, Russia, Sudan and South Sudan. U.S. + Canada (2020) offered to contribute production reductions through market and voluntary contractions.
B. The data represents the year-on-year growth in global oil demand.
C. Oil production as a share of global production by United States, Saudi Arabia and Russia respectively.

beginning to experience one of the largest demand booms in recent history. The boom was led by emerging market and developing economies (EMDEs), especially China (World Bank 2018). By January 2008, oil prices exceeded $100/bbl. However, prices collapsed during the Global Financial Crisis (as did the prices of almost all other commodities), and OPEC took large volumes of oil off the market to support prices. They again rose back above the $100/bbl-mark in 2011 and stayed above that level until mid-2014. In addition to robust demand by EMDEs, prices were supported by geopolitical tensions, including sanctions on Iran, ISIS advances in Iraq, and conflict in Libya. As was the case previously, high oil prices induced investment and innovation, most importantly in U.S. shale oil deposits. Other "non-conventional" oil supplies were also added, including biofuels (Baffes 2013) and Canadian oil sands (Heyes, Leach, and Mason 2018). It was the success of U.S. shale, however, that set the stage for the next confrontation among major oil producers.

The 2014 oil price collapse and the emergence of OPEC+

In response to growing oil supplies and receding geopolitical concerns, inventories rose during the first half of 2014 and oil prices came under pressure. Despite market expectations of an OPEC production cut, the organization opted not to engage in output reductions at its November 2014 meeting, and oil prices plunged to a low of $30/bbl in January 2016. Although low oil prices slowed non-OPEC output growth, the U.S. shale industry proved resilient owing to cost cuts, efficiency gains, and innovation.

OPEC decided to re-engage in production cuts at its September 2016 meeting by inviting non-OPEC oil producers to participate, most importantly Russia and Mexico. (A similar step was taken in the aftermath of the East Asian Financial Crisis.) The OPEC+ group was formed and agreed to reduce output by a 1.8 mb/d for the first half of 2017 (two-thirds by OPEC members and one-third by other

BOX 1 Set up to fail? The collapse of commodity agreements *(continued)*

producers, notably Russia). The agreement was extended and adjusted a number of times over almost four years. Oil prices rebounded, briefly topping $75/bbl in 2018. U.S. shale oil production proved resilient at lower prices through further innovation and cost reductions, and total U.S. oil output soared to 17.2 mb/d in 2019, making the U.S. the world's largest oil producer and well on its way to become a net oil exporter.

The global oil market, however, took a sharp turn in March 2020. Oil demand began experiencing one of the sharpest contractions in recent history due to the travel bans imposed to contain the COVID-19 outbreak. Members of the OPEC+ group met on March 6, 2020 but failed to extend or expand the previously agreed cuts. For the first time in history, the global oil market was simultaneously subjected to a policy-driven supply expansion along with an unprecedented collapse in demand. In its April update, IEA projected that oil consumption would decline by 9.3 mb/d in 2020, by far the largest in history—and more than the three-year combined decline following the 1979 oil crisis. By the end of April, oil prices reached historical lows (*Focus* and *Energy* Sections).

What has been the impact of supply management measures on commodity markets?

Long-term forces ultimately prevail. Historically, internationally-coordinated agreements initially lifted prices.[3] While this benefited participating countries in the short term, it unleashed forces that led to the eventual collapse of these agreements in the longer term:

- *A decline in consumption through efficiency gains and product substitution.* For example, the tripling of oil prices in 1979 induced conservation and efficiency efforts and reduced oil demand growth by three-quarters (to 1.5 percent in 1980 from nearly 6 percent prior to 1979). As noted above, high tin prices maintained by the ITA accelerated the use of aluminum and other products in the can industry (Baffes, Kabundi, and Nagle 2020).
- *The entry of new lower-cost producers that operate outside the agreement.* As discussed above, high coffee prices along with lack of access to the global coffee market by Eastern European countries and the USSR (who were not ICA members), prompted them to seek new coffee supplies. They provided technical and financial assistance to Vietnam to develop its coffee industry outside ICA. High tin prices brought new tin suppliers into the market, such as Brazil. High oil prices increased coal's competitiveness in electricity generation and stimulated the development of new supplies in Mexico and the North Sea in the early 1980s. More recently, they encouraged production from U.S. shale, Canadian oil sands, and biofuels.[4]

When agreements collapsed, they tended to initially push prices below their long-term trend, thus making prices more volatile. For example, prior to its collapse during the East Asian Financial crisis, INRA was handling a large amount of rubber inventories as means to stabilize natural rubber prices. Following INRA's collapse, these inventories were released into the market, keeping natural rubber prices depressed for almost three years.

[3] See, for example, Akiyama and Varangis (1990) for coffee, Chandrasekhar (1989) for tin, Verico (2013) for natural rubber, and Kaufmann et al. (2004) for oil.

[4] Coal's use was further facilitated by the International Energy Agency's (IEA) decision to ban its member countries from building new oil-fired electricity plants. The ban, introduced under the "Principles for IEA Action on Coal" directive, was justified as follows: "The Principles are based on the conclusion that greatly increased coal use is required to meet growing energy demand in the medium and long term, and that this is both desirable and possible in light of the world's abundant coal reserves and the economic advantages which coal already has over oil in many energy markets … [T]he world is still confronted with the serious risk that within the decade of the 1980's it will not have sufficient oil and other forms of energy available at reasonable prices unless present energy policies are strengthened" (IEA 1979, p. 1 & 4).

BOX 1 Set up to fail? The collapse of commodity agreements *(continued)*

Conclusion

OPEC (and presently OPEC+) is the only remaining international producer group to manage its supply. In March 2020, OPEC+ failed to extend its agreed production curbs at the time of plunging demand and prices due to the COVID-19 pandemic. Oil prices collapsed, with Brent falling to $23/bbl on March 30, an 18-year low. With estimates that oil demand could drop as much as 10 mb/d in 2020, 23 oil producers (including Russia, Saudi Arabia, and the United States) agreed on April 12 to a historic production cut of 9.7 mb/d. The cut is applicable for May and June, and lower reductions will continue up to early 2022. Following the announcement, global oil price benchmarks initially increased. However, they quickly dropped to historical lows (and some benchmarks, including the West Texas Intermediate, traded in negative territory due to storage constraints) because of uncertainty about demand and whether the agreed cuts will be sufficient.

During this unprecedented period, a case can be made that coordinated efforts to stabilize the oil market are necessary—and may provide some benefit to oil producers and their economies. However, even if successful, it is likely that the latest OPEC+ agreement will ultimately be subjected to the same shortcomings of earlier arrangements, depending on how they influence prices. In the longer term, arrangements to support higher prices will most likely confront the same market forces—substitution and efficiency gains as well the emergence of new suppliers—that led to the breakdown of previous OPEC arrangements and the collapse of earlier international coordinated efforts to control commodity supply.

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BOX 1 Set up to fail? The collapse of commodity agreements *(continued)*

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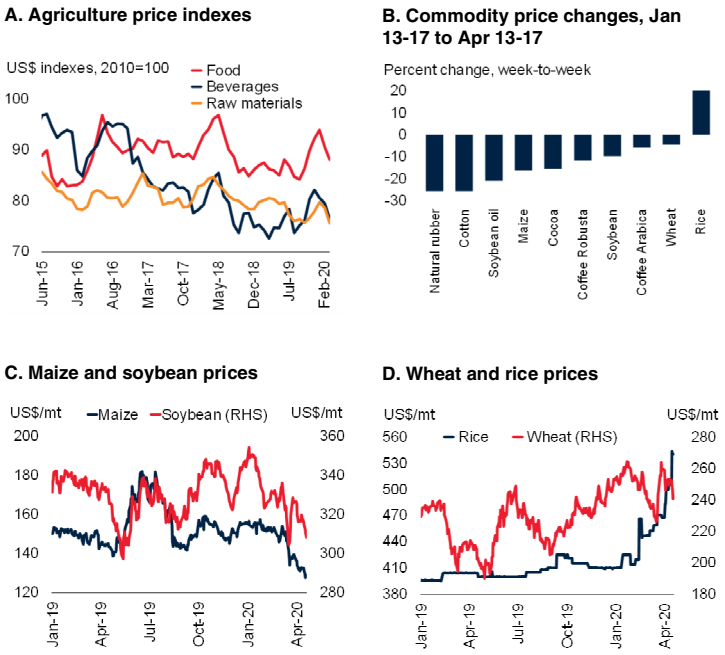
Agriculture

Most agricultural commodity prices have been broadly stable. In some markets, however, numerous factors began exerting pressure toward the end of 2020Q1, most importantly the widely adopted mitigation measures to contain the spread of the COVID-19 pandemic. "Traditional" factors included multi-year high stocks levels (the third highest level in recent history) and record production for some grains due to favorable weather conditions in key producing regions. The spread of the COVID-19 pandemic, however, added an entirely different set of factors: weaker demand, a sharp reduction in input costs (energy and fertilizer), trade restrictions, disruption in supply chains (on both the input and output side), a much stronger U.S. dollar, and panic buying. The World Bank's Agricultural Price Index gained a little more than 1 percent in 2020Q1 (q/q) and stands 3.1 percent higher than a year ago. Prices of grains, oils and meals, and beverages increased in the quarter, while agricultural raw materials declined. Following a projected drop of about 1 percent in 2020, the index is expected to gain 2 percent in 2021, representing a small downward revision from the October forecast. There are numerous downside and upside risks to the price forecasts, emanating mainly from the duration and severity of the pandemic, and how quickly mitigation measures can be lifted (see Focus section).

FIGURE 6 Agricultural price developments

Most food commodity prices declined in response to mitigation measures to contain the spread of the COVID-19 pandemic, record production for some grains, and favorable weather conditions in key producing regions. Rice prices, however, increased due to announcements of policy restrictions by some East Asian producers and weather-related production shortfalls.



Source: Bloomberg, World Bank.
A. Last observation is March 2020.
B. The data represents the price changes from the week of January 13-17 to the week of April 13-17, 2020. Last observation is April 17, 2020.
C.D. Last observation is April 17, 2020.

Grains, oils, and meals

Recent developments

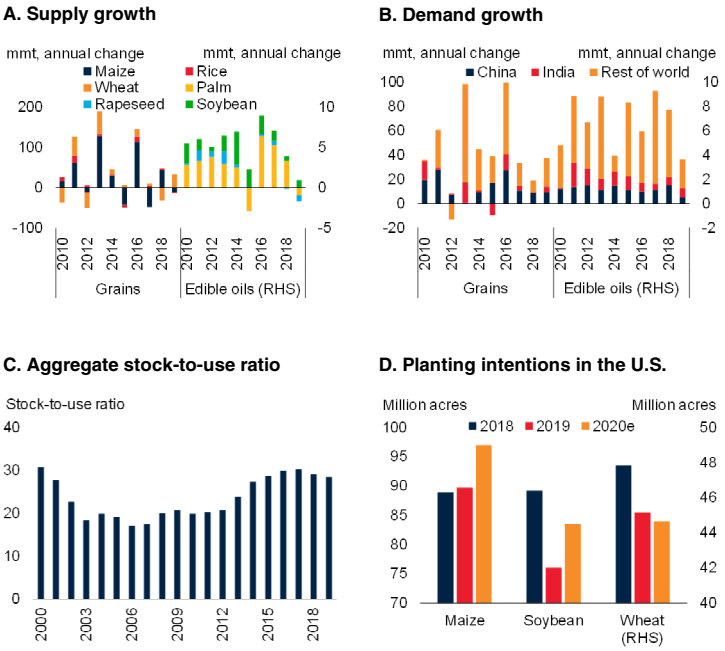
The World Bank's *Grain Price Index* gained 4.4 percent in the first quarter of 2020 (Figure 6). According to the U.S. Department of Agriculture's (USDA) latest assessment, global production of the three main grains—wheat, maize, and rice—is projected to increase nearly 1 percent this growing season (September 2019 to August 2020; Figure 7). Although consumption is set to increase by more than 1 percent, the stocks-to-use ratios for most grains and oilseeds (an approximate measure of supply relative to demand) remain at historically high levels.

Wheat prices gained nearly 6 percent in 2020Q1 (q/q) due to some weather concerns earlier in the quarter. However, growing conditions have turned favorable recently, especially in North America (Canada and the U.S.) and Central Asia (Kazakhstan Russia, and Ukraine)—which together account for 60 percent of world exports. Global production of wheat is expected to reach a record 764 mmt this season, nearly 5 percent higher than last season's crop. With global consumption projected to grow only about 2 percent from last season, the stocks-to-use ratio is set to rise to 0.39, the highest level in the past two decades.

Maize prices, which changed little in 2020Q1 (q/q), began sliding in March and early April. The global maize crop is expected to fall 1 percent this crop year due to a shortfall in the United States. Growing conditions elsewhere are generally favorable in other key producers (Argentina,

FIGURE 7 Supply and demand conditions for grains and edible oils

Production for most grains and edible oils is set to increase in 2019-20 while stocks-to-use ratios, a measure of supply relative to demand, stands high by historical standards. Planting intentions in the United States indicate expansion for maize and soybeans and contraction for wheat.



Source: USDA, World Bank.
A.B. Years represent crop seasons—for example, estimates for 2019 refer to the 2019-20 season. Data updated on April 9, 2020.
C. Updated on April 9, 2020. The aggregate stocks-to-use ratio includes maize, wheat, rice, and edible oils (oils of coconut, cottonseed, olive, palm, palm kernel, peanut, rapeseed, soybean, and sunflower seed) and is based on calorific weights.
D. Planting intentions for 2020 are estimates as of March 2020.

Brazil, India, and Mexico). Maize consumption, however, may decline due to lower demand for transport fuel, especially in the United States where more than one-third of maize goes to the production of ethanol (see biofuels discussion later in this section).

Rice prices, which were remarkably stable last year, gained more than 9 percent in 2020Q1 and stand 14 percent higher than a year ago. Most of the price gains were realized during the second half of 2020Q1 and reflect announcements of policy restrictions by some East Asian producers, as well as weather-related production shortfalls. Global rice production is expected to contract marginally in 2019-20 as weather diminished output in some countries, including Brazil, China and Thailand. However, conditions elsewhere are favorable, including in India, Indonesia, and Vietnam. Given a projected moderate decline in global consumption, the stocks-to-use ratio is expected to reach a 20-year high.

The World Bank's *Oil and Meal Price Index*, which gained more than 3 percent in 2020Q1, stands 8 percent higher than a year ago. The price gains have been more pronounced in palm oil (up 6.5 percent in the quarter), palm kernel oil (up 5.6 percent), and soybean meal (up 4.2 percent). Soybean prices rose in response to the Phase 1 trade deal between the United States and China under which China agreed to increase purchases of American products and services by at least $200 billion over the next two years—including soybeans.

The edible oil production outlook for the current season (ending September 2020) continues to look promising. Global output of the 17 major edible oils (including palm, soybean, and rapeseed, which together account for two-thirds of global output) is forecast to increase nearly 1 percent in 2019-20. Most of the output gains are expected to come from sunflower seed and soybean oil (due to favorable weather conditions in Central Asia and the Americas, respectively), while palm oil growth is mainly in Indonesia and Malaysia.

Global oilseed output for 2019-20 is expected to decline more than 3 percent in response to a nearly 6 percent drop in soybean production, while output of most other oilseeds is projected to increase. The area allocated to the production of soybeans in the United States, which contracted last year in response to the tariff-related reduction in imports by China and the near-collapse of animal feed demand from East Asia, is expected to increase nearly 10 percent next season, according to the U.S. Department of Agriculture.

Price forecasts and risks

The *Grain Price Index* is expected to decline 1.5 percent in 2020 and recover nearly 2 percent in 2021. Similarly, *Oils and Meals* prices are expected to remain fairly stable in 2020 and gain nearly 3 percent in 2021. Overall, food markets have been (and continue to be) well-supplied compared to the recent past. For example, the aggregate stocks-

to-use ratio (which includes 12 major grains and edible oils) is expected to average 0.29 at the end of the current season, the third highest reading in recent history.

Several risks underpin these forecasts, primarily reflecting the duration and severity of the pandemic, and how quickly mitigation measures can be lifted. They include the direction of energy and fertilizer prices (important inputs to grains and oilseeds); biofuel consumption; currency movements of certain major exporters; changes to trade and domestic support policies; and possible disruption in supply chains. At a regional level, the outbreak of locust disease in Africa poses severe food security problems.

Energy is a key input to grains and oilseeds, affecting production directly through fuel costs and indirectly through fertilizers and other chemical inputs. Energy prices are expected to decline more than 40 percent in 2020, a large downward revision from the October forecast (Figure 8). Similarly, fertilizer prices, which are also closely linked to energy prices, are projected to drop 10 percent in 2020. Although both energy and fertilizer prices are expected to recover (albeit, modestly), most of the price risks of these two inputs, especially the former, are on the downside (see energy section).

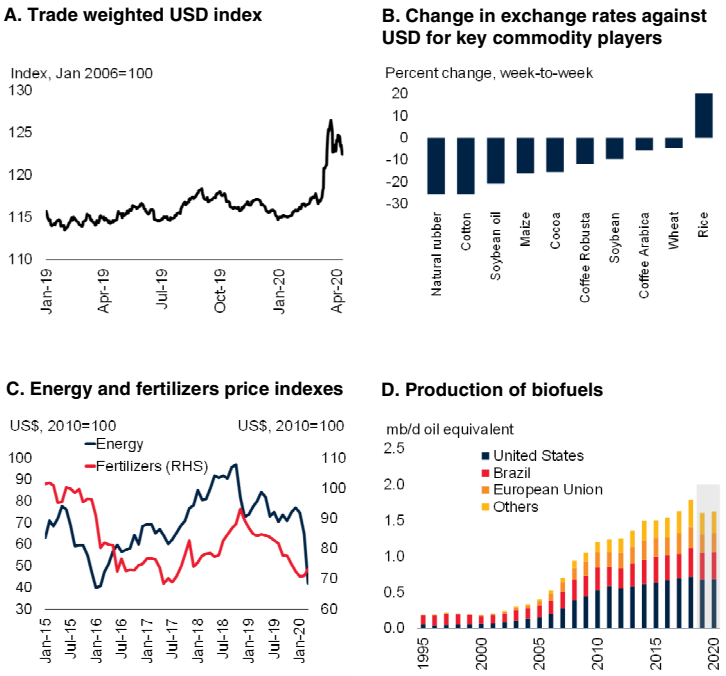
Biofuels have been a key source of demand growth for some food commodities. Production of biofuels, which experienced strong demand growth during 2005-15 (and is often cited as one of the reasons for the 2007-08 and 2010-11 price spikes), has plateaued. The collapse in transport, however, implies less use of fuel and, hence, biofuels. More than 80 percent of global biofuel production comes from maize-based ethanol in the United States, edible oil-based biodiesel in the European Union, and sugarcane-based ethanol in Brazil. Depending on the duration of travel restrictions and pace of recovery, these three commodities may experience further downward price pressures.

On the **macroeconomic side**, further strengthening of the U.S. dollar could exert downward pressure on commodity prices. Indeed, the weakness in some commodity prices during the first quarter of 2020 reflects, in part, a stronger dollar. For example, the trade-weighted U.S. dollar index gained more than 8 percent during the past two months. Research has shown that a 10 percent appreciation of the dollar against major currencies is associated with a 5 percent decline in prices of internationally traded commodities (see the *Special Focus* of the July 2016 *Commodity Markets Outlook*). Currency depreciations of countries that account for a large share of global trade for an individual commodity market could also affect the price outlook.

Restrictive trade policies and domestic support could play an important role in commodity price movements. In the early phases of the pandemic, some Central Asian wheat producers and East Asian rice producers announced intentions of

FIGURE 8 Macroeconomic conditions and input costs

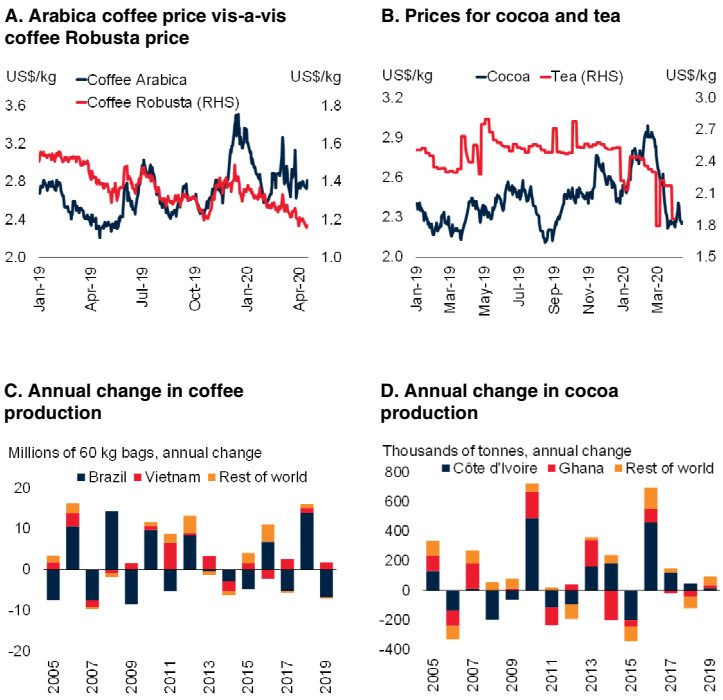
U.S. dollar appreciation, lower input costs (including energy and fertilizer prices), and less demand for biofuels pose considerable downside price risks for food commodity prices.



Source: Bloomberg, BP Statistical Review, Federal Reserve Bank of St. Louis, Haver.
A. Last observation April 17, 2020.
B. Denotes percent change in the respective countries' exchange rate against the dollar from the week of January 6-10 to April 13-17, 2020.
C. Last observation is March 2020.
D. Shaded area (2019-2020) represents IEA and OECD projections.

FIGURE 9 Beverage commodity market developments

Arabica prices have been supported by weather disruption in Brazil. Robusta prices have been broadly stable on good weather conditions and steady exports from Vietnam. Tea prices, however, have declined due to reduced buying activity, some of which reflects disruption in supply



Source: Bloomberg, ICO, USDA, World Bank.
A. Last observation is April 17, 2020.
B. Last observation is April 17, 2020 for cocoa and March 31, 2020 for tea prices. The price for tea represents the averages of Indian, Sri Lankan, and Kenyan tea auctions (Kolkata, Colombo, and Mombasa, respectively.)
C.D. Years represent crop season (for example, 2019 refers to 2019/2020).

export restrictions to ensure domestic availability of food supplies. Fears that these announcements would materialize and spread to other commodities and countries—as they did during 2007-09 and 2010-11—did not unfold since most food commodity markets today are well-supplied (see the *Special Focus* of the April 2019 *Commodity Markets Outlook*). In fact, the ASEAN agriculture ministers reaffirmed their commitment to minimize in regional food supply chains in their April 15, 2020 declaration. From a longer term perspective, however, if domestic support policies are enacted and implanted at a large scale, they could depress agricultural commodity prices, especially for grains and oilseeds.

Disruption to supply chains is another risk to commodity markets. Travel disruptions have affected numerous commodity markets, especially fresh fruit, vegetables, and flowers. For example, Kenya's overall exports of fresh flowers dropped nearly 80 percent while its shipments to Western European markets fell by three-quarters. A more important risk, however, is the disruption of key inputs (e.g., chemicals, fertilizers, and seeds) as well as labor availability that could affect next season's crop (see *Focus* section).

Locust Plague. The fact that global markets are well-supplied and that prices have been broadly stable does not imply food availability everywhere. A locust crisis, with its epicenter in East Africa, has so far affected 23 countries. According to recent World Bank estimates, locust-related losses could reach $8.5 billion by the end of 2020 if control measures are not undertaken. Countries expected to suffer most are Ethiopia, Kenya, and Sudan.

Beverages

The *World Bank's Beverage Price index*, which declined by 1 percent in the 2020Q1 (q/q), fell sharply in March, with large declines in cocoa and tea (Figure 9). The index, however, stands 6.5 percent higher than a year ago. The index is expected to decline more than 5 percent in 2020, before gaining 2.3 percent in 2021.

Arabica and Robusta prices have followed diverse paths during the past several months. Arabica prices, which changed little in 2020Q1 from the previous quarter (q/q), are nearly 12 percent higher than a year ago. Arabica prices have been supported by weather disruptions (heavy rains) and pandemic-related labor restrictions in Brazil, the world's largest coffee supplier and dominant Arabica producer—its output during 2019-20 is expected to be 38 million bags, down from last season's 47.5 million bags. In contrast, Robusta prices declined more than 4 percent in the quarter (q/q) but stand 12 percent lower than a year ago, mostly in response to strong exports from Vietnam, the world's second largest coffee supplier. Arabica and Robusta prices are expected to decline 3 and 8 percent, respectively, in 2020 before they recover modestly in 2021.

Cocoa prices, which gained nearly 4 percent in 2010Q1 (up 14 percent since 2019Q1), faced

some headwinds in March due to demand concerns related to COVID-19. Furthermore, a large crop in Côte d'Ivoire, the world's largest cocoa supplier, has weighed on prices. Global cocoa production is expected to grow by 2 percent in 2019-20 while demand is projected to shrink by more than 4 percent. Cocoa prices are projected to decline 4 percent in 2020 and see a modest gain of 2 percent in 2021.

Tea prices declined 9 percent in 2020Q1 and are 3.4 percent lower than a year ago (q/q), mostly in response to a plunge in Kolkata and (less so) Mombasa auctions, which reached 13- and 6-year lows, respectively. The decline in tea prices reflects ample supplies in Kenya, disruptions of tea shipments to various importing countries, disappointing demand including a lockdown in India, especially during the second part of 2020Q1. Tea prices (auction average) are expected to drop 10 percent in 2020, mostly due to weak demand before gaining 3 percent in 2021.

Agricultural raw materials

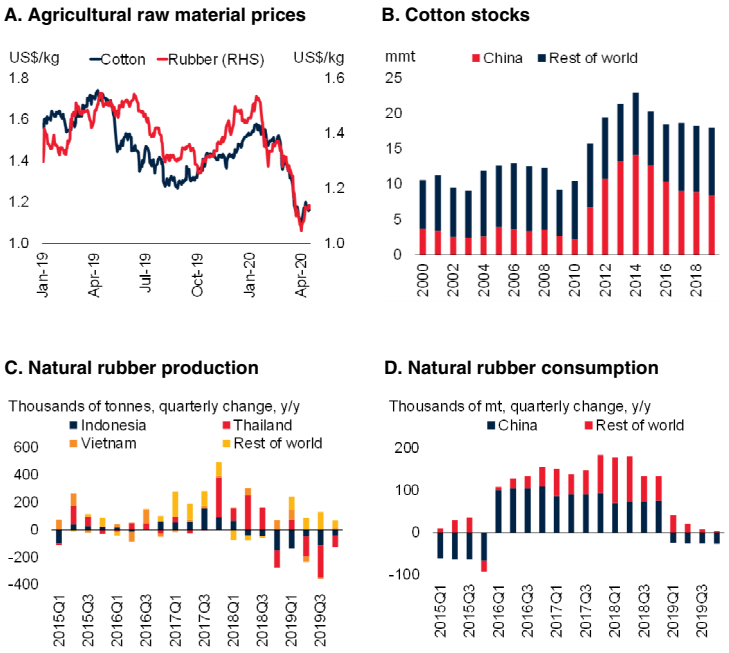
The World Bank's *Raw Materials Price Index* gained 1.6 percent in 2020Q1 (q/q) but stands more than 2 percent lower than a year ago (Figure 10). The *Index* is expected to decline marginally in 2020, before gaining 1.6 percent in 2021.

Although cotton prices changed little on a quarterly basis, they began declining sharply in late March/early April on expectations of falling demand and rising stocks from mitigation measures. Global cotton production is expected to reach 25.9 mmt during the 2019-20 season, slightly higher than last season's 25.7 mmt. However, consumption is projected at 24.6 mmt, more than 5 percent lower than last year's level, and global stocks are expected to increase 7 percent. Prices are projected to average nearly 10 percent lower in 2020 compared to 2019 before increasing modestly in 2021.

Natural rubber prices, which increased about 3 percent in 2020Q1, began experiencing considerable losses in March and early April, as mitigation measures to contain the spread of the COVID-19 pandemic reduced transportation considerably. Numerous tire manufacturing facilities have temporarily closed around the word, especially in Europe, and more than two thirds of natural rubber supplies are for tire manufacturing. Production of natural rubber declined substantially during the first quarter of 2020, due to weak demand and adverse weather conditions in key producing countries, including a drought in Thailand. Exports of natural rubber by the four East Asian producers (Indonesia, Malaysia, Thailand, and Vietnam) were down almost 5 percent compared to a year ago—these countries account for more than 80 percent of global natural rubber supplies. Natural rubber prices are expected to remain around current levels this year but there are considerable downside risks if the current lockdown continues longer than expected.

FIGURE 10 Agricultural raw materials market developments

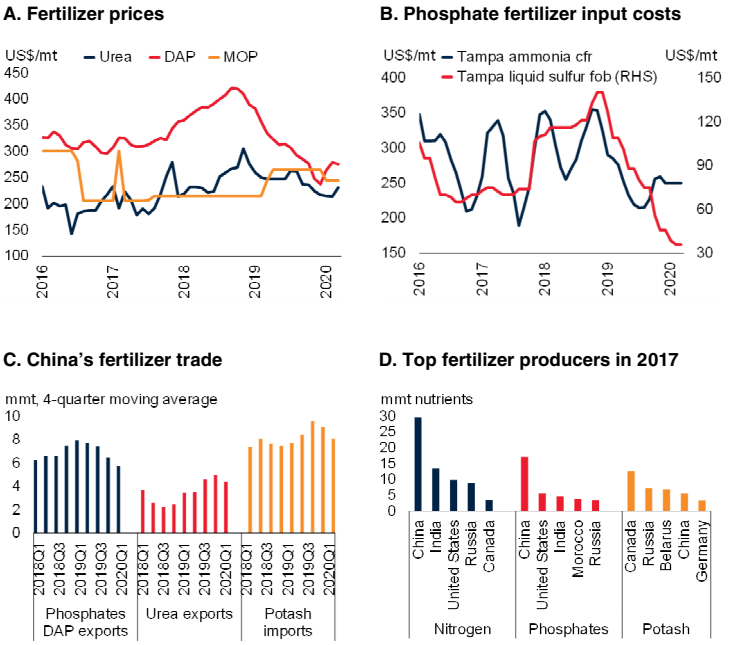
Both natural rubber and cotton prices have declined recently on weakening economic activity due to the pandemic. Both commodity markets are well supplied.



Source: Bloomberg, ICAC, IRSG, World Bank.
A. Last observation is April 17, 2020.
B. Years represent crop season (for example, 2019 refers to 2019/2020 crop season).
C.D. The data denotes the differences between the quarters for each year. For example, the data for 2019Q3 represents the change in production and consumption from 2018Q3. Last observation is 2019Q4.

FIGURE 11 Fertilizer market developments

Phosphate DAP prices increased in the first quarter of 2020 as the lockdown in Hubei Province in China due to the COVID-19 outbreak resulted in production curtailments and severe supply chain disruptions. Potash and urea prices, on the other hand, fell due to a slump in demand.



Source: Bloomberg, General Administration of Customs of the People's Republic of China, International Fertilizer Association, World Bank.
A. DAP = diammonium phosphate. MOP = muriate of potash.
A.B. Last observation is March 2020.
B. cfr = cost and freight; fob = free on board.
C.D. mmt = million metric tons.

Fertilizers

The World Bank's Fertilizer Price Index dropped 4.5 percent in the first quarter of 2020 (q/q), the seventh consecutive quarterly decline. A fall in potash and urea prices, owing to a slump in demand, pushed the index lower. However, phosphate prices increased as the COVID-19 outbreak in China severely hampered production and disrupted supply chains. In 2020, the index is projected to fall by 9.9 percent as global fertilizer supply remains plentiful. Risks to this outlook are broadly balanced. Upside risks include prolonged widespread supply disruptions, while downside risks include a slower-than-expected recovery in demand.

DAP (diammonium phosphate) prices gained 7.5 percent in 2020Q1, reversing a downward trend of five consecutive quarterly declines. The price increase reflected a sharp production contraction in China—the world's largest phosphates producer. Production rates have fallen to around 20-30 percent of total capacity in Hubei Province, the epicenter of the COVID-19 outbreak. The lockdown in Hubei—which accounts for more than one-quarter of China's DAP capacity—has caused severe supply chain disruptions due to a shortage of labor. Similar logistical issues have hampered supply in India amid quarantines and closed borders. However, global supply remains plentiful, especially in Morocco and Saudi Arabia, where capacity is expanding. Major consumers, including India and Pakistan, continue to reduce imports due to high inventories. Thus, DAP prices are anticipated to gradually soften and average 7.0 percent lower in 2020.

Nitrogen (urea) prices fell by a further 2.7 percent in 2020Q1, following a sharp decline in 2019Q4. Demand in China has been weak as the COVID-19 outbreak limited fertilizer application. Markedly lower input costs (natural gas) further added to downward price pressures. Brazilian demand, however, remained robust due to maize and soybean acreage expansions. On the supply side, production disruptions in Hubei had only a marginal impact on prices as the province accounts for only 2 percent of China's urea capacity. Prices are projected to fall by 10.3 percent in 2020 due to overcapacity and lower input costs.

MOP (muriate of potash, or potassium chloride) prices fell 7.7 percent in 2020Q1, the first quarterly decline since 2017Q2. The price weakness largely reflected subdued demand in China and Southeast Asia due to the COVID-19 outbreak. A lockdown in Malaysia, a large importer of potash for palm oil production, heavily affected movement of workers and raw materials. In the United States, flooding in the Midwest also limited fertilizer use. On the production side, there have been limited cutbacks related to COVID-19 outside of China, except for a temporary suspension of mining operations in Spain. Potash prices are forecast to fall by 4.1 percent in 2020, with considerable supply additions coming on stream.

Metals and Minerals

The World Bank's Metals and Minerals Price Index fell 4.7 percent in the first quarter of 2020 (q/q) following two consecutive quarterly declines. The fall reflected a sharp slowdown in global manufacturing activity due to the COVID-19 pandemic, despite unprecedented stimulus measures to support demand. Rising supply disruptions for most metals have not offset demand losses. Metal prices are projected to fall by 13.2 percent in 2020 on expectations of prolonged public health and economic crises. Risks to this outlook are tilted to the downside, including the possibility of a steeper collapse in global industrial demand and less effective policy stimulus.

Aluminum prices dropped 3.8 percent in the first quarter, the seventh consecutive quarterly decline. At end-March, prices fell to a four-year low below US$1,500/mt. The COVID-19 pandemic has affected aluminum largely through its impact on the automotive industry. Global car demand has weakened, and most automotive factories across China, Europe, and the United States have temporarily shut down. Car production was down more than 30 percent in 2020Q1, the steepest drop since the height of the global financial crisis. Despite the weak demand, there were limited cutbacks in aluminum output in China—which accounts for more than half of global aluminum production. Production there rose by 2.4 percent year-on-year in the first two months of 2020. Aluminum prices are forecast to decline by 10.8 percent in 2020.

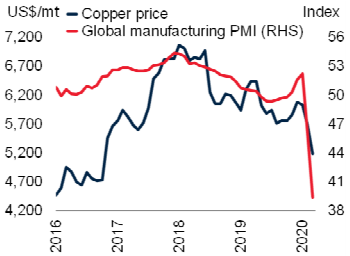
Copper prices fell 4.5 percent in the first quarter, after a rebound in 2019Q4. Prices rose in December in anticipation of the "phase one" trade deal between China and the United States and the resolution of Brexit. However, they began turning lower in late January on rising concerns that the pandemic-induced health crisis would ignite an economic crisis, thereby dampening global industrial demand for copper. In mid-March, prices fell below US$4,700/mt, the lowest since 2016Q4. Manufacturing activity in China—which accounts for half of global copper consumption—collapsed in January and February due to lockdowns. Similarly, metal-intensive sectors in Europe and the United States contracted sharply in March following severe outbreaks. Fragile demand has more than offset production disruptions. Mines in Chile and Peru—together accounting for two-fifths of global copper supply—were closed for 15 days in accordance with national quarantines. Output suspensions have also occurred in the Democratic Republic of Congo, Mexico, and Zambia. Copper prices are projected to remain weak and average 13.5 percent lower in 2020.

In contrast to metals, ***iron ore*** prices gained 2.4 percent in the first quarter, after a decline in

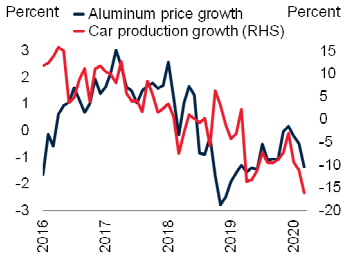
FIGURE 12 Metals and minerals market developments

Metal prices declined in the first quarter of 2020, reflecting a collapse in global industrial demand due to the COVID-19 pandemic. Stimulus measures and rising supply disruptions have had little impact on supporting metals prices. The COVID-19 pandemic has depressed metal prices more than during the SARS outbreak, but price declines are—for now—less severe compared to the global financial crisis.

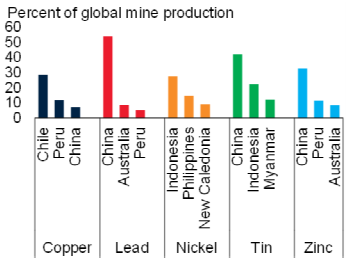
A. Copper prices and global manufacturing PMI



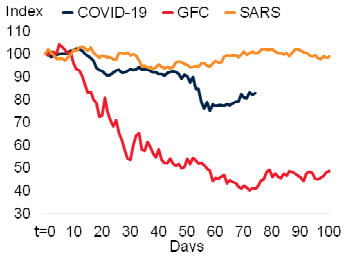
B. Aluminum price growth and car production growth, 6-month moving average



C. Top metal ore producers in 2018



D. Copper prices during crises



Source: British Geological Survey, China National Bureau of Statistics, Haver Analytics, London Metal Exchange, U.S. Geological Survey, World Bank, World Bureau of Metal Statistics.

A. PMI (purchasing managers' index) readings above (below) 50 indicate an expansion (contraction).

A. B. Last observation is March 2020.

B. Car production data for China, Germany, Japan, and the United States; data for March 2020 only for Germany; year-on-year growth. Aluminum price growth is month-on-month. A six-month moving average is used to improve readability.

D. Horizontal axis represents the number of days after crisis start date (t=0). For COVID-19 and SARS, t=0 is the date first reported to the World Health Organization (December 31, 2020, and February 10, 2003, respectively). For the global financial crisis (GFC), t=0 is the date Lehman Brothers filed for bankruptcy (September 15, 2008).

2019Q4. The price increase largely reflected weather-related supply disruptions, including cyclones in Australia and heavy rainfall in Brazil. Prices were also supported by robust steel production in China—which accounts for two-thirds of seaborne iron ore trade. Steel mills have not cut production in response to the pandemic due to the high costs of restarting idled plants. Iron ore prices are anticipated to average 9.4 percent lower in 2020 due to weakening global steel demand and a recovery of supply from Australia and Brazil.

Lead prices declined by 9.4 percent in the first quarter, erasing gains in the second half of 2019. In late March, prices dipped below US$1,600/mt for the first time since 2015Q4. The impact of anemic global auto sales (four-fifths of lead demand is for automotive batteries) outweighed the effects of supply disruptions, including the temporary suspension of mining activity in China and difficulties for smelters to secure raw materials for secondary lead production (e.g., scrap lead-acid batteries). China produces more than half of global lead supply, almost half of which is secondary. Lead prices are forecast to fall by 14.9 percent in 2020.

Among base metals, ***nickel*** prices experienced the sharpest fall in the first quarter, dropping 17.3 percent, a stark contrast to the high prices in the second half of 2019. Demand for stainless steel products—which accounts for three-quarters of the world's nickel usage—has been hit hard in China (the world's top consumer) and Italy (Europe's largest consumer) due to lockdowns. The slump in nickel demand has more than offset supply disruptions. Indonesia's nickel ore export ban came into effect in January 2020, which had buoyed prices last year following stockpiling efforts ahead of the ban. The Philippines, which supplies 70 percent of China's nickel ore imports, has suspended mining operations in the Surigao del Norte province, where most of the country's mines are located, due to the pandemic. Nickel prices are projected to decline by 17.3 percent in 2020.

Tin prices fell 2.6 percent in the first quarter, following three consecutive quarterly declines. In mid-March, prices dropped to a four-year low of US$14,000/mt. The price decline reflected weak demand from the solder sector for electronics, which accounts for about half of all tin consumption. The world's largest tin producer, PT Timah in Indonesia, has delayed exports while major mining companies in Peru have suspended operations due to the pandemic. However, production disruptions have not been enough to offset a contraction in demand. Tin prices are anticipated to remain weak and average 15.9 percent lower in 2020.

Zinc prices declined by 10.9 percent in the first quarter, after a slight increase in 2019Q4. In late March, prices dipped below US$1,800/mt, the lowest in four years. Demand for zinc has been frail due to a sharp contraction in end-use sectors such as property and autos, while supply disruptions caused by COVID-19 have had little impact in supporting prices. Restarts at mines in China have been postponed, and smelter production of refined zinc has slowed. Mine operations in Peru, which account for 11 percent of global supply, have also been temporarily halted. Zinc prices are forecast to average 25.5 percent lower in 2020.

These forecasts are subject to several downside risks. First, more widespread use of stringent measures to stem disease outbreaks such as travel restrictions and business closures may further dampen industrial demand and depress metal prices, especially for aluminum, copper, and zinc, which are used extensively in construction and transportation. Second, the unprecedented pace of fiscal stimulus and monetary easing by governments and central banks may turn out to be less effective in lifting demand for metals as the pandemic is also an adverse supply shock. Quarantines have severely disrupted supply chains and forced workers to stay home.

A positive turn in prices is likely to be triggered by a faster-than-expected containment of the pandemic and a sharper economic rebound. Production and supply chain disruptions, which have had limited impact on metal prices thus far, may provide support when recovery gets under way.

Precious Metals

The World Bank's Precious Metals Index gained 5.4 percent in the first quarter of 2020 (q/q), led by gold. The increase in gold prices reflected a flight to safe-haven assets in response to the COVID-19 pandemic as major central banks eased monetary policy. However, silver and platinum prices declined as the slump in physical demand outweighed widespread production disruptions. Precious metals prices are expected to average 13.2 percent higher in 2020. Upside risks to this outlook arise from a sharper-than-expected global slowdown, while downside risks include further strengthening of the U.S. dollar.

Gold prices rose for the sixth consecutive quarter—gaining 6.9 percent in 2020Q1. Prices have been driven by safe-haven buying amid elevated uncertainty, buoyed by aggressive monetary easing by major central banks—policy interest rates have plummeted to historically low levels and at record pace. Disruptions to mine production due to pandemic containment measures, especially in South Africa and South America, further supported prices. Global refining capacity has also fallen considerably. Switzerland's refineries—which process one-third of global gold supply—suspended operations, while refineries in Singapore and Turkey operated at reduced capacity. Strong investor demand and supply disruptions have more than offset weak jewelry demand in China and India associated with lockdowns. Gold prices are forecast to average 14.9 percent higher in 2020.

Silver prices, on the other hand, dropped 2.3 percent in the first quarter, after an increase in the second half of 2019. In March, prices plunged to levels unseen since the global financial crisis. The price decline reflected silver's wide use in industry, which has been severely impacted by shutdowns due to the pandemic. The slump in demand has outweighed production disruptions from mine closures in Mexico and Peru. Silver prices are historically low relative to gold prices and are anticipated to recover moderately and average 3.6 percent higher in 2020.

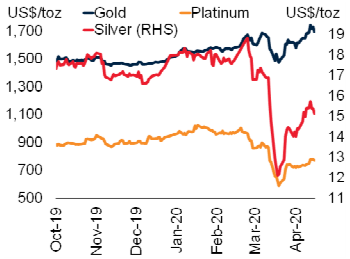
Platinum prices declined by 0.6 percent in the first quarter. Similar to silver's trajectory, platinum prices fell over 20 percent in March—a 17-year low—as global car demand collapsed (platinum is used in catalytic converters of car engines to reduce harmful emissions). Supply disruptions in South Africa have given some reprieve to prices. Supply losses include a 21-day stoppage at all mines in South Africa and an explosion at a large processing plant. Platinum prices are anticipated to gradually edge up and average 8.8 percent higher in 2020.

The gold-to-copper price ratio—a barometer of global risk sentiment—reached a forty-year high amid heightened global uncertainty. Similarly, the gold-to-silver and gold-to-platinum ratios reached all-time highs in mid-March. More than half of silver and platinum demand is for industrial use.

FIGURE 13 Precious metals market developments

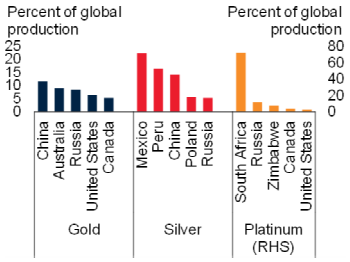
Gold prices rose in the first quarter of 2020 amid safe-haven flows and elevated uncertainty as major central banks aggressively cut interest rates in response to the COVID-19 pandemic. Silver and platinum prices, on the other hand, declined as physical demand contracted sharply despite widespread production disruptions. The gold-to-copper ratio reached a forty-year high amid rapidly deteriorating global economic prospects.

A. Precious metals prices

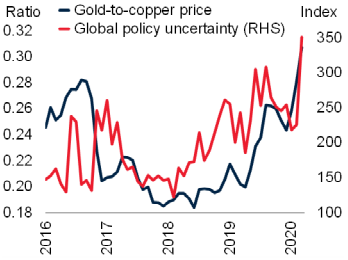


B. Gold prices and interest rates

C. Top precious metals production in 2018



D. Gold-to-copper price and global uncertainty



Source: Bloomberg, Davis ("An Index of Global Economic Policy Uncertainty," NBER Working Paper 22740, 2016), Federal Reserve Bank of St. Louis, Metals Focus, Silver Institute, World Bank, World Bureau of Metal Statistics, World Gold Council, World Platinum Investment Council.

A. Last observation is April 17, 2020.

B. The interest rate is the 10-year U.S. Treasury inflation-indexed security with constant maturity (not seasonally adjusted). Last observation is March 2020.

D. The global economic policy uncertainty index is a GDP-weighted average of 20 country indexes. Each national index reflects the relative frequency of country newspaper articles that refer to economic policy uncertainty. Last observation is March 2020.

APPENDIX A

Historical commodity prices
Price forecasts

TABLE A.1 Commodity prices

Commodity	Unit		2018	2019	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Jan 2020	Feb 2020	Mar 2020
Energy												
Coal, Australia	$/mt	*	107.0	77.9	95.7	80.5	67.9	67.5	67.8	69.7	67.6	66.1
Coal, South Africa	$/mt		97.6	71.9	84.8	68.1	62.5	72.4	76.7	82.1	80.0	67.9
Crude oil, average	$/bbl		68.3	61.4	60.5	65.1	59.7	60.3	49.1	61.6	53.3	32.2
Crude oil, Brent	$/bbl	*	71.1	64.0	63.3	68.3	61.9	62.7	50.5	63.6	55.0	33.0
Crude oil, Dubai	$/bbl	*	69.2	63.2	63.4	67.0	60.9	61.4	50.7	63.8	54.5	33.8
Crude oil, WTI	$/bbl	*	64.8	57.0	54.9	59.8	56.4	56.9	46.0	57.5	50.5	29.9
Natural gas, Index	2010=100		82.1	61.1	72.5	58.3	54.3	59.5	44.6	48.6	43.8	41.4
Natural gas, Europe	$/mmbtu	*	7.68	4.80	6.15	4.28	3.83	4.94	3.09	3.63	2.91	2.72
Natural gas, U.S.	$/mmbtu	*	3.16	2.57	2.91	2.56	2.39	2.41	1.91	2.03	1.92	1.79
Liquefied natural gas,	$/mmbtu	*	10.67	10.56	11.70	10.15	10.38	10.03	9.89	9.89	9.89	9.89
Non-Energy												
Agriculture												
Beverages												
Cocoa	$/kg	**	2.29	2.34	2.24	2.35	2.31	2.47	2.55	2.60	2.72	2.34
Coffee, Arabica	$/kg	**	2.93	2.88	2.80	2.73	2.87	3.12	3.13	3.13	2.99	3.26
Coffee, Robusta	$/kg	**	1.87	1.62	1.72	1.61	1.58	1.58	1.52	1.56	1.50	1.49
Tea, average	$/kg		2.85	2.57	2.43	2.65	2.60	2.58	2.35	2.51	2.35	2.19
Tea, Colombo	$/kg	**	3.61	3.10	3.29	3.07	2.93	3.11	3.29	3.27	3.35	3.26
Tea, Kolkata	$/kg	**	2.36	2.38	1.82	2.60	2.71	2.37	1.63	1.97	1.60	1.33
Tea, Mombasa	$/kg	**	2.58	2.23	2.18	2.28	2.17	2.27	2.13	2.29	2.11	2.00
Food												
Oils and Meals												
Coconut oil	$/mt	**	997	735	721	655	700	862	895	1,004	844	836
Fishmeal	$/mt		1,525	1,448	1,478	1,513	1,439	1,361	1,380	1,374	1,365	1,400
Groundnuts	$/mt		1,320	1,338	1,329	1,315	1,278	1,429	1,753	1,672	1,719	1,868
Groundnut oil	$/mt	**	1,446	1,407	1,373	1,387	1,451	1,417	1,392	1,371	1,393	1,411
Palm oil	$/mt	**	639	601	587	568	570	680	725	810	729	635
Palmkernel oil	$/mt		926	665	705	584	596	777	821	971	802	689
Soybean meal	$/mt	**	405	347	353	348	340	347	362	356	354	376
Soybean oil	$/mt	**	789	765	757	740	774	792	808	876	800	748
Soybeans	$/mt	**	394	369	377	353	366	380	378	387	376	372
Grains												
Barley	$/mt	**	125.9	128.1	119.4	145.0	133.0	114.8	114.8	114.8	114.8	114.8
Maize	$/mt	**	164.4	170.1	167.5	175.9	170.1	166.8	167.6	171.8	168.7	162.4
Rice, Thailand 5%	$/mt	**	420.7	418.0	408.0	414.0	424.3	425.7	465.0	451.0	450.0	494.0
Rice, Thailand 25%	$/mt		408.1	410.4	400.7	405.3	417.0	418.7	453.0	440.0	442.0	477.0
Rice, Thailand A1	$/mt		401.1	393.5	385.3	390.8	400.3	397.6	440.0	426.0	426.5	467.4
Rice, Vietnam 5%	$/mt		406.1	351.9	369.0	350.3	357.8	330.5	359.6	348.7	357.4	372.6
Sorghum	$/mt		168.6	161.5	167.6	162.9	152.4	163.2	164.9	166.2	164.1	164.4
Wheat, U.S. HRW	$/mt	**	209.9	201.7	211.5	201.7	189.0	204.5	216.3	224.5	215.3	209.1
Wheat, U.S. SRW	$/mt		203.9	211.3	212.6	206.7	201.1	224.7	238.4	248.0	239.0	228.1
Other Food												
Bananas, EU	$/kg		0.95	0.88	0.89	0.92	0.85	0.86	0.89	0.87	0.90	0.91
Bananas, U.S.	$/kg	**	1.15	1.14	1.16	1.14	1.13	1.14	1.18	1.17	1.18	1.20
Meat, beef	$/kg	**	4.20	4.76	4.33	4.64	4.63	5.45	4.74	5.04	4.72	4.47
Meat, chicken	$/kg	**	2.24	2.00	2.10	2.08	1.91	1.89	1.92	2.07	1.88	1.80
Meat, sheep	$/kg		5.87	…	…	…	…	…	…	…	…	…
Oranges	$/kg	**	0.79	0.56	0.64	0.55	0.53	0.52	0.53	0.51	0.52	0.55
Shrimp	$/kg		12.24	12.60	11.79	11.85	13.08	13.68	14.00	14.00	14.00	14.00
Sugar, EU	$/kg	**	0.39	0.37	0.37	0.37	0.36	0.36	0.36	0.36	0.36	0.36
Sugar, U.S.	$/kg	**	0.56	0.58	0.57	0.59	0.57	0.58	0.59	0.57	0.59	0.60
Sugar, World	$/kg	**	0.28	0.28	0.28	0.28	0.27	0.28	0.30	0.31	0.33	0.26

TABLE A.1 Commodity prices (*continued*)

Commodity	Unit		2018	2019	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Jan 2020	Feb 2020	Mar 2020
Raw Materials												
Timber												
Logs, Africa	$/cum		413.5	391.9	397.6	393.4	389.1	387.6	385.9	388.7	381.8	387.2
Logs, S.E. Asia	$/cum	**	269.7	273.1	270.2	270.9	277.5	273.8	273.3	272.4	270.6	276.9
Plywood	¢/sheets		494.7	500.9	495.7	496.9	508.9	502.3	501.3	499.6	496.3	508.0
Sawnwood, Africa	$/cum		640.0	611.8	623.9	615.9	590.4	616.9	613.7	626.5	621.1	593.7
Sawnwood, S.E. Asia	$/cum	**	727.9	695.9	709.7	700.6	671.6	701.7	698.1	712.6	706.4	675.3
Woodpulp	$/mt		875.0	875.0	875.0	875.0	875.0	875.0	875.0	875.0	875.0	875.0
Other Raw Materials												
Cotton	$/kg	**	2.01	1.72	1.82	1.80	1.60	1.65	1.64	1.74	1.69	1.50
Rubber, RSS3	$/kg	**	1.57	1.64	1.66	1.80	1.56	1.55	1.60	1.68	1.61	1.50
Rubber, TSR20	$/kg		1.37	1.41	1.41	1.50	1.35	1.38	1.34	1.47	1.34	1.21
Fertilizers												
DAP	$/mt	**	393.4	306.4	358.2	317.3	295.4	254.5	273.5	264.9	279.4	276.2
Phosphate rock	$/mt	**	87.9	88.0	101.2	97.5	78.5	74.7	72.3	72.5	72.5	71.9
Potassium chloride	$/mt	**	215.5	255.5	225.5	265.5	265.5	265.5	245.0	245.0	245.0	245.0
TSP	$/mt	**	346.7	294.6	340.0	303.0	276.3	259.0	243.0	239.0	245.0	245.0
Urea, E. Europe	$/mt	**	249.4	245.3	252.7	247.5	254.6	226.3	220.3	215.4	214.4	231.1
Metals and Minerals												
Aluminum	$/mt	**	2,108	1,794	1,863	1,794	1,764	1,757	1,691	1,773	1,688	1,611
Copper	$/mt	**	6,530	6,010	6,226	6,113	5,803	5,898	5,634	6,031	5,688	5,183
Iron ore	$/dmt	**	69.8	93.8	83.6	100.9	102.1	88.7	90.8	95.8	87.7	89.0
Lead	$/mt	**	2,240	1,997	2,035	1,885	2,031	2,035	1,844	1,924	1,873	1,734
Nickel	$/mt	**	13,114	13,914	12,412	12,244	15,651	15,349	2,690	13,507	12,716	11,846
Tin	$/mt	**	20,145	18,661	21,038	19,774	17,139	16,693	16,267	17,029	16,480	15,291
Zinc	$/mt	**	2,922	2,550	2,709	2,759	2,350	2,383	2,124	2,354	2,113	1,904
Precious Metals												
Gold	$/toz	***	1,269	1,392	1,304	1,310	1,475	1,482	1,583	1,561	1,597	1,592
Platinum	$/toz	***	880	864	823	843	883	908	902	987	961	759
Silver	$/toz	***	15.7	16.2	15.6	14.9	17.1	17.3	16.9	18.0	17.9	14.9
Commodity Price Indexes (2010=100)												
Energy			87.0	76.0	77.0	79.7	72.9	74.2	60.5	74.5	65.0	42.0
Non-energy			85.2	81.7	82.1	82.1	80.5	82.0	81.4	84.5	81.4	78.4
Agriculture			86.7	83.3	83.4	83.3	81.6	84.9	86.0	88.6	86.1	83.4
Beverages			79.1	76.2	74.0	75.4	75.7	79.5	78.8	80.6	79.5	76.4
Food			90.4	87.0	86.9	86.3	85.3	89.5	90.8	93.9	90.5	88.1
Oils and Meals			85.0	77.5	77.6	75.0	75.9	81.3	83.9	87.9	83.1	80.7
Grains			88.8	89.0	88.7	90.4	88.0	88.7	92.7	93.6	91.9	92.5
Other Food			99.1	97.7	97.4	97.6	95.1	100.8	98.3	102.0	99.0	93.8
Raw Materials			81.4	78.0	79.8	79.8	75.8	76.7	77.9	79.7	78.6	75.6
Timber			88.3	85.6	86.6	85.9	83.7	86.2	85.8	87.1	86.4	84.0
Other Raw Materials			73.9	69.8	72.4	73.2	67.2	66.4	69.3	71.6	70.0	66.3
Fertilizers			82.5	81.4	85.3	84.3	80.8	75.1	71.7	70.8	71.0	73.3
Metals and minerals			82.5	78.4	79.0	79.6	78.1	76.7	73.1	77.7	73.0	68.7
Base Metals		****	90.6	81.6	84.0	82.0	80.0	80.4	75.7	80.5	76.0	70.5
Precious Metals			97.2	105.4	99.2	98.9	111.5	112.2	118.3	118.0	120.2	116.6

Source: See Appendix C.
Note: (*) Included in the energy index; (**) Included in the non-energy index; (***) Included in the precious metals index; (****) Metals and Minerals excluding iron ore.
Monthly updates posted at www.worldbank.org/commodities.

TABLE A.2 Commodity prices forecasts in nominal U.S. dollars

Commodity	Unit	2017	2018	2019	Forecasts 2020	2021	2022	2023	2025	2030
Energy										
Coal, Australia	$/mt	88.5	107.0	77.9	65.0	68.0	67.1	66.1	64.3	60.0
Crude oil, avg	$/bbl	52.8	68.3	61.4	35.0	42.0	44.5	47.0	52.7	70.0
Natural gas, Europe	$/mmbtu	5.7	7.7	4.8	3.1	4.1	4.4	4.6	5.2	7.0
Natural gas, U.S.	$/mmbtu	3.0	3.2	2.6	2.0	2.3	2.4	2.6	2.9	4.0
Liquefied natural gas, Japan	$/mmbtu	8.6	10.7	10.6	8.7	8.9	8.9	8.8	8.7	8.5
Non-Energy										
Agriculture										
Beverages										
Cocoa	$/kg	2.03	2.29	2.34	2.25	2.30	2.35	2.40	2.51	2.80
Coffee, Arabica	$/kg	3.32	2.93	2.88	2.80	2.85	2.91	2.97	3.09	3.40
Coffee, Robusta	$/kg	2.23	1.87	1.62	1.50	1.54	1.59	1.64	1.73	2.00
Tea, auctions (3), average	$/kg	3.15	2.85	2.57	2.30	2.36	2.43	2.49	2.63	3.00
Food										
Oils and Meals										
Coconut oil	$/mt	1,639	997	736	800	818	837	855	894	1,000
Groundnut oil	$/mt	1,461	1,446	1,407	1,430	1,446	1,462	1,479	1,513	1,600
Palm oil	$/mt	748	639	601	650	668	686	704	743	850
Soybean meal	$/mt	350	405	347	340	348	356	365	382	430
Soybean oil	$/mt	851	789	765	750	768	786	805	844	950
Soybeans	$/mt	393	394	369	350	363	376	390	418	500
Grains										
Barley	$/mt	98	126	128	115	119	123	127	136	160
Maize	$/mt	155	164	170	160	164	169	174	183	210
Rice, Thailand, 5%	$/mt	399	421	418	450	453	456	459	465	480
Wheat, U.S., HRW	$/mt	174	210	202	195	198	202	205	212	230
Other Food										
Bananas, U.S.	$/kg	1.08	1.15	1.14	1.15	1.14	1.14	1.13	1.12	1.10
Meat, beef	$/kg	4.39	4.20	4.76	4.60	4.62	4.64	4.66	4.70	4.80
Meat, chicken	$/kg	2.12	2.24	2.00	1.85	1.87	1.90	1.92	1.97	2.10
Oranges	$/kg	0.81	0.79	0.56	0.54	0.56	0.58	0.61	0.66	0.80
Shrimp, Mexico	$/kg	13.32	12.24	12.60	13.00	13.10	13.19	13.29	13.49	14.00
Sugar, World	$/kg	0.35	0.28	0.28	0.32	0.33	0.33	0.34	0.35	0.38
Raw Materials										
Timber										
Logs, Africa	$/cum	395	414	392	385	389	394	398	407	430
Logs, S.E. Asia	$/cum	265	270	273	275	278	282	285	292	310
Sawnwood, S.E. Asia	$/cum	702	728	696	700	709	719	729	748	800
Other Raw Materials										
Cotton A, Index	$/kg	1.84	2.01	1.72	1.60	1.64	1.69	1.74	1.83	2.10
Rubber, RSS3	$/kg	2.00	1.57	1.64	1.55	1.61	1.68	1.74	1.89	2.30
Tobacco	$/mt	4,679	4,863	4,578	4,650	4,665	4,680	4,695	4,724	4,800
Fertilizers										
DAP	$/mt	323	393	306	285	295	305	316	338	400
Phosphate rock	$/mt	90	88	88	78	81	84	86	93	110
Potassium chloride	$/mt	218	216	256	245	252	258	265	280	320
TSP	$/mt	283	347	295	255	263	272	280	299	350
Urea, E. Europe	$/mt	214	249	245	220	227	234	241	257	300
Metals and Minerals										
Aluminum	$/mt	1,968	2,108	1,794	1,600	1,670	1,722	1,775	1,888	2,200
Copper	$/mt	6,170	6,530	6,010	5,200	5,500	5,649	5,803	6,122	7,000
Iron ore	$/dmt	71.8	69.8	93.8	85.0	84.0	84.6	85.3	86.6	90.0
Lead	$/mt	2,315	2,240	1,997	1,700	1,800	1,831	1,863	1,928	2,100
Nickel	$/mt	10,410	13,114	13,914	11,500	12,000	12,553	13,131	14,370	18,000
Tin	$/mt	20,061	20,145	18,661	15,700	15,900	16,566	17,259	18,735	23,000
Zinc	$/mt	2,891	2,922	2,550	1,900	2,000	2,050	2,102	2,209	2,500
Precious Metals										
Gold	$/toz	1,258	1,269	1,392	1,600	1,590	1,568	1,546	1,503	1,400
Silver	$/toz	17.1	15.7	16.2	16.8	17.0	17.1	17.2	17.4	18.0
Platinum	$/toz	948	880	864	940	1,000	1,025	1,051	1,104	1,250

Source and Note: See Appendix C.

TABLE A.3 Commodity prices forecasts in constant U.S. dollars (2010=100)

Commodity	Unit				Forecasts					
		2017	2018	2019	2020	2021	2022	2023	2025	2030
Energy										
Coal, Australia	$/mt	91.0	105.2	78.3	65.7	67.6	65.6	63.6	59.7	50.6
Crude oil, avg	$/bbl	54.3	67.2	61.7	35.4	41.8	43.5	45.2	48.9	59.0
Natural gas, Europe	$/mmbtu	5.9	7.5	4.8	3.1	4.1	4.3	4.4	4.8	5.9
Natural gas, U.S.	$/mmbtu	3.0	3.1	2.6	2.0	2.3	2.4	2.5	2.7	3.4
Liquefied natural gas, Japan	$/mmbtu	8.8	10.5	10.6	8.8	8.8	8.7	8.5	8.1	7.2
Non-Energy										
Agriculture										
Beverages										
Cocoa	$/kg	2.09	2.25	2.35	2.27	2.29	2.30	2.31	2.33	2.36
Coffee, Arabica	$/kg	3.41	2.87	2.89	2.83	2.84	2.85	2.85	2.86	2.87
Coffee, Robusta	$/kg	2.29	1.84	1.63	1.52	1.54	1.55	1.57	1.61	1.69
Tea, average	$/kg	3.24	2.80	2.58	2.32	2.35	2.37	2.39	2.44	2.53
Food										
Oils and Meals										
Coconut oil	$/mt	1,684	979	740	808	813	818	822	830	843
Groundnut oil	$/mt	1,502	1,421	1,415	1,445	1,438	1,430	1,422	1,403	1,350
Palm oil	$/mt	768	627	605	657	664	671	677	689	717
Soybean meal	$/mt	360	398	349	343	346	348	351	355	363
Soybean oil	$/mt	874	775	769	758	764	769	774	783	801
Soybeans	$/mt	404	388	371	354	361	368	374	388	422
Grains										
Barley	$/mt	100	124	129	116	118	120	122	126	135
Maize	$/mt	159	162	171	162	163	165	167	170	177
Rice, Thailand, 5%	$/mt	410	413	420	455	450	446	441	431	405
Wheat, U.S., HRW	$/mt	179	206	203	197	197	197	197	196	194
Other Food										
Bananas, U.S.	$/kg	1.11	1.13	1.15	1.16	1.14	1.11	1.09	1.04	0.93
Meat, beef	$/kg	4.51	4.12	4.79	4.65	4.59	4.54	4.48	4.36	4.05
Meat, chicken	$/kg	2.18	2.20	2.01	1.87	1.86	1.86	1.85	1.83	1.77
Oranges	$/kg	0.83	0.78	0.56	0.55	0.56	0.57	0.58	0.61	0.67
Shrimp	$/kg	13.68	12.02	12.67	13.13	13.02	12.90	12.78	12.51	11.81
Sugar, World	$/kg	0.36	0.27	0.28	0.32	0.32	0.32	0.32	0.32	0.32
Raw Materials										
Timber										
Logs, Africa	$/cum	406	406	394	389	387	385	383	377	363
Logs, S.E. Asia	$/cum	273	265	275	278	277	275	274	271	261
Sawnwood, S.E. Asia	$/cum	721	715	700	707	705	703	700	694	675
Other Raw Materials										
Cotton A	$/kg	1.89	1.98	1.73	1.62	1.63	1.65	1.67	1.70	1.77
Rubber, RSS3	$/kg	2.05	1.54	1.65	1.57	1.60	1.64	1.68	1.75	1.94
Tobacco	$/mt	4,808	4,778	4,602	4,697	4,638	4,576	4,513	4,382	4,049
Fertilizers										
DAP	$/mt	332	387	308	288	293	298	303	313	337
Phosphate rock	$/mt	92	86	88	79	80	82	83	86	93
Potassium chloride	$/mt	224	212	257	248	250	253	255	260	270
TSP	$/mt	291	341	296	258	262	266	270	277	295
Urea, E. Europe	$/mt	220	245	247	222	226	229	232	238	253
Metals and Minerals										
Aluminum	$/mt	2,022	2,072	1,804	1,616	1,661	1,684	1,707	1,751	1,856
Copper	$/mt	6,340	6,416	6,042	5,253	5,469	5,525	5,578	5,678	5,904
Iron ore	$/dmt	73.7	68.5	94.3	85.9	83.5	82.8	82.0	80.3	75.9
Lead	$/mt	2,378	2,201	2,007	1,717	1,790	1,791	1,791	1,788	1,771
Nickel	$/mt	10,696	12,885	13,987	11,617	11,932	12,276	12,623	13,328	15,182
Tin	$/mt	20,613	19,793	18,759	15,860	15,810	16,200	16,591	17,377	19,400
Zinc	$/mt	2,970	2,871	2,564	1,919	1,989	2,005	2,020	2,048	2,109
Precious Metals										
Gold	$/toz	1,292	1,247	1,400	1,616	1,581	1,533	1,486	1,394	1,181
Silver	$/toz	17.5	15.4	16.3	17.0	16.9	16.7	16.6	16.2	15.2
Platinum	$/toz	975	864	869	950	994	1,002	1,010	1,024	1,054

Source and Note: See Appendix C.

TABLE A.4 Commodity price index forecasts (2010=100)

Commodity	2017	2018	2019	Forecasts 2020	2021	2022	2023	2025	2030
Nominal U.S. dollars (2010=100)									
Energy	68.1	87.0	76.0	45.3	53.9	56.8	59.9	66.6	87.2
Non-energy	83.7	85.2	81.7	77.5	79.4	81.1	82.9	86.5	96.4
Agriculture	87.0	86.7	83.3	82.4	83.9	85.4	87.0	90.4	99.4
Beverages	83.1	79.1	76.2	72.1	73.8	75.5	77.2	80.8	90.6
Food	90.2	90.4	87.0	86.5	88.1	89.8	91.5	95.0	104.6
Oils and Meals	87.4	85.0	77.5	77.5	79.7	81.8	84.1	88.8	101.7
Grains	80.5	88.8	89.0	87.7	89.3	90.9	92.6	96.1	105.5
Other food	102.4	99.1	97.7	97.4	98.3	99.2	100.2	102.2	107.7
Raw materials	81.2	81.4	78.0	77.4	78.6	79.9	81.2	83.9	91.3
Timber	85.6	88.3	85.6	86.1	87.3	88.4	89.6	91.9	98.1
Other Raw Materials	76.3	73.9	69.8	67.8	69.2	70.6	72.1	75.2	83.8
Fertilizers	74.3	82.5	81.4	73.3	75.6	78.0	80.4	85.5	99.8
Metals and minerals *	78.2	82.5	78.4	68.0	70.8	72.6	74.6	78.6	89.8
Base Metals **	84.9	90.6	81.6	70.3	73.8	76.0	78.3	83.1	96.4
Precious Metals	97.8	97.2	105.4	119.3	119.0	117.7	116.5	114.1	108.4
Constant 2010 U.S. dollars (2010=100), deflated by the MUV Index									
Energy	70.0	85.5	76.4	45.8	53.6	55.5	57.5	61.7	73.5
Non-energy	86.0	83.7	82.1	78.3	79.0	79.3	79.6	80.2	81.3
Agriculture	89.4	85.2	83.8	83.2	83.4	83.6	83.7	83.8	83.9
Beverages	85.4	77.7	76.6	72.9	73.4	73.8	74.2	75.0	76.5
Food	92.6	88.9	87.4	87.4	87.6	87.8	87.9	88.1	88.2
Oils and Meals	89.9	83.5	77.9	78.3	79.2	80.0	80.8	82.3	85.8
Grains	82.8	87.2	89.4	88.6	88.8	88.9	89.0	89.1	89.0
Other food	105.2	97.4	98.2	98.4	97.7	97.1	96.3	94.8	90.8
Raw materials	83.4	80.0	78.5	78.2	78.2	78.1	78.1	77.8	77.0
Timber	87.9	86.7	86.0	87.0	86.8	86.4	86.1	85.2	82.7
Other Raw Materials	78.5	72.6	70.1	68.5	68.8	69.1	69.3	69.7	70.7
Fertilizers	76.3	81.1	81.8	74.0	75.2	76.2	77.3	79.3	84.2
Metals and minerals *	80.4	81.1	78.8	68.7	70.4	71.0	71.7	72.9	75.8
Base Metals **	87.3	89.0	82.0	71.0	73.4	74.4	75.3	77.1	81.3
Precious Metals	100.5	95.5	106.0	120.5	118.3	115.1	112.0	105.8	91.4
Inflation indexes, 2010=100									
MUV index ***	97.3	101.8	99.5	99.0	100.6	102.3	104.0	107.8	118.6
% change per annum	3.5	4.6	(2.3)	(0.5)	1.6	1.7	1.7	1.8	2.0
U.S. GDP deflator	112.2	114.9	116.9	118.2	120.0	121.8	123.6	127.3	137.2
% change per annum	1.9	2.4	1.8	1.1	1.5	1.5	1.5	1.5	1.5

Source: See Appendix C.
Note: (*) Base metals plus iron ore; (**) Includes aluminum, copper, lead, nickel, tin and zinc; (***) MUV is the unit value index of manufacture exports. For other notes see Appendix C.

APPENDIX B

Supply-Demand balances

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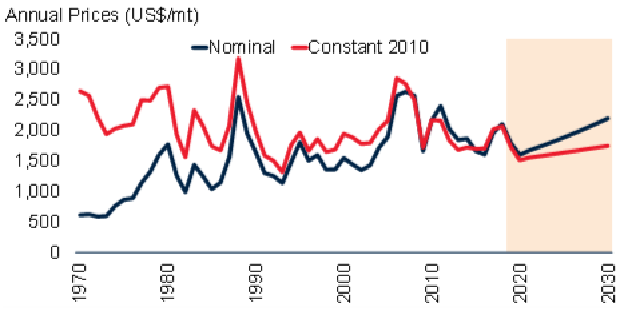
Aluminum

Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

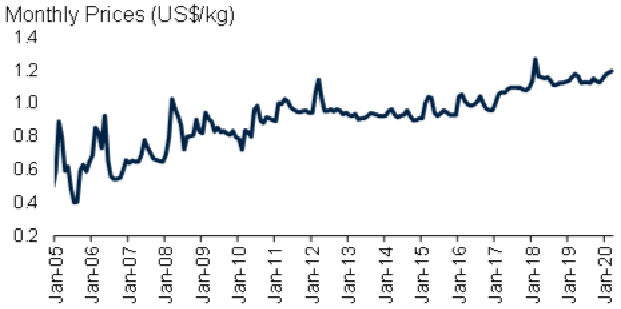


Source: World Bank.
Note: 2020-30 are forecasts.

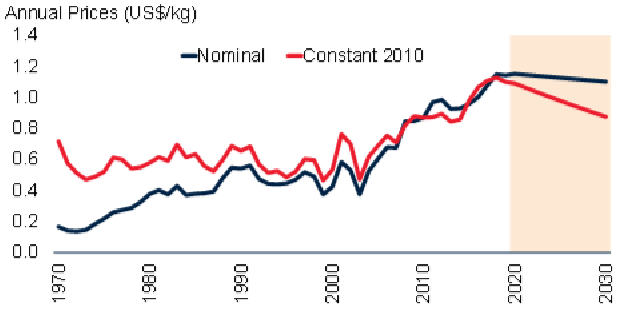
	1970	1980	1990	2000	2010	2016	2017	2018	2019
					(thousand metric tons)				
Bauxite Production									
Australia	9,256	27,179	41,391	53,801	68,535	83,517	89,421	96,548	105,313
China	500	1,700	3,655	7,900	36,837	66,158	68,393	68,393	68,400
Guinea	2,600	13,911	16,150	17,992	17,633	32,424	51,702	59,574	63,235
Brazil	510	4,632	9,749	14,379	32,028	39,244	38,122	32,007	32,004
India	1,370	1,785	4,853	7,562	12,662	24,219	22,776	23,229	26,055
Indonesia	1,223	1,249	1,164	1,151	27,410	1,458	4,400	10,500	10,500
Jamaica	12,010	11,978	10,965	11,127	8,540	8,540	8,245	9,963	9,009
Russia	n/a	n/a	n/a	5,000	5,475	5,432	5,524	5,650	5,572
Saudi Arabia	5	n/a	n/a	n/a	n/a	4,468	3,708	4,323	4,323
Kazakhstan	989	n/a	n/a	3,729	5,310	4,802	4,843	6,104	3,812
Vietnam	n/a	n/a	n/a	16	80	1,500	2,700	3,600	3,600
Guyana	3,211	3,052	1,424	2,689	1,083	1,479	1,459	1,926	2,003
Sierra Leone	449	674	1,445	n/a	1,053	1,369	1,788	1,938	2,001
Others	*n/a*	*n/a*	*n/a*	*13,543*	*12,156*	*15,358*	*10,964*	*9,231*	*9,704*
World	**57,280**	**93,268**	**115,099**	**138,889**	**228,802**	**289,968**	**314,045**	**332,986**	**345,530**
Refined Aluminum Production									
China	127	350	854	2,647	16,244	32,698	35,189	35,802	35,044
Russia	n/a	n/a	n/a	3,258	3,947	3,561	3,742	3,621	3,638
India	963	1,068	1,567	647	1,610	2,733	3,062	2,934	3,184
Canada	963	1,068	1,567	2,373	2,963	3,209	3,212	2,923	2,854
United Arab Emirates	n/a	35	174	536	1,400	2,471	2,600	2,635	2,579
Australia	206	303	1,234	1,761	1,928	1,634	1,488	1,574	1,561
Bahrain	n/a	126	213	509	851	971	981	1,011	1,365
Norway	530	653	867	1,026	1,090	1,247	1,253	1,295	1,279
United States	3,607	4,654	4,048	3,668	1,728	818	741	897	1,126
Saudi Arabia	5	n/a	n/a	n/a	n/a	869	916	932	965
Malaysia	1	n/a	n/a	n/a	60	620	760	760	760
South Africa	n/a	86	158	683	806	701	716	714	717
Iceland	39	73	87	226	826	700	764	733	703
Others	*n/a*	*n/a*	*n/a*	*6,970*	*8,001*	*7,701*	*7,592*	*7,595*	*7,470*
World	**9645**	**16,099**	**19,275**	**24,304**	**41,454**	**59,934**	**63,014**	**63,426**	**63,244**
Refined Consumption									
China	225	550	861	3,352	15,854	32,563	31,908	35,521	35,244
United States	3,488	4,454	4,330	6,161	4,242	5,121	5,615	4,630	4,929
Germany	825	1,272	1,379	1,632	1,912	2,197	2,160	2,139	2,026
Japan	911	1,639	2,414	2,223	2,025	1,742	1,950	1,979	1,765
India	162	234	433	601	1,475	2,202	2,253	1,750	1,488
Korea, Rep.	15	68	369	823	1,255	1,453	1,420	1,151	1,147
Spain	n/a	263	n/a	526	659	826	842	914	978
Turkey	14	45	152	211	703	949	961	954	971
Italy	279	23	0	780	857	909	924	951	961
Others	*4,108*	*6,764*	*9,288*	*8,696*	*11,581*	*11,831*	*12,300*	*12,679*	*12,204*
World	**10,027**	**15,312**	**19,227**	**25,004**	**40,563**	**59,792**	**60,333**	**62,667**	**61,714**

Source: British Geological Survey, Metallgesellschaft, U.S. Geological Survey, World Bureau of Metals Statistics, World Bank.
Note: n/a implies data not available.

Bananas



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.



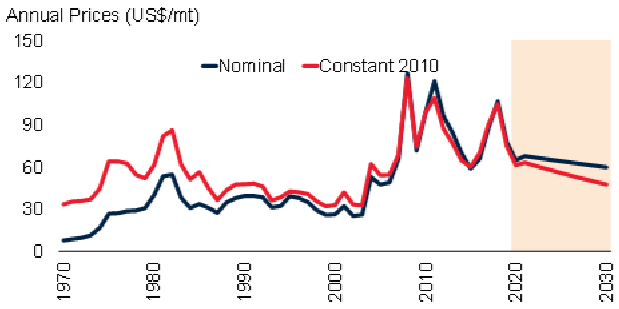
Source: World Bank.
Note: 2020-30 are forecasts.

	1970	1980	1990	2000	2010	2015	2016	2017	2018
					(thousand metric tonnes)				
Exports									
Ecuador	1,246	1,291	2,157	3,994	5,010	6,040	5,974	6,415	6,554
Philippines	107	923	840	1,600	1,589	1,795	1,397	1,663	3,388
Guatemala	200	371	360	802	1,371	2,153	2,146	2,344	2,351
Costa Rica	856	973	1,434	2,079	1,828	1,964	2,365	2,525	1,750
Colombia	262	692	1,148	1,564	1,803	1,674	1,842	1,885	1,749
Honduras	799	973	781	375	512	690	659	605	633
Mexico	1	16	154	81	174	417	448	561	552
Côte d'Ivoire	140	122	94	243	336	305	364	387	377
Peru	n/a	n/a	n/a	n/a	89	191	202	203	232
Panama	600	504	745	489	295	268	267	209	209
Cameroon	50	65	78	238	233	283	250	276	207
Belize	0	15	24	66	82	99	71	75	140
Dominican Republic	4	10	11	79	408	138	383	125	120
Bolivia	0	0	0	9	88	133	128	104	118
Nicaragua	6	121	92	44	52	77	109	117	117
India	7	0	0	9	61	80	112	90	116
Ghana	0	0	0	4	68	51	47	89	95
Mozambique	13	2	0	0	0	22	64	94	91
Suriname	25	34	28	35	79	85	67	70	71
Others	*1,201*	*662*	*1,082*	*2,624*	*313*	*283*	*304*	*319*	*320*
World	**5,519**	**6,772**	**9,030**	**14,336**	**14,389**	**16,746**	**17,199**	**18,156**	**19,191**
Imports									
United States	1,846	2,423	3,099	4,031	3,858	4,082	4 041.3	4 238.2	4,212
China	29	21	48	647	741	1,146	958	1 115.1	1,621
Russia	n/a	n/a	n/a	503	1,054	1,227	1 356.0	1 544.1	1,557
Japan	844	726	758	1,079	1,110	960	956	986	1,003
Canada	199	246	341	399	496	562	570	579	572
Argentina	164	195	73	340	351	427	433	488	450
Korea Rep.	3	15	22	184	338	364	365	437	427
Ukraine	n/a	n/a	n/a	60	215	146	192	238	251
Chile	76	87	63	193	176	199	206	98	220
Saudi Arabia	22	135	129	188	297	232	191	211	156
Turkey	0	0	62	124	161	219	209	208	155
South Africa	13	0	0	3	37	24	98	115	149
United Arab Emirates	0	23	30	99	124	147	164	160	149
Switzerland	59	64	76	72	80	87	90	92	95
Algeria	11	0	0	0	188	246	197	96	90
New Zealand	24	37	49	74	81	77	96	88	89
Norway	33	31	49	60	79	85	84	86	84
Serbia	n/a	n/a	n/a	n/a	42	49	58	66	76
Belarus	n/a	n/a	n/a	34	45	72	64	74	74
El Salvador	11	50	44	59	49	61	65	66	70
Kuwait	10	25	15	24	91	132	98	82	67
Others	*2,239*	*2,603*	*4,024*	*6,266*	*5,859*	*5,869*	*11,268*	*13,149*	*6,512*
World	**5,584**	**6,680**	**8,881**	**14,436**	**15,470**	**16,412**	**16,360**	**17,319**	**18,077**

Source: FAO.
Note: Data include re-exports. Data for 1970, 1980, and 1990 are from the Intergovernmental Group on Bananas and Tropical Fruits (March 8, 2018 update) while data for 2000 onwards are from Banana Market Review (2017). Due to different methodologies, pre- and post-2000 data may not be directly comparable.

Coal

Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

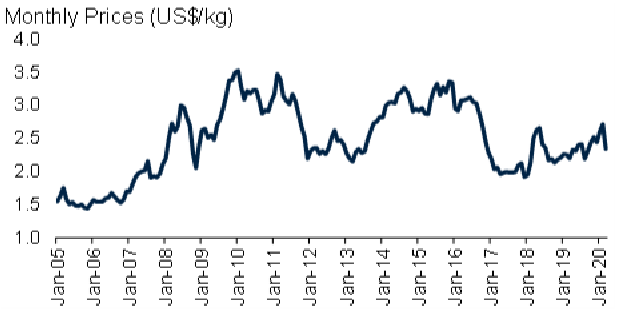


Source: World Bank.
Note: 2020-30 are forecasts.

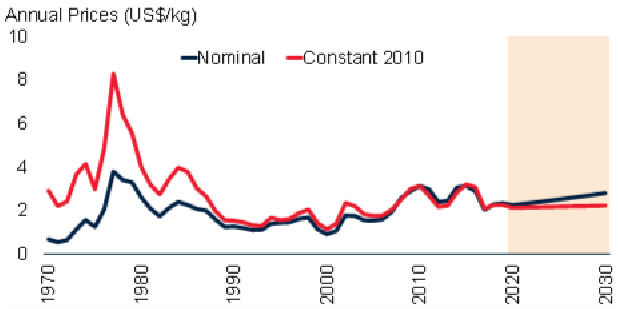
	1981	1990	2000	2005	2010	2015	2016	2017	2018
				(million metric tonnes oil equivalent)					
Production									
China	311	540	707	1,242	1,665	1,826	1,691	1,747	1,829
United States	440	538	542	551	524	427	348	371	364
Indonesia	0	6	45	90	162	272	269	272	323
India	64	106	152	190	252	281	284	287	308
Australia	68	115	172	215	251	306	307	299	301
Russia	*n/a*	186	122	136	151	186	194	206	220
South Africa	75	100	127	138	144	143	142	143	143
Colombia	3	14	26	41	51	59	62	62	58
Kazakhstan	*n/a*	57	32	37	48	46	44	48	51
Poland	103	100	72	69	55	53	52	50	48
Germany	143	125	61	57	46	43	40	39	38
Mongolia	2	3	2	4	15	14	22	30	34
Canada	23	40	39	35	35	32	33	32	29
Vietnam	3	3	7	19	25	23	22	21	23
Turkey	7	12	13	11	18	13	15	15	17
Czech Republic	43	36	25	24	21	17	16	15	15
Ukraine	*n/a*	76	36	35	32	16	17	14	15
Mexico	2	3	5	6	7	7	6	7	8
Serbia	*n/a*	*n/a*	*n/a*	*n/a*	7	7	7	7	7
Bulgaria	5	5	4	4	5	6	5	6	5
Greece	4	7	8	9	7	6	4	5	4
Romania	9	8	6	6	6	5	4	4	4
Thailand	1	4	5	6	5	4	4	4	4
Others	*n/a*	*n/a*	*n/a*	*n/a*	*69*	*69*	*71*	*69*	*69*
World	**1,843**	**2,251**	**2,301**	**3,011**	**3,602**	**3,861**	**3,661**	**3,755**	**3,917**
Consumption									
China	303	528	706	1325	1749	1914	1889	1890	1907
India	64	110	164	211	290	395	400	416	452
United States	381	459	541	546	499	372	341	331	317
Japan	65	78	96	114	116	119	119	120	117
Korea, Rep.	15	24	43	55	76	85	81	86	88
Russia	n/a	182	106	95	91	92	89	84	88
South Africa	51	67	75	80	93	85	87	84	86
Germany	144	132	85	81	77	79	77	72	66
Indonesia	0	3	13	24	40	51	53	57	62
Poland	91	78	56	55	55	49	49	50	51
Australia	29	38	48	52	49	47	47	45	44
Turkey	7	16	23	22	31	35	38	39	42
Kazakhstan	n/a	39	18	27	33	34	34	36	41
Taiwan, China	4	11	28	35	38	38	39	39	39
Vietnam	3	2	5	9	15	26	28	28	34
Others	*n/a*	*455*	*351*	*375*	*355*	*348*	*339*	*340*	*337*
World	**1,819**	**2,222**	**2,356**	**3,106**	**3,606**	**3,769**	**3,710**	**3,718**	**3,772**

Source: BP Statistical Review (June 2019 update).
Note: n/a implies data not available. Commercial solid fuels only, i.e. bituminous coal and anthracite (hard coal), and lignite and brown (sub-bituminous) coal, and other commercial solid fuels.

Cocoa



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

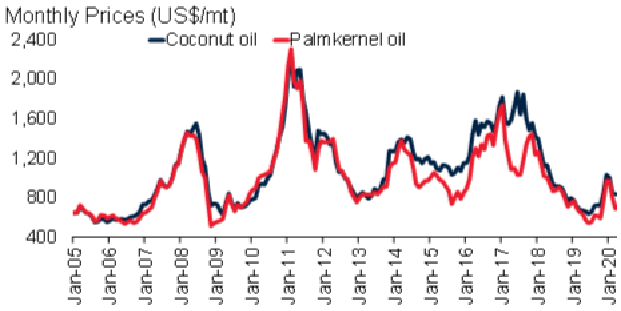


Source: World Bank.
Note: 2020-30 are forecasts.

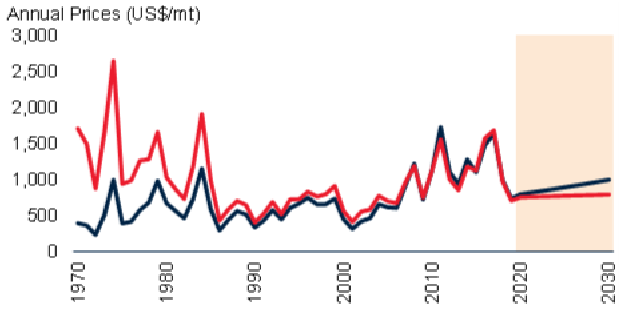
	1970/71	1980/81	1990/91	2000/01	2010/11	2015/16	2016/17	2017/18	2018/19
	(thousand metric tons)								
Production									
Côte d'Ivoire	180	417	804	1,212	1,511	1,581	2,020	1,964	2,220
Ghana	406	258	293	395	1,025	778	969	905	815
Ecuador	72	87	111	89	161	232	290	287	315
Cameroon	112	117	115	133	229	211	246	250	280
Nigeria	305	156	160	180	240	200	245	250	250
Indonesia	2	12	150	385	440	320	270	240	220
Brazil	182	353	368	163	200	141	174	204	176
Peru	2	7	11	17	54	105	116	134	130
Dominican Republic	35	35	42	45	54	80	57	85	75
Others	*233*	*252*	*452*	*233*	*396*	*347*	*344*	*333*	*354*
World	**1,528**	**1,694**	**2,507**	**2,852**	**4,309**	**3,994**	**4,731**	**4,651**	**4,834**
Grindings									
Netherlands	116	140	268	452	540	534	565	585	600
Côte d'Ivoire	35	60	118	285	361	492	577	559	590
Indonesia	1	10	32	83	190	382	455	483	504
Germany	151	180	294	227	439	430	410	448	440
United States	279	186	268	445	401	398	390	385	400
Malaysia	n/a	n/a	n/a	n/a	n/a	194	216	236	327
Ghana	48	27	30	70	212	202	250	310	300
Others	*801*	*964*	*1,315*	*1,480*	*1,796*	*1,496*	*1,533*	*1,589*	*1,646*
World	**1,431**	**1,566**	**2,325**	**3,041**	**3,938**	**4,127**	**4,397**	**4,596**	**4,807**
Exports									
Côte d'Ivoire	138	406	688	903	1,079	1,089	1,419	1,392	1,542
Ghana	348	182	245	307	694	582	577	485	522
Ecuador	46	19	56	57	136	207	283	271	336
Nigeria	216	76	142	149	219	180	305	236	273
Cameroon	75	96	96	102	204	176	188	184	217
Malaysia	3	40	148	17	21	87	136	153	135
Dominican Republic	29	27	36	34	52	77	57	74	72
Others	*265*	*255*	*326*	*417*	*590*	*323*	*301*	*252*	*263*
World	**1,119**	**1,100**	**1,737**	**1,987**	**2,996**	**2,720**	**3,265**	**3,046**	**3,361**
Imports									
Netherlands	116	167	267	549	806	795	906	722	859
United States	269	246	320	355	472	387	537	406	394
Germany	155	187	300	228	434	407	447	411	375
Malaysia	1	n/a	1	110	320	229	289	344	340
Belgium	18	28	50	101	194	297	302	256	258
Indonesia	n/a	n/a	n/a	n/a	n/a	47	184	254	228
France	42	59	74	157	149	139	147	153	151
United Kingdom	n/a	n/a	n/a	n/a	n/a	30	99	107	114
Turkey	1	2	6	39	71	86	103	101	111
Others	*537*	*509*	*744*	*870*	*911*	*778*	*837*	*879*	*723*
World	**1,139**	**1,198**	**1,761**	**2,409**	**3,357**	**3,196**	**3,851**	**3,632**	**3,553**

Source: Quarterly Bulletin of Cocoa Statistics (Cocoa year 2018/19 Volume XLV No. 4 update).
Note: n/a implies data not available. 1970/71 data are average of 1968-1972.

Coconut oil and Palm kernel oil



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

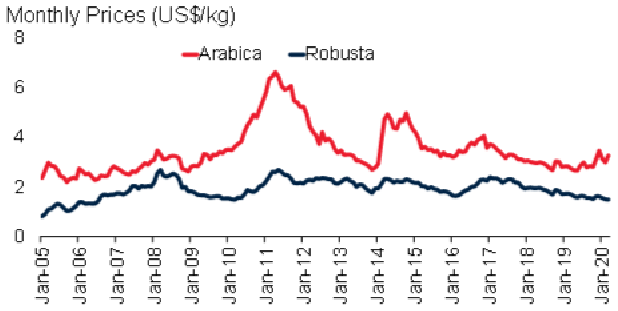


Source: World Bank.
Note: 2020-30 are forecasts.

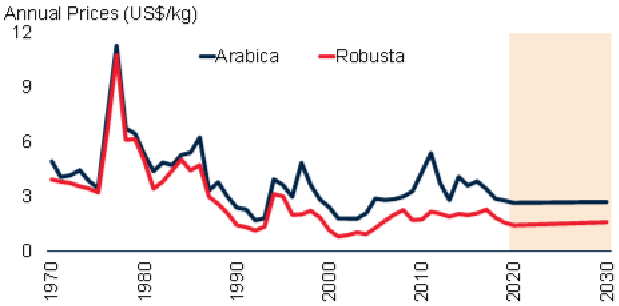
	1970/1971	1980/1981	1990/1991	2000/2001	2010/2011	2016/2017	2017/2018	2018/2019	2019/2020
	(thousand metric tons)								
Coconut oil production									
Philippines	620	1,256	1,263	1,753	1,820	1,515	1,698	1,700	1,615
Indonesia	373	740	795	833	943	980	1,018	1,005	980
India	223	207	250	448	376	446	481	474	474
Vietnam	13	25	77	149	89	171	174	180	184
Mexico	85	82	77	127	132	130	129	138	139
Bangladesh	0	0	0	17	15	14	14	69	69
Sri Lanka	131	78	67	62	43	29	29	71	54
Others	*820*	*459*	*398*	*212*	*189*	*126*	*122*	*134*	*131*
World	**2,265**	**2,847**	**2,927**	**3,601**	**3,607**	**3,411**	**3,665**	**3,771**	**3,646**
Coconut oil consumption									
Philippines	214	204	348	375	728	490	630	675	685
European Union	0	0	0	739	710	495	615	640	645
United States	397	474	407	446	486	456	435	420	488
India	223	278	255	454	380	425	470	470	470
Indonesia	372	742	585	336	378	365	367	370	372
China	29	24	20	189	197	134	140	177	185
Vietnam	14	25	72	142	95	170	170	178	183
Mexico	85	83	107	138	135	132	131	135	139
Bangladesh	0	9	30	24	19	16	17	56	75
Others	*852*	*1,077*	*1,016*	*383*	*440*	*404*	*423*	*422*	*414*
World	**2,186**	**2,916**	**2,840**	**3,226**	**3,568**	**3,087**	**3,398**	**3,543**	**3,656**
Palmkernel oil production									
Indonesia	0	48	305	1,050	2,680	4,100	4,545	4,724	4,870
Malaysia	49	235	784	1,520	2,072	2,149	2,225	2,325	2,170
Thailand	0	2	19	77	245	345	370	395	405
Nigeria	31	75	122	127	305	330	335	330	330
Colombia	4	8	20	48	75	103	141	143	154
Guatemala	0	0	0	17	23	72	80	90	75
Papua New Guinea	0	6	14	31	54	73	77	80	73
Others	*291*	*172*	*170*	*224*	*371*	*478*	*502*	*497*	*492*
World	**375**	**546**	**1,434**	**3,094**	**5,825**	**7,650**	**8,275**	**8,584**	**8,569**
Palmkernel oil consumption									
Indonesia	0	42	125	559	1,120	2,350	2,700	2,950	3,075
Malaysia	44	0	154	778	1,401	1,457	1,504	1,570	1,580
China	0	1	15	103	421	595	701	890	810
European Union	0	0	0	446	547	710	690	710	710
United States	43	83	164	116	282	361	387	321	351
Nigeria	5	30	132	128	310	332	344	345	340
Thailand	0	12	19	20	160	254	285	295	310
Brazil	0	0	15	47	186	255	250	260	259
India	0	18	1	57	155	91	125	156	164
Others	*333*	*406*	*721*	*399*	*679*	*827*	*850*	*886*	*875*
World	**425**	**592**	**1,346**	**2,653**	**5,261**	**7,232**	**7,836**	**8,383**	**8,474**

Source: U.S. Department of Agriculture (April 9, 2020 update).
Note: All quantities are for the crop year (beginning October 1). For example, 2001/02 refers to October 2001 to September 2002. European Union includes EU-15 for 1980/81, 1990/91, 2000/01 and EU-28 for 2010-17.

Coffee



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.



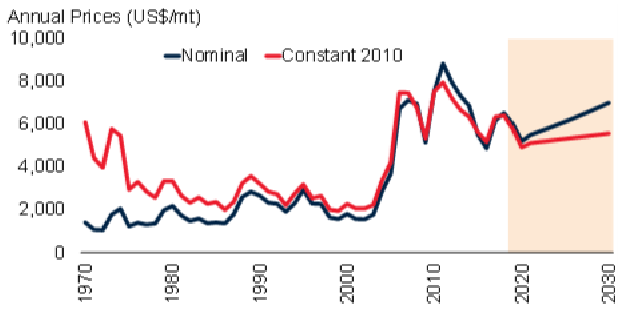
Source: World Bank.
Note: 2020-30 are forecasts.

	1970/1971	1980/1981	1990/1991	2000/2001	2010/2011	2016/2017	2017/2018	2018/2019	2019/2020
	(thousand 60kg bags)								
Production									
Brazil	11,000	21,500	31,000	34,100	54,500	56,100	50,900	64,800	58,000
Vietnam	56	77	1,200	15,333	19,415	26,700	29,300	30,400	32,225
Colombia	8,000	13,500	14,500	10,500	8,525	14,600	13,825	13,870	14,300
Indonesia	2,330	5,365	7,480	6,495	9,325	10,600	10,400	10,600	10,700
Ethiopia	2,589	3,264	3,500	2,768	6,125	6,943	7,055	7,250	7,350
Honduras	545	1,265	1,685	2,821	3,975	7,510	7,600	7,200	6,500
India	1,914	1,977	2,970	5,020	5,035	5,200	5,266	5,170	5,160
Mexico	3,200	3,862	4,550	4,800	4,000	3,300	4,000	3,800	4,550
Peru	1,114	1,170	1,170	2,824	4,100	4,225	4,375	4,400	4,500
Uganda	2,667	2,133	2,700	3,097	3,212	5,200	4,350	4,800	4,250
Guatemala	1,965	2,702	3,282	4,564	3,960	3,570	3,780	3,800	3,600
Nicaragua	641	971	460	1,610	1,740	2,625	2,730	2,640	2,340
China	n/a	n/a	n/a	n/a	827	1,800	1,925	2,200	2,300
Malaysia	66	88	75	700	1,100	2,100	2,100	2,100	2,000
Côte d'Ivoire	3,996	6,090	3,300	5,100	1,600	1,090	1,250	2,000	1,800
Costa Rica	1,295	2,140	2,565	2,502	1,575	1,300	1,525	1,300	1,375
Tanzania	909	1,060	763	809	1,050	1,050	1,150	1,300	1,250
Papua New Guinea	401	880	964	1,041	865	1,115	810	875	900
Kenya	999	1,568	1,455	864	710	815	715	775	775
Others	*15,515*	*16,562*	*16,562*	*12,269*	*9,770*	*5,861*	*5,575*	*5,360*	*5,455*
World	**59,202**	**86,174**	**100,181**	**117,217**	**141,409**	**161,704**	**158,631**	**174,640**	**169,330**
Consumption									
European Union	n/a	n/a	n/a	n/a	41,350	42,345	45,700	46,055	46,200
United States	305	297	229	183	22,383	25,512	25,557	27,140	27,287
Brazil	8,890	7,975	9,000	13,100	19,420	21,625	22,420	23,200	23,530
Japan	n/a	n/a	n/a	n/a	7,015	8,210	8,231	7,897	8,100
Philippines	496	432	810	900	2,825	6,995	6,550	6,125	6,550
Indonesia	888	1,228	1,295	1,335	1,650	3,203	3,560	4,300	4,900
Canada	n/a	n/a	n/a	n/a	4,245	4,550	4,750	4,885	4,850
Russia	n/a	n/a	n/a	n/a	4,355	4,740	4,465	4,945	4,675
Ethiopia	1,170	1,600	1,900	1,667	2,860	3,100	3,150	3,270	3,350
China	n/a	n/a	n/a	n/a	1,106	3,218	3,085	3,200	3,300
Vietnam	31	35	100	417	1,337	2,770	2,880	2,940	3,000
Korea, Rep.	n/a	n/a	n/a	n/a	1,910	2,725	2,645	2,770	2,750
Mexico	1,512	1,500	1,400	978	2,620	2,057	2,295	2,655	2,705
Algeria	n/a	n/a	n/a	n/a	1,815	2,205	2,300	2,340	2,440
Colombia	1,349	1,825	1,615	1,530	1,120	1,450	1,650	1,950	2,000
Australia	n/a	n/a	n/a	n/a	1,445	1,730	1,900	2,040	1,965
Switzerland	n/a	n/a	n/a	n/a	1,570	1,450	1,525	1,400	1,500
Venezuela	638	1,090	850	735	1,305	1,133	1,217	1,214	1,197
India	665	887	1,224	959	1,231	1,200	1,215	1,250	1,180
Others	3,464	3,569	3,842	4,499	12,933	13,589	14,485	15,186	14,882
World	**19,408**	**20,438**	**22,265**	**26,303**	**134,495**	**153,807**	**159,580**	**164,762**	**166,361**

Source: U.S. Department of Agriculture (December 13, 2019 update).
Note: n/a implies data not available. European Union includes EU-15 for 1980/81, 1990/91, 2000/01 and EU-28 for 2010-2018.

Copper

Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.



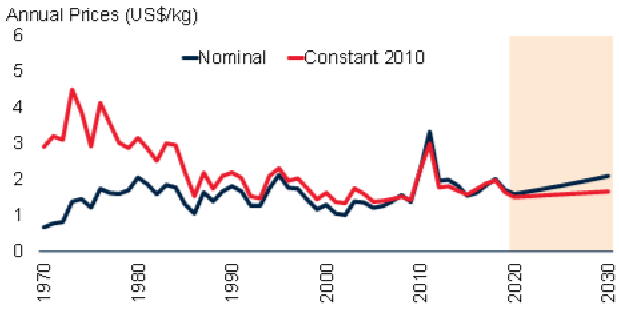
Source: World Bank.
Note: 2020-30 are forecasts.

	1970	1980	1990	2000	2010	2016	2017	2018	2019
					(thousand metric tons)				
Mine Production									
Chile	686	1068	1588	4,602	5,419	5,522	5,532	5,812	5,789
Peru	220	367	323	553	1,247	2,351	2,438	2,450	2,480
China	n/a	165	300	549	1,180	1,816	1,652	1,486	1,645
Congo, Dem. Rep.	386	n/a	n/a	33	378	1,026	1,092	1,227	1,468
United States	1560	1181	1588	1,440	1,129	1,429	1,246	1,215	1,296
Australia	158	244	330	832	870	942	851	914	925
Russia	n/a	n/a	n/a	580	703	688	726	773	773
Mexico	61	175	299	365	270	766	743	752	770
Zambia	684	610	546	249	732	745	807	852	754
Kazakhstan	n/a	n/a	n/a	433	404	597	734	626	724
Canada	610	716	794	634	522	692	592	542	581
Poland	83	343	370	454	425	428	417	407	446
Indonesia	0	59	162	1,006	871	664	679	629	400
Others	*1,755*	*2,811*	*3,027*	*1,486*	*1,988*	*2,619*	*2,630*	*2,621*	*2,778*
World	**6,202**	**7,739**	**9,327**	**13,217**	**16,139**	**20,285**	**20,137**	**20,307**	**20,830**
Refined Production									
China	120	295	558	1,312	4,540	8,401	8,944	8,879	8,949
Chile	647	811	1,192	2,669	3,244	2,603	2,429	2,434	2,461
Japan	603	1,014	1,008	1,437	1,549	1,553	1,502	1,595	1,595
United States	1,489	1,730	2,017	1,802	1,093	1,224	1,071	1,102	1,111
Russia	n/a	n/a	n/a	824	900	874	955	1,020	1,020
Congo, Dem. Rep.	683	n/a	n/a	29	254	707	706	826	821
Korea, Rep.	5	88	192	471	556	623	665	651	670
Germany	134	425	532	709	704	678	695	666	665
Poland	69	357	346	486	547	534	516	513	
Zambia	683	608	426	226	767	430	466	464	502
Kazakhstan	n/a	n/a	n/a	395	323	410	433	444	458
Mexico	n/a	n/a	n/a	399	247	490	403	437	443
Australia	n/a	n/a	n/a	484	424	467	386	411	426
Others	*2,295*	*4,147*	*4,403*	*3,518*	*4,065*	*4,215*	*4,366*	*4,079*	*4,893*
World	**6,729**	**9,475**	**10,675**	**14,761**	**19,214**	**23,208**	**23,535**	**23,518**	**24,013**
Refined Consumption									
China	180	286	512	1,869	7,385	11,576	11,913	12,456	13,087
United States	1,860	1,868	2,150	2,979	1,760	1,808	1,772	1,816	1,851
Japan	821	1,158	1,577	1,351	1,060	955	1,006	1,035	1,015
Germany	788	870	1,028	1,309	1,312	1,237	1,191	1,194	1,005
Korea, Rep.	10	85	324	862	856	772	753	707	625
Italy	274	388	475	674	619	599	634	548	550
India	55	77	135	246	514	500	490	514	521
Turkey	14	33	103	248	369	454	453	480	463
Mexico	54	117	127	464	274	430	356	422	448
Others	*3,236*	*4,502*	*4,349*	*5,094*	*5,197*	*4,742*	*4,960*	*4,691*	*4,529*
World	**7,291**	**9,385**	**10,780**	**15,096**	**19,347**	**23,074**	**23,528**	**23,863**	**24,092**

Source: British Geological Survey, Metallgesellschaft, U.S. Geological Survey, World Bureau of Metals Statistics, World Bank.
Note: n/a implies data not available. Refined production and consumption include significant recycled material.

Cotton

Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

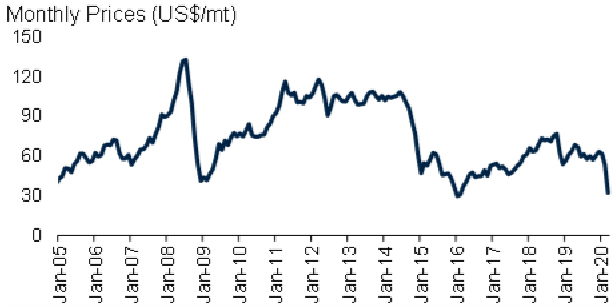


Source: World Bank.
Note: 2020-30 are forecasts.

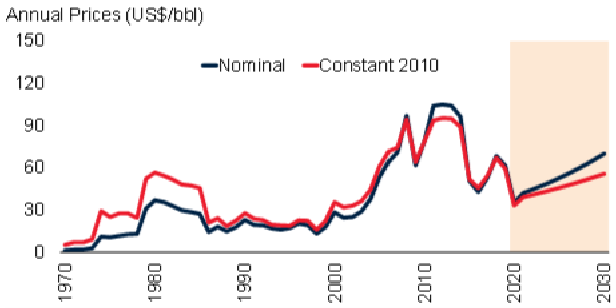
	1970/71	1980/81	1990/91	2000/01	2010/11	2017/18	2018/19	2019/20	2020/21
					(thousand metric tons)				
Production									
China	1,995	2,707	4,508	4,505	6,400	5,890	6,040	5,800	5,800
India	909	1,322	1,989	2,380	5,865	6,350	5,350	6,000	5,700
United States	2,219	2,422	3,376	3,742	3,942	4,555	3,999	4,311	4,204
Brazil	594	623	717	939	1,960	2,006	2,726	2,854	2,659
Pakistan	543	714	1,638	1,816	1,948	1,795	1,670	1,320	1,320
Turkey	400	500	655	880	594	840	977	815	832
Uzbekistan	n/a	1,671	1,593	975	910	800	641	641	641
Mexico	312	353	175	72	157	335	414	369	372
Australia	19	99	433	804	898	1,044	485	135	361
Argentina	84	84	258	167	295	226	257	358	322
Benin	14	6	253	140	85	257	295	315	320
Others	*6,645*	*6,038*	*7,865*	*7,610*	*8,755*	*8,470*	*8,870*	*8,774*	*8,838*
World	**11,740**	**13,831**	**18,951**	**19,524**	**25,408**	**26,678**	**25,684**	**25,892**	**25,569**
Stocks									
China	412	476	1,589	3,755	2,087	9,033	8,885	9,386	9,170
Brazil	321	391	231	755	1,400	1,478	422	2,538	2,877
India	376	491	539	922	1,850	2,183	200	1,843	2,018
United States	915	581	510	1,306	566	936	997	1,193	1,547
Turkey	24	112	150	283	412	939	59	918	840
Pakistan	55	131	313	608	316	808	743	671	671
Bangladesh	n/a	8	35	27	216	422	1,479	469	486
Others	*2,502*	*2,961*	*3,393*	*2,957*	*2,616*	*2,915*	*5,582*	*2,652*	*3,045*
World	**4,605**	**5,151**	**6,761**	**10,614**	**9,463**	**18,714**	**18,367**	**19,670**	**20,654**
Exports									
United States	848	1,290	1,697	1,467	3,130	3,450	3,214	3,532	3,186
Brazil	220	21	167	68	435	909	1,446	1,737	1,590
India	34	140	255	24	1,085	1,132	800	857	749
Benin	14	8	58	42	64	196	292	294	343
Greece	n/a	n/a	390	71	24	234	298	268	236
Burkina Faso	9	22	73	112	136	236	200	203	232
Mali	19	35	114	134	92	261	300	295	216
Others	*2,732*	*2,897*	*2,314*	*3,887*	*2,751*	*2,677*	*2,680*	*2,104*	*2,066*
World	**3,875**	**4,414**	**5,069**	**5,805**	**7,717**	**9,095**	**9,230**	**9,290**	**8,618**
Imports									
Bangladesh	0	45	80	248	843	1,671	1,544	1,511	1,482
Vietnam	33	40	31	84	350	1,566	1,510	1,445	1,373
China	108	773	480	52	2,609	1,320	2,100	1,863	1,146
Pakistan	1	0	43	410	283	671	668	996	1,079
Turkey	1	0	46	381	760	876	762	818	818
Indonesia	36	106	324	570	471	762	685	711	715
India	155	9	49	350	87	330	340	350	354
Others	*3,753*	*3,627*	*4,247*	*3,918*	*3,197*	*3,503*	*3,122*	*3,107*	*3,133*
World	**4,086**	**4,555**	**5,220**	**5,764**	**7,756**	**9,028**	**9,187**	**9,290**	**8,618**

Source: International Cotton Advisory Committee (April 2020 update).
Note: n/a implies data not available.

Crude oil



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

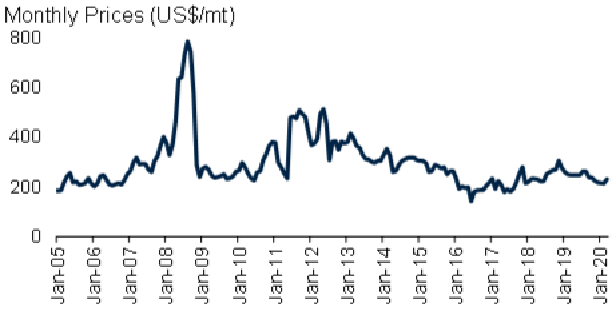


Source: World Bank.
Note: 2020-30 are forecasts.

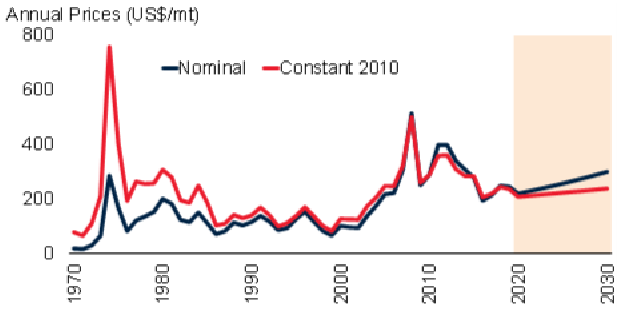
	1970	1980	1990	2000	2010	2015	2016	2017	2018
					(thousand barrels per day)				
Production									
United States	11,297	10,170	8,914	7,732	7,549	12,750	12,366	13,057	15,311
Saudi Arabia	3,851	10,270	7,105	9,470	10,075	11,994	12,402	11,951	12,287
Russia	n/a	n/a	10,342	6,584	10,383	11,009	11,269	11,257	11,438
Canada	1,473	1,764	1,968	2,703	3,332	4,389	4,470	4,831	5,208
Iran	3,848	1,479	3,270	3,852	4,430	3,862	4,602	4,982	4,715
Iraq	1,549	2,658	2,149	2,613	2,469	3,986	4,423	4,520	4,614
United Arab Emirates	780	1,735	1,985	2,599	2,915	3,873	4,020	3,935	3,942
China	616	2,122	2,778	3,257	4,077	4,309	3,999	3,846	3,798
Kuwait	3,036	1,757	964	2,244	2,560	3,065	3,145	3,025	3,049
Brazil	167	188	651	1,276	2,137	2,525	2,608	2,734	2,683
Mexico	487	2,129	2,941	3,456	2,959	2,587	2,456	2,224	2,068
Nigeria	1,083	2,058	1,787	2,175	2,534	2,204	1,903	1,988	2,051
Kazakhstan	n/a	n/a	571	740	1,676	1,695	1,655	1,835	1,927
Qatar	363	476	434	853	1,638	1,958	1,970	1,916	1,879
Norway	n/a	528	1,716	3,346	2,137	1,946	1,995	1,969	1,844
Angola	103	150	475	746	1,812	1,772	1,755	1,674	1,534
Venezuela, RB	3,754	2,228	2,244	3,112	2,842	2,631	2,387	2,110	1,514
Algeria	1,052	1,139	1,347	1,549	1,689	1,558	1,577	1,540	1,510
United Kingdom	4	1,676	1,933	2,696	1,356	963	1,013	999	1,085
Libya	3,357	1,862	1,424	1,475	1,659	432	426	865	1,010
Oman	332	285	695	955	865	981	1,004	971	978
India	140	193	715	726	882	876	856	865	869
Colombia	226	131	446	687	786	1,006	886	854	866
Others	*n/a*	*n/a*	*8,147*	*10,061*	*10,563*	*9,176*	*8,635*	*8,554*	*8,539*
World	**48,072**	**62,947**	**65,001**	**74,907**	**83,325**	**91,547**	**91,822**	**92,502**	**94,718**
Consumption									
United States	14,710	17,062	16,988	19,701	19,180	19,531	19,687	19,958	20,456
China	554	1,707	2,297	4,697	9,446	11,986	12,304	12,840	13,525
India	390	643	1,210	2,260	3,381	4,245	4,654	4,870	5,156
Japan	3,876	4,905	5,240	5,542	4,442	4,151	4,019	3,975	3,854
Saudi Arabia	435	592	1,136	1,627	3,206	3,886	3,875	3,838	3,724
Russia	n/a	n/a	5,042	2,540	2,878	3,146	3,217	3,207	3,228
Brazil	516	1,125	1,417	2,029	2,714	3,140	2,960	3,052	3,081
South Korea	162	476	1,041	2,260	2,378	2,587	2,781	2,811	2,793
Canada	1,472	1,898	1,747	2,043	2,358	2,401	2,448	2,448	2,447
Germany	2,765	3,014	2,685	2,746	2,441	2,336	2,374	2,443	2,321
Iran	224	570	1,004	1,404	1,788	1,804	1,749	1,843	1,879
Mexico	441	1,072	1,611	1,952	2,040	1,939	1,950	1,883	1,812
Indonesia	138	386	652	1,148	1,415	1,571	1,628	1,696	1,785
United Kingdom	2,031	1,649	1,751	1,713	1,652	1,578	1,623	1,637	1,618
France	1,860	2,220	1,895	1,994	1,763	1,612	1,597	1,608	1,607
Others	*n/a*	*n/a*	*20,961*	*23,219*	*27,649*	*29,136*	*29,871*	*30,297*	*30,558*
World	**45,260**	**61,467**	**66,676**	**76,875**	**88,730**	**95,048**	**96,737**	**98,406**	**99,843**

Source: BP Statistical Review (June 2019 update).
Note: n/a implies data not available. Production includes crude oil and natural gas liquids but excludes liquid fuels from other sources such as biomass and derivatives of coal and natural gas include in consumption.

Fertilizers—Nitrogen



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

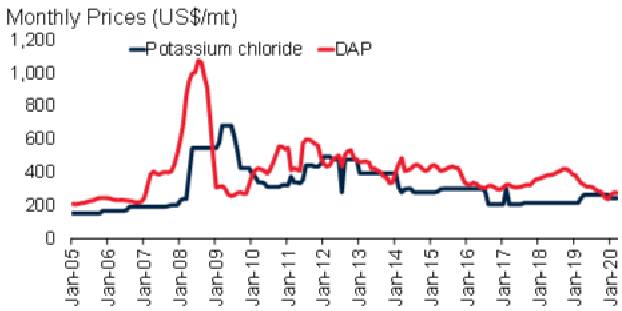


Source: World Bank.
Note: 2020-30 are forecasts.

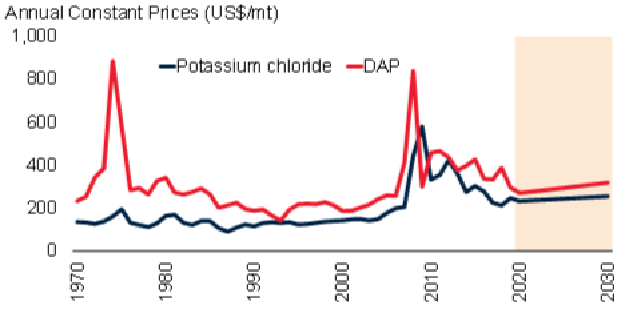
	1970	1980	1990	2000	2010	2014	2015	2016	2017
				(thousand tonnes nutrients)					
Production									
China	1,200	9,993	14,637	22,175	35,678	36,783	38,487	33,117	29,650
India	838	2,164	6,993	10,943	12,178	12,434	13,476	13,377	13,405
United States	8,161	12,053	10,816	8,352	9,587	8,291	8,415	9,407	9,940
Russia	n/a	n/a	n/a	5,452	6,544	7,470	7,866	8,536	9,013
Canada	726	1,755	2,683	3,797	3,364	3,323	3,610	3,494	3,529
Egypt	118	401	678	1,441	2,761	1,939	1,723	2,765	3,496
Indonesia	45	958	2,462	2,853	3,207	3,406	3,456	3,404	3,416
Pakistan	140	572	1,120	2,054	2,629	2,647	2,918	3,233	2,978
Qatar	n/a	n/a	350	748	1,556	2,404	2,518	2,506	2,562
Saudi Arabia	n/a	n/a	568	1,278	1,680	2,109	2,320	2,578	2,526
Iran	31	72	376	726	1,524	1,733	1,802	2,187	2,408
Netherlands	957	1,624	1,928	1,300	1,175	1,328	1,226	1,303	1,995
Poland	1,030	1,290	1,233	1,497	1,509	2,045	2,033	1,888	1,974
Morocco	13	33	344	302	553	557	549	918	1,223
Ukraine	n/a	n/a	3,004	2,130	2,312	1,845	1,609	1,774	1,199
Vietnam	n/a	15	18	227	479	1,134	1,188	1,004	1,148
Germany	1,900	2,380	1,165	1,558	1,289	1,316	1,303	1,033	1,057
Lithuania	n/a	n/a	n/a	530	882	909	856	994	982
Belarus	n/a	n/a	747	574	740	1,036	1,074	1,061	963
Others	*17,530*	*29,642*	*22,841*	*18,689*	*18,454*	*18,238*	*19,271*	*19,619*	*20,652*
World	**32,690**	**62,951**	**71,964**	**86,624**	**108,101**	**110,945**	**115,702**	**114,195**	**114,114**
Consumption									
China	2,987	11,787	19,233	22,720	27,703	27,831	29,306	26,523	24,581
India	1,310	3,522	7,566	10,911	16,558	16,950	17,372	16,735	16,958
United States	7,363	10,818	10,239	10,467	11,737	11,862	12,162	12,813	12,898
Brazil	276	886	797	1,998	2,855	3,872	3,533	4,366	4,377
Indonesia	184	851	1,610	1,964	3,045	3,099	2,860	3,232	3,473
Pakistan	264	843	1,472	2,265	3,143	3,313	2,672	3,730	3,439
Canada	323	946	1,158	1,592	1,990	2,569	2,537	2,390	2,614
France	1,425	2,146	2,493	2,317	2,337	2,195	2,212	2,241	2,242
Ukraine	n/a	n/a	1,836	350	650	1,179	1,287	1,670	2,050
Russia	n/a	n/a	4,344	960	1,483	1,472	1,807	2,116	2,003
Turkey	243	782	1,200	1,276	1,344	1,493	1,487	1,896	1,788
Vietnam	166	129	425	1,332	1,250	1,578	1,808	1,611	1,597
Mexico	406	878	1,346	1,342	1,166	1,532	1,307	1,560	1,572
Germany	1,642	2,303	1,787	1,848	1,786	1,823	1,711	1,658	1,497
Australia	123	248	439	951	982	1,407	1,347	1,514	1,394
Egypt	331	554	745	1,084	1,159	1,123	1,221	1,280	1,313
Bangladesh	99	266	609	996	1,237	1,321	1,258	1,209	1,246
Poland	785	1,344	671	896	1,090	1,004	1,043	1,152	1,178
Thailand	50	136	577	922	1,311	1,409	1,240	1,225	1,178
Others	*13,446*	*22,054*	*18,231*	*15,880*	*16,714*	*18,348*	*18,164*	*19,455*	*20,236*
World	**31,423**	**60,493**	**76,777**	**82,070**	**99,540**	**105,380**	**106,330**	**108,376**	**107,634**

Source: IFA (http://ifadata.fertilizer.org/ucSearch.aspx, September 2018 update).
Note: n/a implies data not available. The statistics are based on the nutrient content. All production statistics are expressed on a calendar-year basis, while consumption statistics are expressed either on a calendar- or on a fertilizer-year basis (see www.fertilizers.org for details).

Fertilizers—Phosphate and Potash



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.



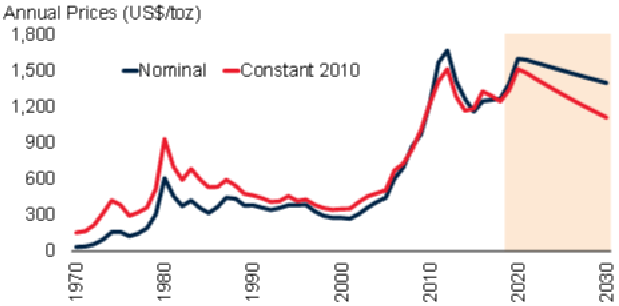
Source: World Bank.
Note: 2020-30 are forecasts.

	1970	1980	1990	2000	2010	2014	2015	2016	2017
				(thousand tonnes nutrients)					
Phosphate: Production									
China	907	2,607	4,114	6,759	15,998	17,119	18,789	17,455	17,171
United States	4,903	7,437	8,105	7,337	6,297	5,578	5,526	5,673	5,551
India	228	854	2,077	3,751	4,378	4,125	4,429	4,560	4,736
Morocco	99	174	1,180	1,122	1,875	2,408	2,100	3,115	4,023
Russia	n/a	n/a	4,943	2,320	2,926	2,698	3,018	3,032	3,370
Brazil	169	1,623	1,091	1,496	2,004	1,990	2,021	1,983	1,961
Saudi Arabia	n/a	n/a	n/a	159	119	1,220	1,328	1,343	1,572
Others	*14,279*	*20,982*	*14,908*	*9,800*	*8,935*	*9,090*	*9,153*	*9,184*	*9,058*
World	**20,585**	**33,677**	**36,417**	**32,744**	**42,532**	**44,227**	**46,363**	**46,345**	**47,442**
Phosphate: Consumption									
China	907	2,952	5,770	8,664	12,988	14,163	13,973	12,682	12,100
India	305	1,091	3,125	4,248	8,050	6,099	6,979	6,705	6,854
Brazil	416	1,965	1,202	2,544	3,384	4,752	4,401	4,974	5,126
United States	4,345	4,926	3,811	3,862	3,890	4,080	4,302	4,488	5,051
Indonesia	45	274	581	263	500	1,188	1,241	1,191	1,399
Pakistan	31	227	389	675	767	975	1,007	1,269	1,279
Canada	326	634	578	634	723	945	1,025	947	1,080
Australia	757	853	579	1,107	817	919	963	890	818
Vietnam	77	23	106	501	650	685	806	774	801
Others	*13,666*	*18,967*	*19,782*	*10,314*	*9,807*	*11,356*	*11,257*	*12,063*	*12,711*
World	**20,875**	**31,912**	**35,920**	**32,812**	**41,576**	**45,161**	**45,955**	**45,983**	**47,218**
Potash: Production									
Canada	3,179	7,337	7,005	9,174	10,289	10,636	11,500	10,938	12,696
Russia	n/a	n/a	n/a	3,716	6,128	7,340	6,881	6,513	7,228
Belarus	n/a	n/a	4,992	3,372	5,223	6,286	6,402	6,110	7,026
China	n/a	20	46	275	3,101	5,600	5,930	5,890	5,604
Germany	4,824	6,123	4,967	3,409	2,962	3,548	3,558	3,020	3,336
Israel	576	797	1,296	1,748	1,944	2,126	1,585	2,350	2,303
Jordan	n/a	n/a	842	1,162	1,166	1,255	1,413	1,202	1,393
Chile	21	23	41	408	850	1,239	1,291	1,236	1,127
Spain	525	691	642	522	313	703	723	670	700
Others	*8,346*	*12,616*	*3,007*	*2,356*	*1,730*	*1,941*	*2,039*	*2,247*	*1,887*
World	**17,471**	**27,608**	**22,838**	**26,141**	**33,706**	**40,673**	**41,320**	**40,173**	**43,300**
Potash: Consumption									
China	25	527	1,761	3,364	5,853	8,169	10,018	9,572	9,804
Brazil	307	1,267	1,210	2,760	3,894	5,395	5,162	5,728	5,853
United States	3,827	5,733	4,537	4,469	4,165	4,450	4,788	5,240	5,229
India	199	618	1,309	1,565	3,514	2,533	2,402	2,508	2,780
Indonesia	18	91	310	266	1,250	1,772	1,635	1,600	2,015
Malaysia	61	250	494	650	1,150	1,237	1,120	1,259	1,391
Vietnam	38	39	29	450	400	600	539	581	641
Others	*11,289*	*15,302*	*14,671*	*8,571*	*7,980*	*9,511*	*9,580*	*9,982*	*10,122*
World	**15,764**	**23,826**	**24,320**	**22,095**	**28,206**	**33,667**	**35,244**	**36,470**	**37,834**

Source: IFA (http://ifadata.fertilizer.org/ucSearch.aspx, September 2018 update).
Note: n/a implies data not available. The statistics are based on the nutrient content. All production statistics are expressed on a calendar-year basis, while consumption statistics are expressed either on a calendar- or on a fertilizer-year basis (see www.fertilizers.org for details).

Gold

Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

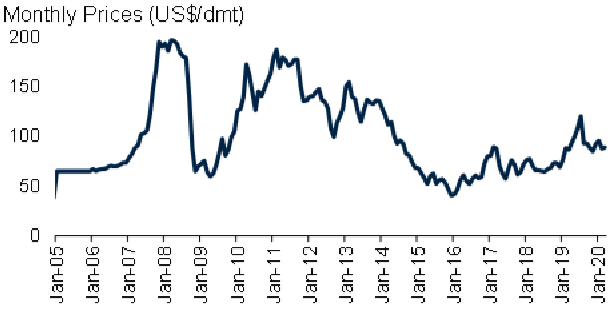


Source: World Bank.
Note: 2020-30 are forecasts.

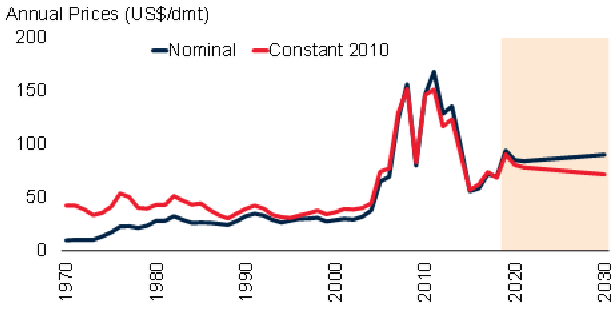
	1990	2000	2005	2010	2015	2016	2017	2018	2019
					(metric tons)				
Production									
China	100	177	255	351	454	454	426	400	370
Australia	242	296	262	257	279	290	295	312	317
Russia	n/a	143	163	195	250	254	271	282	280
United States	294	353	256	230	216	222	230	253	198
Canada	169	156	121	104	163	165	176	193	181
Ghana	17	78	67	92	95	94	102	102	156
Peru	9	133	208	185	178	168	162	155	128
Mexico	9	26	27	79	141	133	127	122	111
South Africa	605	431	295	200	151	146	140	124	106
Kazakhstan	n/a	28	18	30	48	50	60	70	103
Uzbekistan	n/a	88	84	71	83	83	85	83	102
Brazil	102	60	38	68	82	84	80	82	97
Sudan	0	6	5	10	17	16	15	15	94
Indonesia	11	127	143	184	176	175	154	190	87
Papua New Guinea	34	75	68	70	57	63	63	71	73
Argentina	1	26	28	64	64	58	63	63	60
Burkina Faso	3	1	1	25	38	41	49	55	50
Mali	2	29	49	44	49	50	52	58	48
Bolivia	n/a	n/a	n/a	6	6	6	6	6	43
Others	*534*	*324*	*416*	*507*	*675*	*702*	*704*	*697*	*580*
World	**2,133**	**2,555**	**2,504**	**2,771**	**3,222**	**3,252**	**3,259**	**3,332**	**3,186**
Fabrication									
China	46	213	277	523	920	788	771	785	n/a
India	n/a	704	695	783	812	506	783	701	n/a
United States	n/a	277	219	179	167	172	150	156	n/a
Japan	205	161	165	158	102	99	100	100	n/a
Turkey	n/a	228	303	109	112	101	122	98	n/a
Italy	n/a	522	290	126	94	88	89	84	n/a
Korea, Rep.	n/a	107	83	93	79	78	80	81	n/a
South Africa	18	14	10	25	31	38	50	71	n/a
Iran	n/a	46	41	72	56	35	42	63	n/a
Indonesia	84	99	87	45	50	45	45	49	n/a
Russia	n/a	34	61	61	52	47	47	47	n/a
Germany	n/a	64	52	41	41	37	41	44	n/a
United Arab Emirates	n/a	50	55	33	45	45	56	43	n/a
Switzerland	n/a	54	56	41	41	34	33	36	n/a
Saudi Arabia	n/a	153	125	59	52	40	34	34	n/a
Malaysia	45	86	74	45	39	34	30	30	n/a
Singapore	31	26	30	28	29	27	28	28	n/a
Canada	n/a	25	27	44	40	41	29	25	n/a
Thailand	86	79	69	27	27	24	24	25	n/a
Others	*n/a*	*819*	*608*	*400*	*356*	*315*	*310*	*318*	*n/a*
World	**3,294**	**3,761**	**3,325**	**2,891**	**3,145**	**2,592**	**2,861**	**2,817**	**n/a**

Source: GFMS, Thomson Reuters, British Geological Survey, U.S. Geological Survey, World Bureau of Metals Statistics, World Bank.
Note: n/a implies data not available. Fabrication includes the use of scrap. Fabrication of "Saudi Arabia" includes Saudi Arabia and Yemen in 2000.

Iron Ore



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.



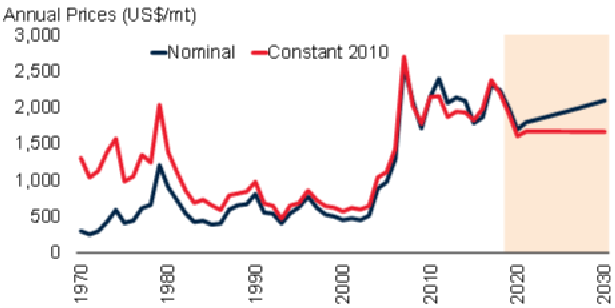
Source: World Bank.
Note: 2020-30 are forecasts.

	1971	1980	1990	2000	2010	2015	2016	2017	2018
					(million metric tons)				
Iron Ore Production									
Australia	62	99	109	176	433	811	858	883	n/a
Brazil	38	113	152	209	372	423	434	436	n/a
India	34	41	54	75	209	143	185	202	n/a
China	55	113	148	105	357	124	114	115	n/a
Russia	n/a	n/a	n/a	87	99	102	104	107	n/a
South Africa	10	n/a	30	34	55	61	66	62	n/a
Ukraine	n/a	n/a	n/a	56	79	82	75	60	n/a
Iran	n/a	n/a	2	12	33	39	43	55	n/a
Canada	43	49	37	36	38	46	47	49	n/a
United States	82	71	55	63	50	43	42	48	n/a
Sweden	34	27	20	21	25	25	27	27	n/a
Mexico	5	8	9	11	14	20	19	17	n/a
Chile	11	9	8	8	10	15	16	16	n/a
Mauritania	8	9	11	11	11	12	13	12	n/a
Kazakhstan	n/a	n/a	n/a	15	18	11	10	11	n/a
Peru	9	6	3	4	9	7	8	9	n/a
Mongolia	n/a	n/a	n/a	n/a	3	6	6	8	n/a
Turkey	2	3	6	4	6	10	8	6	n/a
Venezuela	20	14	20	17	14	8	7	5	n/a
Liberia	23	18	4	n/a	n/a	4	2	2	n/a
Norway	4	4	2	0	3	3	2	2	n/a
Others	*n/a*	*n/a*	*n/a*	*14*	*36*	*34*	*31*	*32*	*n/a*
World	**781**	**931**	**984**	**959**	**1,874**	**2,030**	**2,116**	**2,163**	**n/a**
Crude steel production									
China	21	37	66	129	639	804	808	871	928
India	6	10	15	27	69	89	95	101	109
Japan	89	111	110	106	110	105	105	105	104
United States	109	101	90	102	80	79	78	82	87
Korea, Rep.	0	9	23	43	59	70	69	71	72
Russia	n/a	n/a	n/a	59	67	71	70	71	72
Germany	40	44	38	46	44	43	42	43	42
Turkey	1	3	9	14	29	32	33	38	37
Brazil	6	15	21	28	33	33	32	35	35
Italy	17	27	25	27	26	22	23	24	25
Iran	n/a	1	1	7	12	16	18	21	25
Taiwan, China	0	3	10	17	20	21	22	22	23
Ukraine	n/a	n/a	n/a	32	33	23	24	21	21
Mexico	4	7	9	16	17	18	19	20	20
Vietnam	n/a	n/a	n/a	0	4	6	8	11	15
France	23	23	19	21	15	15	14	16	15
Spain	8	13	13	16	16	15	14	14	14
Others	*n/a*	*n/a*	*n/a*	*160*	*160*	*160*	*155*	*165*	*170*
World	**583**	**716**	**770**	**849**	**1,433**	**1,622**	**1,629**	**1,732**	**1,817**

Source: Steel Statistical Yearbook 2019.
Note: n/a implies data not available. Crude steel production includes all qualities: carbon, stainless, and other alloy.

Lead

Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.



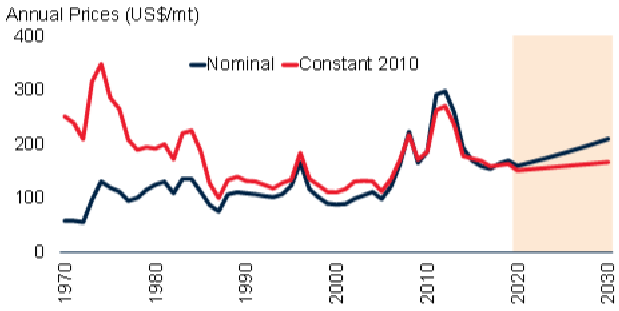
Source: World Bank.
Note: 2020-30 are forecasts.

	1970	1980	1990	2000	2010	2016	2017	2018	2019
					(thousand metric tons)				
Mine Production									
China	100	160	350	660	1,981	2,338	1,852	2,214	2,405
Australia	457	397	565	678	711	440	460	469	468
Peru	157	189	188	271	262	314	307	289	307
United States	519	550	497	447	356	342	313	260	294
Mexico	177	146	177	138	192	241	241	235	259
Russia	n/a	n/a	n/a	13	97	217	210	215	221
India	2	14	26	38	89	139	176	185	187
Bolivia	n/a	17	20	10	73	90	111	112	92
Turkey	6	8	18	16	39	65	75	76	72
Sweden	78	72	98	107	68	76	71	65	63
Kazakhstan	n/a	n/a	n/a	39	35	71	112	86	56
Myanmar	n/a	n/a	n/a	1	7	15	20	35	52
Iran	n/a	12	9	17	32	47	48	41	46
Others	*n/a*	*n/a*	*n/a*	*647*	*425*	*422*	*477*	*464*	*452*
World	**3,350**	**3,548**	**3,143**	**3,080**	**4,367**	**4,815**	**4,473**	**4,746**	**4,976**
Refined Production									
China	100	175	300	1,100	4,158	4,604	4,726	5,113	5,797
United States	605	1,150	1,290	1,431	1,255	1,113	1,127	1,136	1,200
Korea, Rep.	n/a	15	63	222	328	813	807	801	767
India	2	26	39	57	367	512	563	595	653
Mexico	180	184	235	332	257	341	342	343	358
United Kingdom	44	325	329	328	301	329	325	313	355
Germany	138	392	394	387	405	343	356	313	328
Canada	186	235	184	284	273	274	274	261	260
Japan	175	305	327	312	267	240	239	238	237
Brazil	19	85	57	86	115	156	167	195	195
Poland	n/a	82	65	69		154	157	159	180
Spain	69	121	124	120	165	165	168	175	175
Italy	54	134	171	237	150	187	174	168	168
Others	*1,848*	*2,217*	*1,941*	*1,742*	*1,779*	*1,855*	*1,857*	*1,869*	*1,748*
World	**3,419**	**5,446**	**5,518**	**6,707**	**9,820**	**11,087**	**11,283**	**11,678**	**12,421**
Refined Consumption									
China	n/a	210	244	660	4,171	4,593	4,805	5,235	5,915
United States	n/a	1,094	1,275	1,660	1,430	1,610	1,758	1,613	1,650
India	n/a	33	147	56	420	571	551	569	618
Korea, Rep.	n/a	54	80	309	382	604	624	615	577
Germany	n/a	433	448	390	343	374	413	389	386
United Kingdom	n/a	296	302	301	211	239	266	236	285
Spain	n/a	111	115	219	262	262	263	257	277
Japan	n/a	393	416	343	224	264	287	271	252
Brazil	n/a	83	75	155	201	210	238	248	243
Others	*n/a*	*2,643*	*2,246*	*2,398*	*2,146*	*2,497*	*2,503*	*2,515*	*2,568*
World	**n/a**	**5,348**	**5,348**	**6,491**	**9,790**	**11,224**	**11,708**	**11,950**	**12,772**

Source: British Geological Survey, Metallgesellschaft, U.S. Geological Survey, World Bureau of Metals Statistics, World Bank.
Note: n/a implies data not available. Refined production and consumption include significant recycled material.

Maize

Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

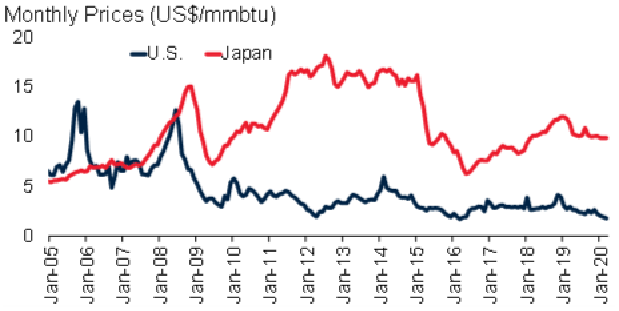


Source: World Bank.
Note: 2020-30 are forecasts.

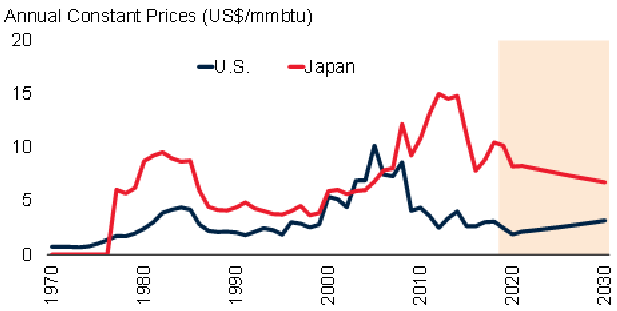
	1970/1971	1980/1981	1990/1991	2000/2001	2010/2011	2016/2017	2017/2018	2018/2019	2019/2020
	(million metric tons)								
Production									
United States	105.5	168.6	201.5	251.9	315.6	384.8	371.1	364.3	347.8
China	33.0	62.6	96.8	106.0	190.8	263.6	259.1	257.3	260.8
Brazil	14.1	22.6	24.3	41.5	57.4	98.5	82.0	101.0	101.0
European Union	0.0	0.0	0.0	51.8	58.6	61.9	62.0	64.4	66.6
Argentina	9.9	12.9	7.7	15.4	25.2	41.0	32.0	51.0	50.0
Ukraine	0.0	0.0	4.7	3.8	11.9	28.0	24.1	35.8	35.9
India	7.5	7.0	9.0	12.0	21.7	25.9	28.8	27.7	28.5
Mexico	8.9	10.4	14.1	17.9	21.1	27.6	27.6	27.6	25.0
South Africa	8.6	14.9	8.6	8.0	10.9	17.6	13.1	11.8	16.0
Russia	n/a	n/a	2.5	1.5	3.1	15.3	13.2	11.4	14.3
Canada	2.6	5.8	7.1	7.0	12.0	13.9	14.1	13.9	13.4
Indonesia	2.8	4.0	5.0	5.9	6.8	10.9	11.9	12.0	11.9
Nigeria	1.3	1.7	5.8	4.0	7.7	11.5	10.4	11.0	11.0
Others	*73.8*	*98.3*	*94.7*	*64.7*	*106.7*	*127.4*	*130.8*	*134.5*	*130.9*
World	**268.1**	**408.7**	**481.8**	**591.5**	**849.5**	**1127.8**	**1080.1**	**1123.6**	**1113.0**
Stocks									
China	8.9	42.8	82.8	102.4	43.2	223.0	222.5	210.3	199.1
United States	16.8	35.4	38.6	48.2	28.6	58.3	54.4	56.4	53.1
European Union	0.0	0.0	0.0	3.2	5.2	7.6	9.8	7.8	8.3
Brazil	2.0	1.3	0.8	2.7	6.3	14.0	9.3	5.2	4.4
Argentina	0.6	0.2	0.6	0.9	4.0	5.3	2.4	2.4	3.9
Others	*7.8*	*22.8*	*18.6*	*17.7*	*27.9*	*43.8*	*43.2*	*38.9*	*34.4*
World	**36.1**	**102.5**	**141.4**	**175.1**	**115.3**	**352.0**	**341.6**	**320.9**	**303.2**
Exports									
United States	12.9	60.7	43.9	49.3	46.5	58.3	61.9	52.5	43.8
Brazil	0.9	0.0	0.0	6.3	8.4	31.6	24.2	39.7	36.0
Argentina	6.4	9.1	4.0	9.7	16.3	26.0	22.5	37.2	33.5
Ukraine	n/a	n/a	0.4	0.4	5.0	21.3	18.0	30.3	32.0
Russia	n/a	n/a	0.4	0.0	0.0	5.6	5.5	2.8	4.2
European Union	0.0	0.0	0.0	0.5	1.1	2.2	1.7	3.6	3.6
South Africa	2.6	5.0	0.9	1.3	2.4	2.3	2.1	1.2	2.5
Others	9.4	5.5	8.9	9.3	11.7	13.3	12.3	13.5	10.3
World	**32.2**	**80.3**	**58.4**	**76.7**	**91.6**	**160.6**	**148.2**	**180.9**	**165.9**
Imports									
European Union	0.0	0.0	0.0	3.7	7.4	15.0	18.5	25.2	21.0
Mexico	0.1	3.8	1.9	6.0	8.3	14.6	16.1	16.7	17.3
Japan	5.2	14.0	16.3	16.3	15.6	15.2	15.7	16.0	16.0
Korea, South	0.3	2.4	5.6	8.7	8.1	9.2	10.0	10.9	11.4
Vietnam	0.1	0.1	0.0	0.1	1.3	8.1	8.6	10.2	11.1
Iran	0.0	0.4	0.8	1.3	3.5	7.8	8.9	9.0	10.0
Egypt	0.1	1.0	1.9	5.3	5.8	8.8	9.5	9.4	9.9
Others	*22.6*	*52.6*	*32.0*	*33.6*	*43.4*	*56.9*	*62.7*	*65.6*	*72.3*
World	**28.4**	**74.3**	**58.5**	**75.0**	**93.4**	**135.6**	**149.9**	**162.9**	**169.0**

Source: U.S. Department of Agriculture (April 9, 2020 update).
Note: The trade year is January-December of the later year of the split. For example, 1970/71 refers to calendar year 1971. European Union includes EU-15 for 1980/81, 1990/91, 2000/01 and EU-28 for 2010-2018.

Natural gas



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.



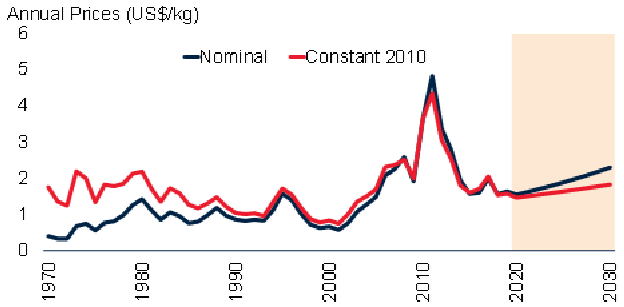
Source: World Bank.
Note: 2020-30 are forecasts.

	1970	1980	1990	2000	2010	2015	2016	2017	2018
					(billion cubic meters)				
Production									
United States	571	525	483	519	575	740	727	746	832
Russia	n/a	n/a	600	537	598	584	589	636	669
Iran.	3	5	25	56	144	184	199	220	239
Canada	54	71	103	176	150	161	172	178	185
Qatar	1	5	7	26	123	175	174	172	175
China	3	14	15	27	97	136	138	149	162
Australia	2	11	21	31	54	76	96	113	130
Norway	0	25	25	49	106	116	116	123	121
Saudi Arabia	2	9	32	47	83	99	105	109	112
Algeria	2	15	52	92	77	81	91	93	92
Indonesia	1	19	45	71	87	76	75	73	73
Malaysia	0	3	18	50	66	74	72	74	72
United Arab Emirates	1	7	20	37	50	59	60	62	65
Turkmenistan	n/a	n/a	79	42	40	66	63	59	62
Egypt	0	2	8	20	59	43	40	49	59
Uzbekistan	n/a	n/a	37	51	57	54	53	53	57
Nigeria	0	2	4	11	31	48	46	48	49
United Kingdom	11	36	48	113	58	41	42	42	41
Argentina	6	8	17	36	39	35	37	37	39
Thailand	0	0	7	21	38	41	40	39	38
Mexico	11	25	26	33	51	48	44	38	37
Oman	0	1	2	10	26	31	31	32	36
Pakistan	3	6	10	18	35	35	35	35	34
Others	*n/a*	*n/a*	*290*	*326*	*506*	*499*	*493*	*498*	*489*
World	**974**	**1,428**	**1,973**	**2,402**	**3,151**	**3,502**	**3,542**	**3,678**	**3,868**
Consumption									
United States	575	534	517	628	648	744	749	739	817
Russia	n/a	n/a	414	366	424	409	421	431	454
China	3	14	15	25	109	195	209	240	283
Iran Rep.	3	5	23	59	144	184	196	210	226
Canada	35	50	64	89	88	110	106	110	116
Japan	4	25	50	76	100	119	116	117	116
Saudi Arabia	2	9	32	47	83	99	105	109	112
Mexico	10	22	27	36	66	81	83	86	89
Germany	16	61	64	83	88	77	85	90	88
United Kingdom	12	47	55	101	98	72	81	79	79
United Arab Emirates	1	5	16	31	59	72	73	74	77
Italy	12	26	45	68	79	64	68	72	69
Egypt	0	2	8	19	43	46	49	56	60
India	1	1	12	25	59	48	51	54	58
South Korea	0	0	3	20	45	46	48	50	56
Others	*n/a*	*n/a*	*603*	*725*	*1,021*	*1,103*	*1,110*	*1,137*	*1,149*
World	**961**	**1,424**	**1,948**	**2,399**	**3,157**	**3,466**	**3,550**	**3,654**	**3,849**

Source: BP Statistical Review (June 2019 update).
Note: n/a implies data not available.

Natural rubber

Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.



Source: World Bank.
Note: 2020-30 are forecasts.

	1970	1980	1990	2000	2010	2016	2017	2018	2019
					(thousand metric tons)				
Production									
Thailand	7	501	1,275	2,346	3,252	4,473	4,519	4,775	5,145
Indonesia	815	822	1,261	1,501	2,736	3,145	3,298	3,499	3,486
Vietnam	28	46	94	291	752	1,013	1,035	1,094	1,142
Côte d'Ivoire	11	23	69	123	231	351	468	604	624
China	46	113	264	445	687	794	774	798	811
India	90	155	324	629	851	575	624	713	649
Malaysia	1,269	1,530	1,291	928	939	722	674	741	603
Myanmar	10	16	15	36	128	212	230	249	270
Cambodia	n/a	n/a	n/a	n/a	42	193	190	184	185
Others	*584*	*644*	*392*	*513*	*784*	*1,126*	*1,735*	*1,231*	*726*
World	**3,140**	**3,850**	**4,985**	**6,811**	**10,403**	**12,603**	**13,547**	**13,887**	**13,641**
Consumption									
China	250	340	600	1,150	3,622	4,982	5,301	5,504	5,497
European Union	991	1,007	1,012	1,293	1,136	1,186	1,236	1,231	1,182
India	86	171	358	638	944	1,033	1,082	1,220	1,132
United States	568	585	808	1,195	926	932	958	987	1,008
Thailand	8	28	99	243	487	650	685	752	800
Japan	283	427	677	752	749	676	679	706	707
Indonesia	25	46	108	139	421	583	608	618	625
Malaysia	20	45	184	364	458	486	489	515	501
Brazil	37	81	124	227	378	412	395	398	415
Others	*822*	*1,050*	*1,099*	*1,307*	*1,638*	*1,745*	*1,784*	*1,831*	*1,853*
World	**3,090**	**3,780**	**5,068**	**7,306**	**10,759**	**12,685**	**13,216**	**13,763**	**13,721**
Exports									
Thailand	279	457	1,151	2,166	2,866	3,925	4,433	4,499	4,219
Indonesia	790	976	1,077	1,380	2,369	2,642	3,250	2,961	2,580
Vietnam	23	33	80	273	782	1,254	1,380	1,500	1,698
Malaysia	1,304	1,482	1,322	978	1,245	1,023	1,189	1,096	1,012
Côte d'Ivoire	11	23	69	121	226	459	591	622	767
Cambodia	7	15	24	33	43	145	189	218	283
Myanmar	n/a	n/a	n/a	27	67	109	147	171	197
Others	*406*	*284*	*239*	*299*	*448*	*896*	*988*	*1,024*	*1,093*
World	**2,820**	**3,270**	**3,962**	**5,277**	**8,047**	**10,454**	**12,167**	**12,091**	**11,849**
Imports									
China	178	242	340	820	2,888	4,131	5,277	5,211	4,745
European Union	1,071	1,068	1,072	1,474	1,426	1,543	1,571	1,598	1,544
Malaysia	45	43	136	548	706	931	1,096	1,014	1,083
United States	543	576	820	1,192	931	946	972	997	1,010
Japan	292	458	663	801	747	660	699	694	731
India	3	1	61	11	187	460	398	586	495
Vietnam	n/a	n/a	n/a	n/a	127	418	526	583	456
Others	*678*	*847*	*1,677*	*1,534*	*1,667*	*1,675*	*1,706*	*1,743*	*1,693*
World	**2,810**	**3,235**	**4,769**	**6,380**	**8,680**	**10,764**	**12,245**	**12,425**	**11,757**

Source: International Rubber Study Group (January-March 2020 update).
Note: n/a implies data not available. European Union includes EU-15 for 1980/81, 1990/91, 2000/01 and EU-28 for 2010-2018.

Nickel

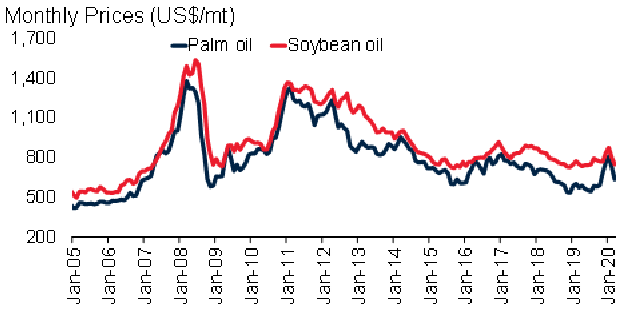
Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

Source: World Bank.
Note: 2020-30 are forecasts.

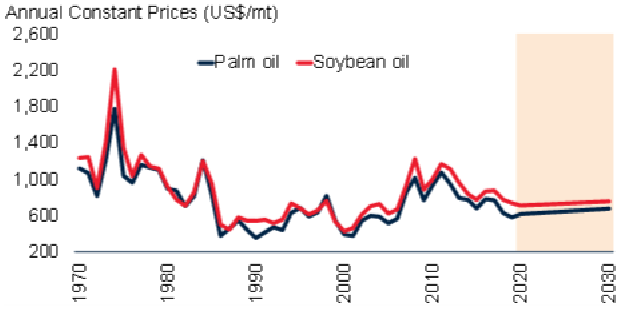
	1970	1980	1990	2000	2010	2016	2017	2018	2019
					(thousand metric tons)				
Mine Production									
Indonesia	11	41	69	117	216	173	357	648	908
Philippines	0	47	16	17	184	346	379	390	357
Russia	n/a	n/a	n/a	129	130	204	215	216	210
New Caledonia	139	87	85	266	274	221	218	218	226
Canada	277	185	196	191	160	235	214	180	187
Australia	30	74	70	170	168	203	185	161	164
China	n/a	11	27	51	80	100	102	99	105
Cuba	37	38	39	32	54	79	69	65	54
Brazil	3	6	24	71	65	51	53	52	55
South Africa	12	26	28	28	49	37	41	43	41
Colombia	n/a	0	23	37	40	49	48	43	43
Finland	5	7	11	3	12	22	36	44	39
Guatemala	n/a	7	0	0	0	45	56	39	36
Others	*n/a*	*n/a*	*n/a*	*79*	*84*	*198*	*195*	*193*	*185*
World	**663**	**758**	**906**	**1,191**	**1,518**	**1,963**	**2,169**	**2,392**	**2,609**
Refined Production									
China	n/a	11	28	52	314	437	621	733	852
Indonesia	n/a	4	5	10	19	95	187	276	351
Japan	n/a	109	100	161	166	196	187	187	183
Russian Federation	n/a	n/a	n/a	242	263	192	160	150	155
Canada	n/a	142	135	134	105	158	155	136	125
Australia	n/a	35	45	112	102	121	109	115	113
Norway	n/a	37	58	59	92	93	87	91	92
New Caledonia	n/a	33	32	44	40	96	104	108	88
Finland	n/a	13	17	54	49	54	60	61	62
Brazil	n/a	3	13	23	28	77	69	65	54
Korea, Rep.	n/a	n/a	8	0	23	48	53	49	47
Colombia	n/a	0	18	28	49	37	41	43	41
United Kingdom	n/a	19	27	38	32	45	38	41	40
Others	*n/a*	*n/a*	*n/a*	*154*	*155*	*315*	*300*	*337*	*406*
World	**n/a**	**739**	**904**	**1,110**	**1,437**	**1,963**	**2,169**	**2,392**	**2,609**
Refined Consumption									
China	n/a	18	28	58	489	898	982	1,096	1,304
Indonesia	n/a	n/a	n/a	1	1	1	61	173	172
Japan	99	122	159	192	177	162	163	175	155
Korea, Rep.	n/a	0	24	91	101	104	109	118	116
United States	149	0	18	153	119	105	145	136	106
Taiwan, China	n/a	0	18	106	73	66	84	88	84
India	2	12	14	23	27	57	82	72	58
Germany	40	78	93	102	100	58	64	61	57
Italy	20	27	27	53	62	56	60	58	44
Others	*266*	*460*	*460*	*373*	*276*	*358*	*353*	*369*	*330*
World	**576**	**717**	**842**	**1,150**	**1,426**	**1,865**	**2,104**	**2,346**	**2,427**

Source: British Geological Survey, Metallgesellschaft, U.S. Geological Survey, World Bureau of Metals Statistics, World Bank.
Note: n/a implies data not available.

Palm oil and Soybean oil



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

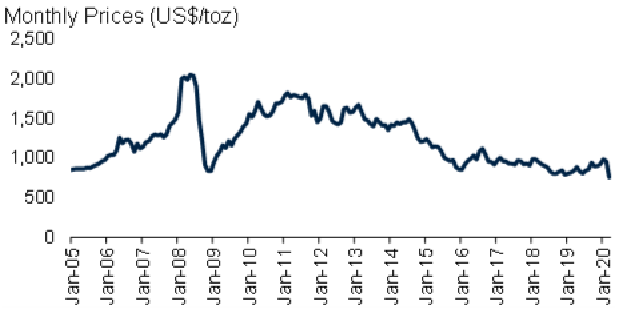


Source: World Bank.
Note: 2020-30 are forecasts.

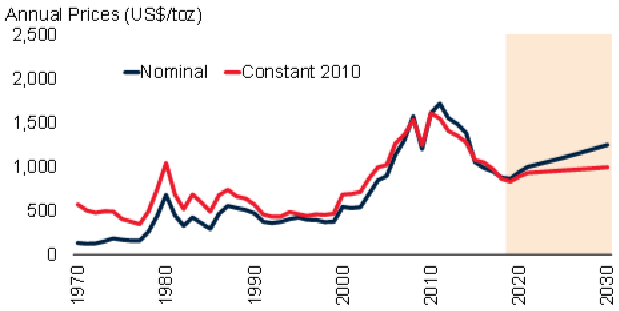
	1970/1971	1980/1981	1990/1991	2000/2001	2010/2011	2016/2017	2017/2018	2018/2019	2019/2020
	(thousand metric tons)								
Palm oil Production									
Indonesia	248	752	2,650	8,300	23,600	36,000	39,500	41,500	42,500
Malaysia	589	2,692	6,031	11,937	18,211	18,858	19,683	20,800	19,000
Thailand	0	19	200	580	1,832	2,500	2,780	2,900	3,000
Colombia	36	80	252	520	753	1,146	1,627	1,632	1,529
Nigeria	432	520	600	730	971	990	1,025	1,015	1,015
Guatemala	0	0	6	124	231	740	852	852	852
Honduras	0	18	64	148	320	620	580	580	580
Papua New Guinea	0	45	145	336	488	650	680	705	555
Ecuador	5	44	150	222	380	587	570	560	545
Others	*612*	*726*	*936*	*1,352*	*2,420*	*3,248*	*3,313*	*3,400*	*3,418*
World	**1,922**	**4,896**	**11,034**	**24,249**	**49,206**	**65,339**	**70,610**	**73,944**	**72,994**
Palm oil Consumption									
Indonesia	29	561	1,330	3,263	6,234	9,125	11,565	13,721	14,270
India	1	431	259	3,160	5,910	9,350	9,270	9,805	10,035
European Union	0	0	0	2,790	4,750	6,900	6,950	7,170	7,070
China	53	16	1,194	2,028	5,797	4,750	5,100	7,012	6,900
Malaysia	8	420	914	1,571	2,204	2,587	3,233	3,504	3,625
Pakistan	1	231	800	1,245	2,093	2,995	3,145	3,245	3,390
Thailand	0	43	208	508	1,304	2,135	2,343	2,565	2,720
Others	*1,707*	*3,061*	*6,450*	*7,946*	*17,185*	*23,722*	*25,431*	*26,059*	*26,668*
World	**1,799**	**4,763**	**11,155**	**22,511**	**45,477**	**61,564**	**67,037**	**73,081**	**74,678**
Soybean oil production									
China	181	183	599	3,240	9,856	15,770	16,128	15,232	15,411
United States	3,749	5,112	6,082	8,355	8,568	10,035	10,783	10,976	11,104
Brazil	0	2,601	2,669	4,333	6,970	7,755	8,485	8,150	8,500
Argentina	0	158	1,179	3,190	7,181	8,395	7,236	7,910	8,100
European Union	0	0	0	3,033	2,343	2,736	2,841	2,945	3,021
India	2	69	425	810	1,683	1,620	1,386	1,730	1,495
Mexico	52	255	330	795	648	820	937	1,100	1,110
Russia	0	0	75	62	367	788	824	834	888
Paraguay	10	6	56	170	310	711	733	700	739
Others	*2,205*	*4,191*	*4,350*	*2,830*	*3,548*	*5,216*	*5,772*	*6,132*	*6,296*
World	**6,199**	**12,575**	**15,765**	**26,818**	**41,474**	**53,846**	**55,125**	**55,709**	**56,664**
Soybean oil consumption									
China	179	256	1,055	3,542	11,400	16,350	16,500	15,885	16,304
United States	2,854	4,134	5,506	7,401	7,506	9,010	9,698	10,375	10,160
Brazil	0	1,490	2,075	2,932	5,205	6,570	6,940	7,165	7,450
India	79	708	445	1,750	2,550	5,150	4,670	4,750	4,850
European Union	0	0	0	2,186	2,400	2,215	2,225	2,455	2,525
Argentina	0	56	101	247	2,520	2,985	3,081	2,574	2,389
Mexico	52	305	404	863	840	1,070	1,120	1,240	1,260
Others	*2,794*	*5,468*	*5,855*	*7,222*	*8,011*	*9,970*	*10,352*	*10,520*	*10,789*
World	**5,958**	**12,417**	**15,441**	**26,143**	**40,432**	**53,320**	**54,586**	**54,964**	**55,727**

Source: U.S. Department of Agriculture (April 9, 2020 update).
Note: The trade year is January-December of the later year of the split. For example, 1970/71 refers to calendar year 1971. European Union includes EU-15 for 1980/81, 1990/91, 2000/01 and EU-28 for 2010-2018.

Platinum



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.



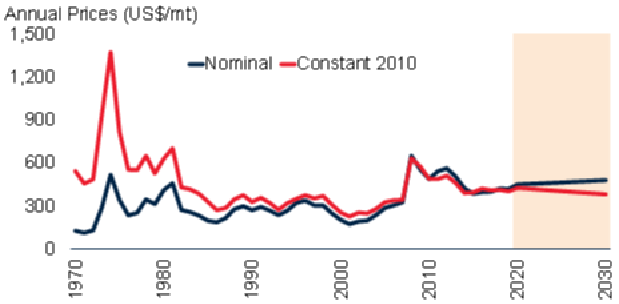
Source: World Bank.
Note: 2020-30 are forecasts.

	2003	2005	2008	2010	2016	2017	2018	2019
				(metric tons)				
Mine Production								
South Africa	146.1	157.2	145.4	147.7	132.9	133.4	134.3	130.7
Russia	25.9	29.9	25.8	24.4	21.1	22.0	21.6	21.2
Zimbabwe	4.3	5.0	5.6	8.9	15.0	14.9	14.9	14.3
Canada	4.6	7.2	7.1	4.0	8.3	7.2	6.6	6.9
United States	4.2	3.9	3.6	3.5	4.0	4.1	4.2	4.6
Others	*2.3*	*2.8*	*4.0*	*3.8*	*4.3*	*4.0*	*3.7*	*3.4*
World	**187.4**	**206.0**	**191.5**	**192.3**	**185.6**	**185.6**	**185.3**	**181.1**
Autocatalyst scrap								
Europe	3.9	5.4	9.2	9.3	12.7	13.4	13.9	15.7
North America	15.1	15.6	17.3	14.0	14.0	14.3	15.0	15.2
Japan	2.1	1.7	2.1	2.6	4.0	3.9	4.0	4.3
China	n/a	0.1	0.2	0.4	1.7	2.0	2.3	2.6
Others	*1.8*	*2.3*	*2.5*	*2.5*	*5.0*	*5.7*	*6.1*	*6.7*
World	**22.9**	**25.1**	**31.3**	**28.8**	**37.4**	**39.3**	**41.3**	**44.5**
Old jewelry scrap								
China	0.9	5.1	10.4	11.7	15.0	14.3	17.2	18.2
Japan	4.0	6.0	18.0	8.7	6.2	5.7	5.5	5.7
North America	0.1	0.2	1.3	0.4	0.2	0.2	0.2	0.2
Europe	0.1	0.1	0.4	0.3	0.2	0.2	0.2	0.2
Others	*0.1*	*0.1*	*0.0*	*0.1*	*0.0*	*0.1*	*0.1*	*0.1*
World	**5.2**	**11.5**	**30.1**	**21.2**	**21.6**	**20.5**	**23.2**	**24.4**
TOTAL SUPPLY	**215.5**	**242.6**	**252.9**	**242.3**	**244.6**	**245.4**	**249.9**	**250.0**
Autocatalyst demand								
Europe	41.3	56.1	56.9	44.5	45.9	43.8	40.2	38.4
North America	26.8	23.3	17.5	12.5	13.1	13.8	14.3	15.6
Japan	16.6	18.1	17.0	13.5	9.9	10.1	10.0	9.8
China	4.7	5.5	5.7	6.7	8.0	9.1	9.2	9.6
Others	*8.0*	*12.5*	*14.1*	*17.0*	*21.6*	*22.3*	*24.5*	*26.4*
World	**97.4**	**115.5**	**111.2**	**94.2**	**98.5**	**99.1**	**98.2**	**99.8**
Jewelry demand								
China	46.1	35.0	34.5	47.6	43.4	40.2	35.8	33.8
Japan	21.3	20.5	7.7	8.1	9.9	9.8	10.0	9.9
North America	9.9	8.1	6.4	6.6	7.7	7.6	7.6	7.7
Europe	8.5	7.9	7.4	6.8	6.6	6.2	6.3	6.4
Others	*2.4*	*1.2*	*1.4*	*2.1*	*5.1*	*5.7*	*6.4*	*6.9*
World	**88.2**	**72.7**	**57.4**	**71.2**	**72.7**	**69.5**	**66.1**	**64.7**
Other demand								
China	n/a	4.7	9.1	10.1	15.1	15.3	23.0	18.2
North America	15.8	15.8	14.2	11.5	17.2	17.0	15.9	16.2
Europe	11.1	9.5	9.8	9.8	12.3	11.6	11.1	11.1
Japan	9.9	13.2	17.9	10.4	16.7	10.0	11.5	11.0
Others	*14.0*	*14.0*	*18.7*	*21.3*	*15.1*	*17.7*	*19.2*	*21.5*
World	**50.8**	**57.2**	**69.7**	**63.1**	**76.4**	**71.6**	**80.7**	**78.0**
TOTAL DEMAND	**236.4**	**245.4**	**238.3**	**228.5**	**247.7**	**240.2**	**245.0**	**242.6**

Source: GFMS Platinum Group Metals Survey 2019, Thomson Reuters.
Note: Other demand includes chemical, electronics, glass, petroleum, retail investment and other industrial demand.

Rice

Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.



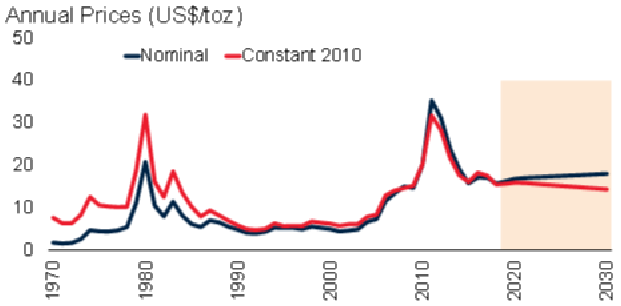
Source: World Bank.
Note: 2020-30 are forecasts.

	1970/1971	1980/1981	1990/1991	2000/2001	2010/2011	2016/2017	2017/2018	2018/2019	2019/2020
	(million metric tons)								
Production									
China	77.0	97.9	132.5	131.5	138.1	147.8	148.9	148.5	146.7
India	42.2	53.6	74.3	85.0	96.0	109.7	112.8	116.5	118.0
Indonesia	13.1	22.3	29.0	33.0	35.5	36.9	37.0	36.7	36.5
Bangladesh	11.1	13.9	17.9	25.1	31.7	34.6	32.7	34.9	35.9
Vietnam	6.4	7.7	12.4	20.5	26.4	27.4	27.7	27.3	27.4
Thailand	9.0	11.5	11.3	17.1	20.3	19.2	20.6	20.3	18.0
Myanmar	5.1	6.7	7.9	10.8	11.1	12.7	13.2	13.2	12.7
Philippines	3.4	5.0	6.4	8.1	10.5	11.7	12.2	11.7	11.4
Japan	11.5	8.9	9.6	8.6	7.9	7.9	7.8	7.7	7.6
Pakistan	2.2	3.1	3.3	4.8	4.8	6.8	7.5	7.3	7.5
Brazil	3.7	5.9	6.8	6.9	9.3	8.4	8.2	7.1	7.1
United States	2.8	4.8	5.1	5.9	7.6	7.1	5.7	7.1	5.9
Cambodia	2.5	1.1	1.6	2.5	4.4	5.3	5.6	5.7	5.2
Others	*22.9*	*27.6*	*33.3*	*39.3*	*48.1*	*55.7*	*55.3*	*54.9*	*56.2*
World	**213.0**	**269.9**	**351.4**	**399.2**	**451.6**	**491.1**	**494.9**	**499.1**	**496.1**
Stocks									
China	11.0	28.0	94.0	93.0	44.5	98.5	109.0	115.0	118.0
India	6.0	6.5	14.5	25.0	23.5	20.6	22.6	29.5	35.0
Thailand	1.2	2.0	0.9	2.2	5.6	4.2	3.0	4.5	3.8
Philippines	0.6	1.5	1.8	2.8	2.5	2.0	2.3	3.5	3.1
Indonesia	0.6	3.0	2.1	4.6	7.1	2.9	4.2	3.4	3.1
Others	*9.4*	*11.6*	*13.3*	*19.0*	*18.7*	*21.7*	*21.5*	*19.8*	*18.6*
World	**28.8**	**52.6**	**126.6**	**146.7**	**101.9**	**149.9**	**162.5**	**175.7**	**181.6**
Exports									
India	0.0	0.9	0.7	1.7	2.8	11.7	12.0	10.4	10.2
Thailand	1.6	3.0	4.0	7.5	10.6	11.6	11.1	7.6	7.5
Vietnam	0.0	0.0	1.0	3.5	7.0	6.5	6.6	6.6	6.3
Pakistan	0.2	1.2	1.3	2.4	3.4	3.5	4.0	4.5	4.4
China	1.3	0.5	0.7	1.8	0.5	0.8	1.4	2.8	3.2
United States	1.5	3.1	2.3	2.6	3.5	3.6	2.8	3.0	3.1
Myanmar	0.8	0.7	0.2	0.7	1.1	3.4	2.8	2.7	2.2
Others	*3.1*	*3.0*	*1.9*	*3.7*	*6.3*	*6.2*	*6.7*	*6.2*	*5.2*
World	**8.5**	**12.4**	**12.1**	**24.0**	**35.2**	**47.3**	**47.2**	**43.7**	**42.2**
Imports									
Philippines	0.0	0.0	0.4	1.4	1.3	1.1	1.3	3.6	2.6
China	0.0	0.2	0.1	0.3	0.5	5.3	5.5	3.0	2.4
European Union	0.0	0.0	0.0	1.2	1.4	1.8	2.0	2.2	2.2
Côte d'Ivoire	0.1	0.3	0.3	0.5	0.9	1.3	1.4	1.4	1.4
Iraq	0.1	0.4	0.3	1.0	1.2	1.1	1.1	1.2	1.2
Nigeria	0.0	0.4	0.2	1.3	2.4	2.5	2.0	1.9	1.2
Iran	0.1	0.6	0.6	0.8	2.0	1.4	1.2	1.2	1.1
Others	*7.4*	*9.4*	*8.8*	*15.7*	*23.4*	*26.5*	*32.5*	*29.2*	*29.2*
World	**7.7**	**11.3**	**10.6**	**22.1**	**33.1**	**41.1**	**47.0**	**43.6**	**41.2**

Source: U.S. Department of Agriculture (April 9, 2020 update).
Note: The trade year is January-December of the later year of the split. For example, 1970/71 refers to calendar year 1971. European Union includes EU-15 for 1980/81, 1990/91, 2000/01 and EU-28 for 2010-2018.

Silver

Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

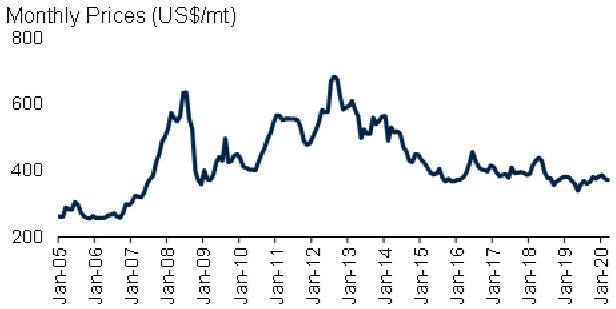


Source: World Bank.
Note: 2020-30 are forecasts.

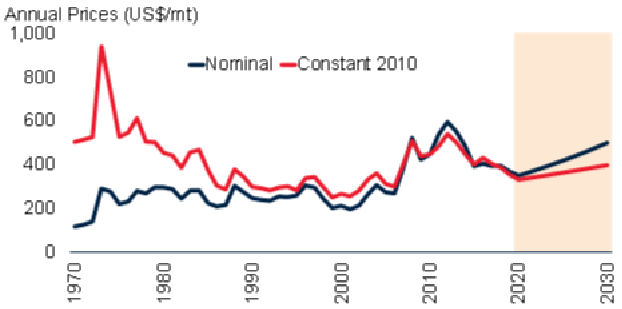
	1990	2000	2005	2010	2015	2016	2017	2018	2019
					(metric tons)				
Production									
Mexico	2,352	2,483	2,894	4,411	5,975	5,409	5,394	5,624	5,919
Peru	1,762	2,418	3,193	3,640	4,102	4,376	4,304	4,161	3,845
China	150	1,600	2,500	3,085	3,421	3,569	3,502	3,574	3,574
Poland	832	1,164	1,262	1,183	1,407	1,482	1,438	1,409	1,492
Russia	n/a	400	1,350	1,145	1,580	1,450	1,305	1,350	1,350
Australia	1,173	2,060	2,417	1,879	1,430	1,418	1,120	1,220	1,333
Chile	655	1,245	1,400	1,276	1,504	1,497	1,260	1,243	1,190
Bolivia	311	434	420	1,259	1,306	1,353	1,196	1,191	1,179
Kazakhstan	n/a	927	883	552	1,305	1,180	1,029	969	1,022
United States	2,121	2,017	1,230	1,280	1,090	1,150	1,026	925	981
Argentina	83	78	264	723	929	933	648	545	715
India	32	40	32	165	490	445	491	658	711
Sweden	243	329	310	302	480	515	488	471	427
Canada	1,501	1,204	1,124	591	384	385	393	404	410
Turkey	27	110	80	364	172	175	172	170	170
Morocco	241	290	186	243	216	237	237	152	154
Indonesia	67	310	327	289	152	113	102	104	112
Dominican Republic	23	0	0	23	100	122	148	170	109
Papua New Guinea	115	73	51	84	72	90	90	90	90
Others	*3,143*	*1,020*	*831*	*955*	*1,525*	*1,596*	*1,067*	*750*	*744*
World	**14,828**	**18,202**	**20,753**	**23,450**	**27,639**	**27,495**	**25,410**	**25,181**	**25,524**
Fabrication									
India	47	115	3,116	3,222	7,374	5,081	5,327	6,864	n/a
China	18	36	4,307	6,792	6,866	5,873	6,241	6,262	n/a
United States	137	192	5,891	6,768	7,383	6,660	5,812	5,818	n/a
Japan	116	135	3,860	3,020	3,056	3,307	3,490	3,246	n/a
Germany	54	40	1,260	1,690	1,121	1,213	1,216	1,224	n/a
Thailand	24	31	1,150	991	1,063	1,015	914	875	n/a
Italy	51	67	1,577	1,109	878	854	890	855	n/a
Canada	7	3	126	667	1,243	1,181	734	742	n/a
Russia	n/a	n/a	795	944	724	671	663	673	n/a
United Kingdom	25	42	1,330	677	677	665	650	646	n/a
Taiwan, China	5	9	380	486	467	471	492	502	n/a
Korea, Rep.	7	20	794	929	628	516	514	492	n/a
France	27	29	381	697	446	439	440	438	n/a
Australia	5	7	210	450	566	583	499	404	n/a
Mexico	14	17	693	556	532	494	456	386	n/a
Belgium	20	35	846	577	425	426	345	322	n/a
Indonesia	1	4	159	199	234	248	253	262	n/a
Turkey	5	7	309	201	233	228	228	243	n/a
Brazil	7	7	232	319	358	304	228	234	n/a
Others	*n/a*	*n/a*	*2,025*	*2,359*	*513*	*1,814*	*1,662*	*1,658*	*n/a*
World	**n/a**	**n/a**	**29,441**	**32,653**	**34,787**	**32,043**	**31,054**	**32,146**	**n/a**

Source: GFMS Silver Survey 2019, Thomson Reuters, British Geological Survey, U.S. Geological Survey, World Bureau of Metals Statistics, World Bank.
Note: n/a implies data not available. Fabrication: jewelry and silverware including the use of scrap.

Soybeans



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

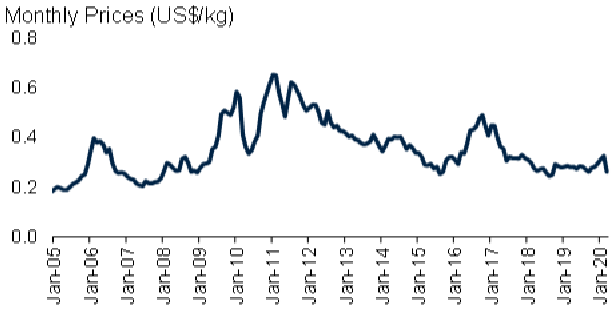


Source: World Bank.
Note: 2020-30 are forecasts.

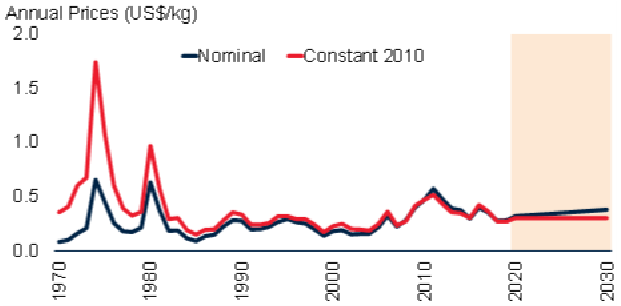
	1970/1971	1980/1981	1990/1991	2000/2001	2010/2011	2016/2017	2017/2018	2018/2019	2019/2020
					(million metric tons)				
Production									
Brazil	0.0	15.2	15.8	39.5	75.3	114.6	122.0	117.0	124.5
United States	30.7	48.9	52.4	75.1	90.7	116.9	120.1	120.5	96.8
Argentina	0.0	3.5	11.5	27.8	49.0	55.0	37.8	55.3	52.0
China	8.7	7.9	11.0	15.4	15.4	13.6	15.3	16.0	18.1
Paraguay	0.1	0.6	1.3	3.5	7.1	9.2	10.5	8.9	9.9
India	0.0	0.4	2.6	5.3	10.1	11.0	8.4	10.9	9.3
Canada	0.3	0.7	1.3	2.7	4.4	6.6	7.7	7.3	6.0
Russia	n/a	n/a	0.7	0.3	1.1	3.1	3.6	4.0	4.4
Ukraine	n/a	n/a	0.1	0.1	1.7	4.3	4.0	4.8	3.7
Bolivia	0.0	0.0	0.4	1.1	2.3	2.7	2.8	2.7	2.8
European Union	0.0	0.0	0.0	1.3	1.2	2.4	2.5	2.7	2.6
Others	*2.4*	*3.6*	*7.3*	*3.7*	*6.3*	*9.6*	*7.4*	*8.6*	*8.0*
World	**42.1**	**80.9**	**104.3**	**175.8**	**264.7**	**349.0**	**342.1**	**358.6**	**338.1**
Crushings									
China	1.5	1.5	3.9	18.9	55.0	88.0	90.0	85.0	86.0
United States	20.7	27.8	32.3	44.6	44.9	51.7	55.9	56.9	57.8
Brazil	0.0	13.8	14.2	22.7	36.3	40.4	44.2	42.5	44.3
Argentina	0.0	0.9	7.0	17.3	37.6	43.3	36.9	40.6	41.6
European Union	0.0	0.0	0.0	16.8	12.3	14.4	15.0	15.5	15.9
India	0.0	0.4	2.4	4.5	9.4	9.0	7.7	9.6	8.3
Mexico	0.3	1.5	1.9	4.5	3.6	4.6	5.3	6.2	6.2
Russia	n/a	n/a	0.4	0.4	2.1	4.4	4.6	4.7	5.0
Paraguay	0.1	0.0	0.3	0.9	1.7	3.8	3.9	3.9	3.9
Others	*12.7*	*23.8*	*24.4*	*15.8*	*19.4*	*28.2*	*31.2*	*33.1*	*33.9*
World	**35.3**	**69.8**	**86.8**	**146.5**	**222.2**	**287.8**	**294.6**	**297.8**	**302.8**
Exports									
Brazil	0.0	1.8	2.5	15.5	30.0	63.1	76.1	74.6	78.5
United States	11.8	19.7	15.2	27.1	41.0	59.0	58.1	47.6	48.3
Argentina	0.0	2.7	4.5	7.3	9.2	7.0	2.1	9.1	8.2
Paraguay	0.0	0.6	1.0	2.4	5.1	5.5	6.0	4.9	5.9
Canada	0.0	0.1	0.2	0.7	2.9	4.6	4.9	5.3	4.3
Others	*0.5*	*0.4*	*2.1*	*0.7*	*3.4*	*7.7*	*5.8*	*6.9*	*6.3*
World	**12.3**	**25.3**	**25.4**	**53.7**	**91.6**	**146.9**	**153.1**	**148.3**	**151.5**
Imports									
China	0.0	0.5	0.0	13.2	52.3	93.5	94.1	82.5	89.0
European Union	0.0	0.0	0.0	17.7	12.5	13.4	14.6	15.0	15.1
Mexico	0.1	1.4	1.4	4.4	3.5	4.1	4.9	5.9	6.0
Argentina	0.0	0.0	0.0	0.3	0.0	1.7	4.7	6.4	3.9
Egypt	0.0	0.0	0.0	0.3	1.6	2.1	3.6	3.4	3.7
Thailand	0.0	0.0	0.0	1.3	2.1	3.1	2.5	3.2	3.4
Japan	3.2	4.2	4.4	4.8	2.9	3.2	3.3	3.3	3.4
Others	*9.3*	*20.1*	*19.8*	*11.1*	*14.7*	*23.2*	*25.7*	*25.0*	*27.0*
World	**12.6**	**26.2**	**25.5**	**53.1**	**89.7**	**144.3**	**153.2**	**144.6**	**151.5**

Source: U.S. Department of Agriculture (April 9, 2020 update).
Note: The trade year is January-December of the later year of the split. For example, 1970/71 refers to calendar year 1971. European Union includes EU-15 for 1980/81, 1990/91, 2000/01 and EU-28 for 2010-2018.

Sugar



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

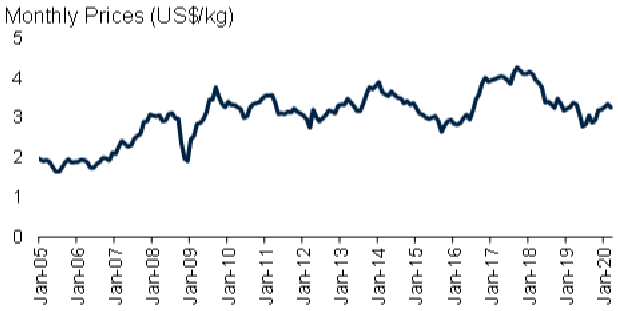


Source: World Bank.
Note: 2020-30 are forecasts.

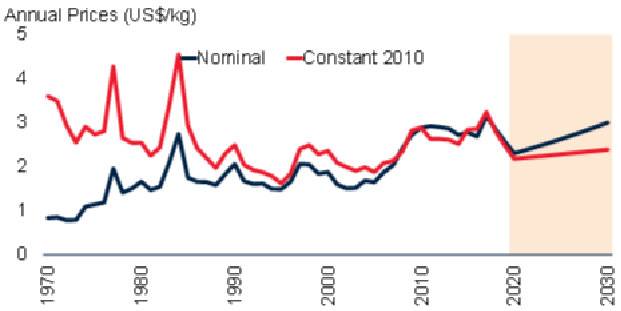
	1970/1971	1980/1981	1990/1991	2000/2001	2010/2011	2016/2017	2017/2018	2018/2019	2019/2020
	(million metric tons)								
Production									
Brazil	5.1	8.5	7.9	17.1	38.4	39.2	38.9	29.5	29.4
India	4.5	6.5	13.7	20.5	26.6	22.2	34.3	34.3	29.3
European Union	0.0	0.0	0.0	0.0	15.9	18.3	20.9	17.7	17.9
Thailand	0.5	1.7	4.0	5.1	9.7	10.0	14.7	14.6	13.5
China	2.1	3.2	6.8	6.8	11.2	9.3	10.3	10.8	10.9
United States	5.6	5.6	6.3	8.0	7.1	8.1	8.4	8.2	7.8
Russia	n/a	n/a	2.6	1.6	3.0	6.2	6.6	6.1	6.8
Mexico	2.5	2.5	3.9	5.2	5.5	6.3	6.4	6.8	6.1
Pakistan	0.0	0.9	2.1	2.6	3.9	6.8	7.2	5.5	5.2
Australia	2.7	3.3	3.6	4.2	3.7	5.1	4.5	4.7	4.5
Guatemala	0.2	0.5	1.0	1.6	2.0	2.7	2.9	3.0	3.1
Others	*47.1*	*55.7*	*62.6*	*58.1*	*35.2*	*39.8*	*39.2*	*38.7*	*39.6*
World	**70.3**	**88.6**	**114.4**	**130.8**	**162.2**	**174.1**	**194.3**	**179.9**	**174.1**
Stocks									
India	1.8	1.1	3.6	12.0	6.3	6.6	14.2	17.6	14.9
Thailand	0.0	0.2	0.2	0.6	3.0	5.6	6.8	9.6	10.0
China	0.3	0.7	1.4	1.0	1.6	7.8	6.6	5.4	4.3
Indonesia	0.4	0.3	0.4	1.4	0.6	1.7	1.8	2.3	2.1
Pakistan	0.0	0.1	0.3	0.4	1.5	2.8	3.1	2.7	1.8
Philippines	0.0	0.2	0.2	0.3	0.9	1.1	1.3	1.5	1.6
United States	2.9	1.4	1.4	2.0	1.3	1.7	1.8	1.6	1.2
Others	*14.7*	*13.7*	*14.9*	*22.2*	*14.3*	*14.9*	*16.6*	*14.4*	*13.7*
World	**20.2**	**17.6**	**22.4**	**39.9**	**29.5**	**42.2**	**52.3**	**55.1**	**49.6**
Exports									
Brazil	1.2	2.3	1.3	7.7	25.8	28.5	28.2	19.6	18.6
Thailand	0.2	1.0	2.7	3.4	6.6	7.0	10.9	9.3	10.5
India	0.3	0.1	0.2	1.4	3.9	2.1	2.2	4.7	5.0
Australia	1.8	2.6	2.8	3.1	2.8	4.0	3.6	3.8	3.5
Guatemala	0.1	0.2	0.7	1.2	1.5	2.0	1.9	2.0	2.0
Mexico	0.6	0.0	0.3	0.2	1.6	1.3	1.1	2.3	1.7
South Africa	0.8	0.6	0.8	1.6	0.4	0.2	0.8	1.0	1.6
Others	*16.3*	*21.6*	*25.1*	*19.9*	*11.3*	*13.6*	*15.5*	*12.1*	*12.2*
World	**21.3**	**28.4**	**33.9**	**38.3**	**53.9**	**58.7**	**64.3**	**54.9**	**55.1**
Imports									
Indonesia	0.1	0.6	0.2	1.6	3.1	4.8	4.3	5.4	4.5
China	0.4	1.1	1.1	1.1	2.1	4.6	4.4	4.1	4.0
United States	4.8	4.4	2.6	1.4	3.4	2.9	3.0	2.8	2.9
Bangladesh	0.0	0.0	0.0	0.8	1.5	2.1	2.7	2.5	2.5
Algeria	0.0	0.7	1.0	1.0	1.2	2.1	2.3	2.2	2.2
Malaysia	0.0	0.5	0.9	1.3	1.8	1.9	2.0	2.1	2.1
European Union	0.0	0.0	0.0	0.0	3.8	2.9	1.3	1.9	2.0
Others	*12.0*	*20.9*	*26.2*	*33.1*	*32.2*	*33.0*	*34.6*	*31.0*	*31.0*
World	**17.3**	**28.2**	**32.1**	**40.4**	**49.1**	**54.4**	**54.6**	**52.0**	**51.1**

Source: U.S. Department of Agriculture (November 21, 2019 update).
Note: The trade year is January-December of the later year of the split. For example, 1970/71 refers to calendar year 1971. European Union includes EU-15 for 1980/81, 1990/91, 2000/01 and EU-28 for 2010-2017.

Tea



Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.

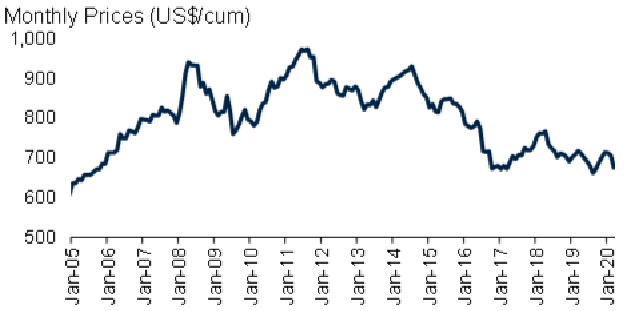


Source: World Bank.
Note: 2020-30 are forecasts.

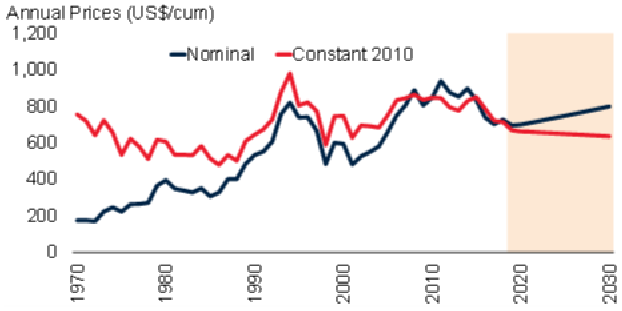
	1970	1980	1990	2000	2010	2015	2016	2017	2018
					(thousand metric tons)				
Production									
China	136	304	540	683	1,450	2,277	2,313	2,460	2,610
India	419	570	688	826	991	1,233	1,250	1,325	1,345
Kenya	41	90	197	236	399	399	473	440	493
Sri Lanka	212	191	233	306	331	321	293	308	304
Turkey	33	96	123	139	235	239	243	234	270
Viet Nam	15	21	32	70	198	236	240	260	270
Indonesia	64	106	156	163	150	133	144	139	141
Iran	20	32	37	223	121	197	133	101	109
Myanmar	11	13	15	63	95	100	102	105	109
Japan	91	102	90	85	85	80	80	82	83
Argentina	26	36	51	74	92	82	85	81	82
Bangladesh	31	40	39	46	60	66	65	82	78
Uganda	18	2	7	29	49	61	63	64	62
Burundi	0	1	4	34	38	54	53	49	54
Thailand	0	1	7	32	67	49	55	48	51
Others	*169*	*289*	*307*	*222*	*259*	*264*	*269*	*270*	*276*
World	**1,287**	**1,894**	**2,525**	**3,231**	**4,622**	**5,790**	**5,860**	**6,048**	**6,338**
Consumption									
China	109	220	383	497	1,217	n/a	n/a	n/a	n/a
India	218	331	490	632	774	n/a	n/a	n/a	n/a
Brazil	90	81	133	514	406	n/a	n/a	n/a	n/a
Iran, Islamic Rep.	24	39	79	48	200	n/a	n/a	n/a	n/a
Turkey	26	91	95	137	242	n/a	n/a	n/a	n/a
Argentina	122	132	149	271	219	n/a	n/a	n/a	n/a
United States	68	81	84	145	170	n/a	n/a	n/a	n/a
Russian Federation	n/a	n/a	n/a	158	176	n/a	n/a	n/a	n/a
Japan	105	116	123	144	127	n/a	n/a	n/a	n/a
Pakistan	30	61	106	111	93	n/a	n/a	n/a	n/a
United Kingdom	234	186	142	133	121	n/a	n/a	n/a	n/a
Others	*476*	*748*	*1,055*	*935*	*1,308*	*n/a*	*n/a*	*n/a*	*n/a*
World	**1,502**	**2,086**	**2,839**	**3,725**	**5,053**	**n/a**	**n/a**	**n/a**	**n/a**
Exports									
Kenya	42	84	166	217	418	260	297	467	n/a
China	38	98	195	228	303	325	329	355	n/a
Sri Lanka	208	185	216	287	313	305	287	287	n/a
India	200	239	198	201	235	235	230	261	n/a
Viet Nam	2	9	16	56	137	72	75	146	n/a
Argentina	19	33	46	50	86	76	78	75	n/a
Uganda	15	1	5	26	55	53	56	59	n/a
Indonesia	41	74	111	106	87	62	51	53	n/a
Malawi	18	31	41	42	50	39	44	41	n/a
Others	*169*	*230*	*233*	*252*	*341*	*323*	*338*	*355*	*n/a*
World	**752**	**984**	**1,228**	**1,464**	**2,023**	**1,750**	**1,786**	**2,100**	**n/a**

Source: Food and Agriculture Organization, Intergovernmental Group on Tea (March 4, 2020 update).
Note: Consumption includes domestic use for food, feed, waste, and other uses.

Timber—Roundwood and Sawnwood



Source: See World Bank Commodities Price Data.
Note: Price refers to Sawnwood (S.E. Asia). Last observation is March 2020.

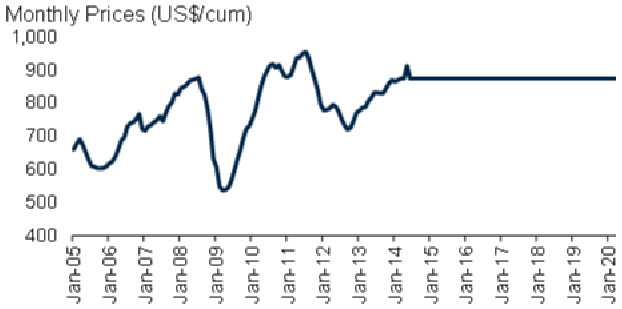


Source: World Bank.
Note: Price refers to Sawnwood (S.E. Asia). 2020-30 are forecasts.

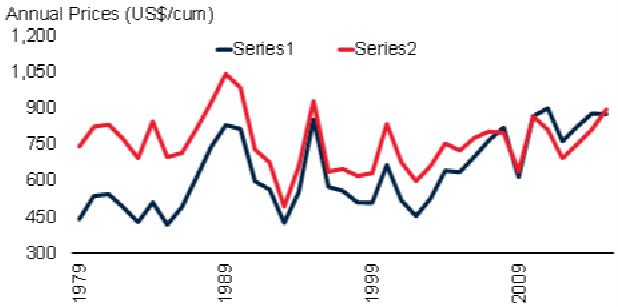
	1970	1980	1990	2000	2010	2015	2016	2017	2018
					(million cubic meters)				
Industrial roundwood: Production									
United States of America	312.7	327.1	427.2	420.6	336.1	354.7	356.6	355.2	368.2
Russia	n/a	n/a	n/a	145.6	161.6	190.5	198.2	197.6	219.6
China	42.2	79.2	91.2	96.0	161.8	148.7	164.4	163.2	181.7
Brazil	23.9	61.7	74.3	103.0	128.4	136.2	145.1	151.0	158.1
Canada	117.5	150.8	156.0	198.9	138.8	151.4	154.7	155.2	150.7
Indonesia	12.7	30.9	38.4	48.8	54.1	74.0	74.0	74.0	74.0
Sweden	56.7	44.8	49.1	57.4	66.3	67.3	67.9	65.4	66.0
Finland	37.5	43.0	40.2	50.1	45.4	51.4	54.3	55.3	60.5
Germany	33.0	38.9	80.3	49.2	47.1	45.7	44.0	43.3	49.9
Others	*640.5*	*670.3*	*752.8*	*519.9*	*583.4*	*633.6*	*645.4*	*666.9*	*698.7*
World	**1,276.4**	**1,446.7**	**1,709.5**	**1,689.6**	**1,723.1**	**1,853.5**	**1,904.7**	**1,927.1**	**2,027.5**
Industrial roundwood: Imports									
China	2.0	8.3	7.2	15.7	35.4	50.0	52.3	55.7	60.3
Austria	2.0	3.7	4.4	8.5	8.0	7.8	9.2	8.8	10.0
Sweden	0.6	3.1	2.0	11.7	6.3	6.9	6.8	6.7	9.5
Germany	5.2	3.8	2.0	3.5	7.7	8.7	8.7	8.8	8.8
Finland	2.3	3.8	5.2	9.9	6.3	5.7	5.9	4.8	6.9
Canada	2.1	3.0	1.5	6.5	4.7	4.6	6.2	4.3	4.7
India	0.0	0.0	1.3	2.2	5.3	5.8	5.2	4.4	4.5
Others	*69.0*	*69.7*	*58.9*	*57.2*	*36.1*	*37.0*	*38.8*	*36.6*	*35.9*
World	**83.1**	**95.4**	**82.6**	**115.3**	**109.8**	**126.6**	**133.1**	**130.0**	**140.7**
Sawnwood: Production									
China	14.8	21.2	23.6	6.7	37.2	74.4	77.2	86.1	90.3
United States of America	63.7	65.3	86.1	91.1	60.0	76.4	78.2	80.4	82.1
Canada	19.8	32.8	39.7	50.5	38.7	47.1	49.7	47.9	46.9
Russia	n/a	n/a	n/a	20.0	28.9	34.5	36.8	40.6	42.7
Germany	11.6	13.0	14.7	16.3	22.1	21.5	22.2	23.2	23.7
Sweden	12.3	11.3	12.0	16.2	16.8	18.2	18.4	18.4	18.4
Finland	7.4	10.3	7.5	13.4	9.5	10.6	11.4	11.8	11.8
Austria	5.4	6.7	7.5	10.4	9.6	8.7	9.4	9.8	10.4
Brazil	8.0	14.9	13.7	21.3	17.5	10.0	10.0	10.2	10.2
Others	*246.3*	*245.4*	*258.1*	*139.4*	*135.5*	*146.1*	*148.5*	*153.5*	*156.0*
World	**389.1**	**420.9**	**463.0**	**385.2**	**375.6**	**447.4**	**461.7**	**481.8**	**492.5**
Sawnwood: Imports									
China	0.1	0.3	1.3	6.1	16.2	28.2	32.8	38.8	39.0
United States of America	10.6	17.0	22.5	34.4	16.6	24.4	28.3	27.4	26.7
United Kingdom	9.0	6.6	10.7	7.9	5.7	6.3	6.6	7.6	7.8
Japan	3.0	5.6	9.0	10.0	6.4	6.0	6.3	6.3	6.0
Germany	6.0	6.9	6.1	6.3	4.4	4.8	5.1	5.2	5.5
Italy	4.0	5.8	6.0	8.4	6.1	4.7	4.7	4.9	4.9
Egypt	0.4	1.6	1.6	2.0	4.8	5.8	5.0	4.6	4.5
Others	*19.6*	*27.8*	*27.3*	*40.7*	*48.2*	*51.4*	*51.4*	*54.2*	*57.1*
World	**52.7**	**71.5**	**84.5**	**115.8**	**108.4**	**131.6**	**140.3**	**149.1**	**151.5**

Source: FAO (February 17, 2020 update).
Note: Industrial roundwood, reported in cubic meters solid volume underbark (i.e. exclusing bark), is an aggregate comprising sawlogs and veneer logs; pulpwood, round and split; and other industrial roundwood except wood fuel. Sawnwood, reported in cubic meters solid volume, includes wood that has been produced from both domestic and imported roundwood, either by sawing lengthways or by a profile-chipping process and that exceeds 6mm in thickness.

Timber—Wood panels and Woodpulp



Source: See World Bank Commodities Price Data.
Note: Price refers to Woodpulp. Last observation is March 2020.



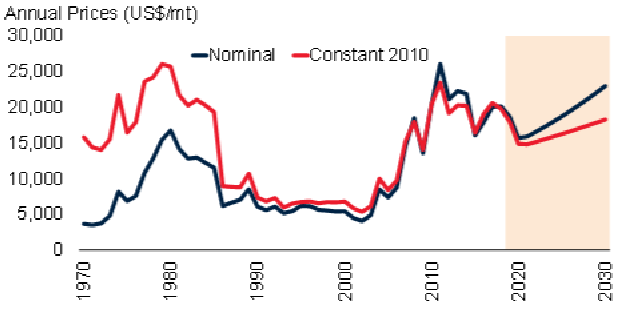
Source: World Bank.
Note: Price refers to Woodpulp.

	1970	1980	1990	2000	2010	2015	2016	2017	2018
	(million cubic meters)								
Wood-based panels: Production									
China	0.9	2.3	3.0	18.9	106.1	197.6	208.5	201.6	203.7
United States	23.0	26.4	37.0	45.4	32.2	35.3	36.0	36.2	35.4
Russia	n/a	n/a	n/a	4.7	9.8	13.5	14.2	15.6	17.3
Germany	5.4	8.0	9.1	13.7	12.4	12.1	12.5	13.1	12.7
Canada	3.1	4.3	5.9	14.4	9.0	11.8	12.0	12.4	12.7
Poland	1.0	2.0	1.4	4.6	8.1	9.7	10.4	11.0	11.4
Brazil	0.7	2.3	2.7	5.2	8.8	9.9	10.3	11.1	11.3
Turkey	0.2	0.4	0.8	2.4	6.5	9.3	9.5	9.3	9.5
Thailand	0.1	0.1	0.3	1.2	5.2	6.1	6.5	6.7	7.0
Others	*32.1*	*51.1*	*63.6*	*67.7*	*76.9*	*81.2*	*84.4*	*87.0*	*86.9*
World	**66.6**	**96.9**	**123.8**	**178.2**	**275.1**	**386.5**	**404.3**	**404.0**	**408.0**
Wood-based panels: Imports									
United States of America	2.1	1.8	3.6	12.7	7.9	11.7	13.2	14.9	16.4
Germany	1.0	2.1	3.0	3.9	4.4	5.4	5.6	5.7	5.9
Japan	0.5	0.2	3.2	6.1	4.0	4.0	3.9	4.1	4.0
Poland	0.2	0.4	0.1	0.7	1.7	2.3	2.5	3.2	3.7
United Kingdom	2.0	2.4	3.2	3.3	2.7	3.2	3.4	3.3	3.4
Korea, Rep.	n/a	n/a	1.2	1.8	2.4	2.3	2.5	2.7	3.1
Canada	0.2	0.2	0.5	1.2	2.8	3.2	3.0	3.4	3.0
Others	*3.1*	*6.9*	*13.0*	*25.6*	*38.6*	*44.6*	*46.0*	*48.9*	*50.3*
World	**9.0**	**13.9**	**27.9**	**55.2**	**64.5**	**76.6**	**80.1**	**86.3**	**89.8**
Woodpulp: Production									
United States of America	37.3	46.2	57.2	57.8	50.9	49.4	49.5	49.2	49.0
Brazil	0.8	3.4	4.3	7.3	14.5	17.8	19.4	20.2	21.7
Canada	16.6	19.9	23.0	26.7	18.9	17.2	17.0	16.8	16.8
China	1.2	1.3	2.1	3.7	9.6	11.4	12.2	12.6	13.7
Sweden	8.1	8.7	10.2	11.5	11.9	11.6	11.8	12.2	11.9
Finland	6.2	7.2	8.9	12.0	10.5	10.5	10.9	11.1	11.7
Japan	8.8	9.8	11.3	11.4	9.5	8.9	8.8	8.9	8.8
Indonesia	0.0	0.0	0.7	4.1	5.7	7.0	7.3	8.7	8.7
Russia	n/a	n/a	n/a	5.8	7.4	8.1	8.4	8.3	8.6
Others	*22.5*	*29.1*	*37.1*	*30.7*	*33.6*	*35.9*	*36.4*	*36.7*	*37.0*
World	**101.6**	**125.7**	**154.8**	**171.1**	**172.4**	**177.7**	**181.8**	**184.7**	**187.8**
Woodpulp: Imports									
China	0.1	0.4	0.9	4.0	12.1	20.6	21.9	24.6	25.3
United States of America	3.2	3.7	4.4	6.6	5.6	5.4	5.6	5.4	5.6
Germany	1.8	2.6	3.7	4.1	5.1	4.9	5.2	5.3	4.7
Italy	1.4	1.8	2.1	3.2	3.4	3.5	3.4	3.4	3.5
Korea, Rep.	0.2	0.5	1.1	2.1	2.5	2.3	2.2	2.3	2.2
France	1.3	1.8	1.9	2.4	1.9	2.0	1.9	2.0	2.0
Japan	0.9	2.2	2.9	3.1	1.8	1.7	1.6	1.8	1.7
Others	*7.6*	*7.6*	*8.3*	*12.3*	*16.5*	*18.5*	*20.2*	*20.5*	*21.3*
World	**16.6**	**20.6**	**25.2**	**37.8**	**49.0**	**58.8**	**62.1**	**65.3**	**66.3**

Source: FAO (February 17, 2020 update).
Note: Wood-based panels, reported in cubic meters solid volume, is an aggregate comprising veneer sheets, plywood, particle board and fiberboard. Woodpulp, reported in metric tons air-dry weight (i.e. with 10% moisture content), is an aggregate comprising mechanical woodpulp; semi-chemical woodpulp; chemical woodpulp; and dissolving woodpulp.

Tin

Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.



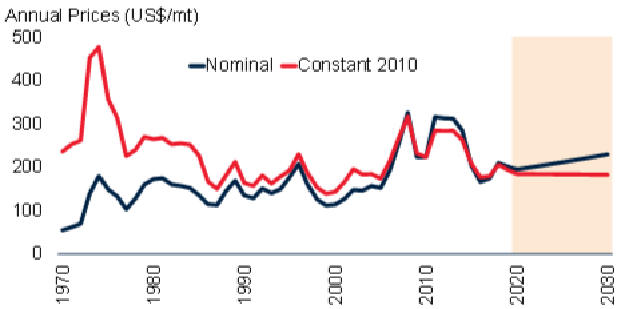
Source: World Bank.
Note: 2020-30 are forecasts.

	1970	1980	1990	2000	2010	2016	2017	2018	2019
					(thousand metric tons)				
Mine Production									
China	n/a	16.0	40.0	87.7	129.6	97.2	112.2	127.0	142.9
Indonesia	19.1	32.5	40.0	51.6	84.0	60.0	82.8	84.0	86.4
Myanmar	0.3	1.3	0.5	1.6	0.8	60.0	58.9	45.9	33.8
Peru	0.1	1.1	5.1	36.4	33.8	18.8	17.8	18.6	19.7
Brazil	3.6	6.9	39.1	14.2	10.4	16.9	17.1	18.0	18.0
Bolivia	28.9	27.3	17.2	12.5	20.2	17.5	18.4	17.3	16.5
Australia	8.8	11.6	7.4	9.1	18.6	6.6	7.4	6.9	7.5
Nigeria	8.0	2.7	0.3	2.0	1.3	3.4	9.2	8.8	7.0
Congo, Dem. Rep.	6.5	n/a	n/a	0.0	7.4	6.5	10.2	9.0	6.3
Vietnam	n/a	n/a	0.8	1.8	5.4	4.5	5.0	5.5	5.5
Malaysia	73.8	61.4	28.5	6.3	2.7	4.1	3.9	4.0	4.1
Russia	n/a	n/a	n/a	6.5	0.1	0.6	1.0	1.5	2.3
Rwanda	1.4	2.9	0.7	0.4	2.9	2.7	3.0	3.0	2.2
Others	*n/a*	*n/a*	*n/a*	*4.4*	*0.7*	*1.2*	*1.6*	*1.5*	*2.1*
World	**184.3**	**228.1**	**210.6**	**234.5**	**318.0**	**300.0**	**348.5**	**350.8**	**354.2**
Refined Production									
China	20.0	16.0	35.8	109.9	149.0	182.7	178.4	177.7	181.0
Indonesia	5.2	30.5	30.4	46.4	64.2	52.3	72.0	81.4	81.6
Malaysia	92.1	71.3	49.0	26.2	38.7	26.5	27.2	27.2	23.7
Peru	n/a	n/a	n/a	17.4	36.4	19.4	17.9	18.3	19.5
Brazil	3.1	8.8	37.6	13.8	9.1	18.4	18.4	18.4	18.1
Bolivia	n/a	17.5	13.4	9.4	15.0	16.8	16.1	15.6	15.3
Thailand	22.0	34.7	15.5	17.2	23.5	11.1	10.6	10.9	9.6
Belgium	4.3	2.8	6.1	8.5	9.9	8.5	9.7	9.3	9.3
Vietnam	0.0	0.0	1.8	1.8	3.0	4.4	4.4	4.9	4.8
Poland	0.0	0.0	0.0	0.0	0.6	2.9	3.4	3.8	4.1
Japan	1.4	1.3	0.8	0.6	0.8	1.6	1.6	1.6	1.6
Russia	n/a	n/a	n/a	5.5	0.7	0.0	0.8	1.0	1.0
Australia	n/a	n/a	n/a	0.8	0.0	0.0	0.0	0.1	0.1
Others	*n/a*	*n/a*	*n/a*	*4.8*	*5.5*	*0.0*	*0.0*	*0.0*	*0.0*
World	**204.2**	**232.2**	**227.5**	**262.3**	**356.6**	**344.5**	**360.6**	**370.2**	**369.6**
Refined Consumption									
China	13	12.5	25.5	49.1	154.3	191.4	182.1	174.2	177.9
United States	53.8	46.5	36.8	51.0	32.0	29.5	31.5	34.7	31.1
Japan	28.6	30.9	34.8	25.2	35.7	26.1	29.1	28.1	24.9
Germany	17.3	19.0	21.7	20.7	17.4	18.2	20.0	20.2	18.4
Korea, Rep.	0.4	1.8	7.8	15.3	17.4	14.2	13.1	13.9	12.0
India	4.8	2.3	2.3	6.4	10.7	9.1	10.0	11.4	10.6
Brazil	2.5	4.7	6.1	7.2	8.7	11.3	10.0	9.4	9.4
Netherlands	n/a	5.0	6.9	3.6	5.4	6.0	6.0	6.0	6.0
Spain	3	4.6	4.0	4.1	6.1	6.5	5.5	6.0	5.8
Others	*102.4*	*96.7*	*91.7*	*94.3*	*80.9*	*69.8*	*73.3*	*75.7*	*6.0*
World	**225.8**	**224.0**	**237.6**	**276.9**	**368.8**	**382.1**	**380.6**	**379.5**	**369.2**

Source: British Geological Survey, Metallgesellschaft, U.S. Geological Survey, World Bureau of Metals Statistics, World Bank.
Note: n/a implies data not available. Refined production and consumption include significant recycled material.

Wheat

Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.



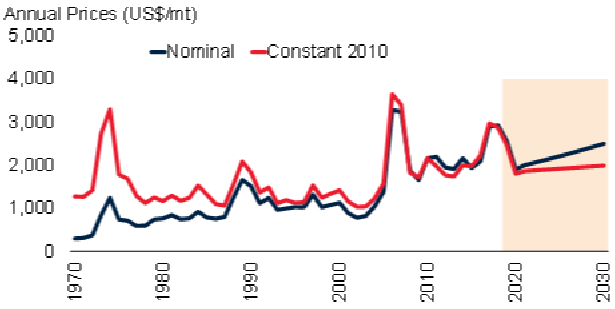
Source: World Bank.
Note: 2020-30 are forecasts.

	1970/1971	1980/1981	1990/1991	2000/2001	2010/2011	2016/2017	2017/2018	2018/2019	2019/2020
					(million metric tons)				
Production									
European Union	0.0	0.0	0.0	132.7	136.7	145.4	151.1	136.9	154.0
China	29.2	55.2	98.2	99.6	116.1	133.3	134.3	131.4	133.6
India	20.1	31.8	49.9	76.4	80.8	87.0	98.5	99.9	103.6
Russia	n/a	n/a	49.6	34.5	41.5	72.5	85.2	71.7	73.6
United States	36.8	64.8	74.3	60.6	58.9	62.8	47.4	51.3	52.3
Canada	9.0	19.3	32.1	26.5	23.3	32.1	30.4	32.2	32.4
Ukraine	n/a	n/a	30.4	10.2	16.8	26.8	27.0	25.1	29.2
Pakistan	7.3	10.9	14.4	21.1	23.3	25.6	26.6	25.1	25.6
Argentina	4.9	7.8	11.0	16.3	17.2	18.4	18.5	19.5	19.5
Turkey	8.0	13.0	16.0	18.0	17.0	17.3	21.0	19.0	18.0
Iran	3.8	5.9	8.0	8.1	13.5	14.5	14.0	14.5	16.8
Others	*187.4*	*227.2*	*204.9*	*78.8*	*105.5*	*120.6*	*108.9*	*104.9*	*106.0*
World	**306.5**	**435.9**	**588.8**	**582.8**	**650.7**	**756.3**	**762.9**	**731.5**	**764.5**
Stocks									
China	7.2	31.7	49.9	91.9	59.5	114.9	131.2	139.8	150.4
United States	22.4	26.9	23.6	23.8	23.5	32.1	29.9	29.4	26.4
India	5.0	4.0	5.8	21.5	15.4	9.8	13.2	17.0	24.0
European Union	0.0	0.0	0.0	17.9	11.9	10.7	13.9	10.5	10.3
Russia	n/a	n/a	16.4	1.5	13.7	10.8	12.0	7.8	8.4
Iran	0.7	1.2	3.2	2.9	2.9	10.4	8.1	6.2	6.2
Canada	20.0	8.5	10.3	9.7	7.4	6.9	6.7	6.0	6.0
Others	*25.2*	*40.3*	*61.7*	*36.9*	*65.0*	*67.0*	*68.6*	*61.4*	*61.2*
World	**80.5**	**112.6**	**170.9**	**206.1**	**199.2**	**262.8**	**283.7**	**278.1**	**292.8**
Exports									
Russia	n/a	n/a	1.2	0.7	4.0	27.8	41.4	35.8	33.5
European Union	0.0	0.0	0.0	15.7	23.1	27.4	23.4	23.3	33.5
United States	20.2	41.2	29.1	28.9	35.1	28.6	24.7	25.5	26.8
Canada	11.8	16.3	21.7	17.3	16.6	20.2	22.0	24.4	23.0
Ukraine	n/a	n/a	2.0	0.1	4.3	18.1	17.8	16.0	20.5
Argentina	1.0	3.8	5.6	11.3	9.5	13.8	12.7	12.2	13.5
Australia	9.1	9.6	11.8	15.9	18.6	22.6	13.8	9.0	8.2
Others	*14.4*	*19.2*	*32.5*	*11.2*	*21.9*	*24.8*	*26.6*	*27.3*	*23.7*
World	**56.5**	**90.1**	**103.8**	**101.2**	**133.0**	**183.5**	**182.5**	**173.5**	**182.7**
Imports									
Egypt	2.8	5.4	5.7	6.1	10.6	11.2	12.4	12.3	12.5
Indonesia	0.5	1.2	2.0	4.1	6.6	10.2	10.8	10.9	11.0
Turkey	0.9	0.0	0.3	0.4	3.7	4.5	6.0	6.4	10.5
Philippines	0.6	0.9	1.5	3.1	3.2	5.7	6.1	7.5	7.3
Brazil	1.7	3.9	4.4	7.2	6.7	7.3	7.0	7.0	7.2
Algeria	0.6	2.3	4.4	5.6	6.5	8.4	8.2	7.5	6.5
Bangladesh	0.0	1.0	1.4	1.3	4.0	5.6	6.5	5.1	6.5
Others	*48.7*	*74.8*	*79.3*	*71.7*	*90.6*	*126.7*	*124.1*	*113.7*	*118.7*
World	**55.8**	**89.5**	**99.0**	**99.3**	**131.9**	**179.6**	**181.0**	**170.5**	**180.2**

Source: U.S. Department of Agriculture (April 9, 2020 update).
Note: The trade year is January-December of the later year of the split. For example, 1970/71 refers to calendar year 1971. 'n/a' implies not available. European Union includes EU-15 for 1980/81, 1990/91, 2000/01 and EU-28 for 2010-2018.

Zinc

Source: See World Bank Commodities Price Data.
Note: Last observation is March 2020.



Source: World Bank.
Note: 2020-30 are forecasts.

	1970	1980	1990	2000	2010	2016	2017	2018	2019
					(thousand metric tons)				
Mine Production									
China	100	150	750	1,780	3,842	4,711	3,868	4,193	4,193
Peru	299	488	584	910	1,470	1,334	1,473	1,475	1,475
Australia	487	495	933	1,420	1,475	884	849	1,112	1,112
United States	485	317	543	829	748	805	774	838	838
India	8	32	70	208	741	646	835	765	765
Mexico	263	238	322	401	570	661	674	637	637
Bolivia	46	50	104	149	411	487	504	520	520
Kazakhstan	n/a	n/a	n/a	322	405	366	347	345	345
Canada	1,253	1,059	1,203	1,002	649	322	347	305	287
Russia	n/a	n/a	n/a	132	214	248	292	315	279
Sweden	93	176	164	177	199	258	251	234	234
Turkey	24	23	39	18	196	185	81	147	194
Brazil	n/a	70	110	100	198	157	159	156	169
Others	*n/a*	*n/a*	*n/a*	*1,367*	*1,349*	*1,280*	*1,443*	*1,497*	*2,026*
World	**5,359**	**6,189**	**7,117**	**8,815**	**12,469**	**12,343**	**11,897**	**12,538**	**13,073**
Refined Production									
China	100	155	550	1,957	5,209	6,196	6,144	5,681	6,236
Korea, Rep.	2	79	257	473	750	1,009	1,069	1,099	1,056
India	23	44	79	176	701	616	792	776	738
Canada	413	592	592	780	691	691	598	620	653
Japan	676	735	687	654	574	534	524	521	527
Spain	89	152	253	386	517	507	510	510	510
Australia	261	306	303	489	507	470	471	502	476
Mexico	85	145	199	337	322	321	327	336	391
Peru	71	64	118	200	223	342	312	334	356
Kazakhstan	n/a	n/a	n/a	263	319	326	329	329	318
Finland	57	147	163	223	307	291	285	295	291
Russia	n/a	n/a	n/a	241	260	255	265	263	263
Brazil	n/a	79	150	192	288	285	245	251	251
Others	*n/a*	*n/a*	*n/a*	*2,782*	*2,251*	*1,970*	*1,934*	*1,925*	*1,843*
World	**5,095**	**6,183**	**6,971**	**9,153**	**12,919**	**13,812**	**13,806**	**13,442**	**13,909**
Refined Consumption									
China	150	200	369	1,402	5,350	6,484	6,890	6,179	6,821
United States	1074	810	992	1,315	907	789	829	867	950
India	97	95	135	224	538	676	653	714	687
Korea, Rep.	11	68	230	419	540	627	735	716	672
Japan	623	752	814	674	516	474	482	482	517
Germany	448	474	530	532	494	483	452	444	389
Italy	178	236	270	377	339	312	275	280	277
Russia	n/a	n/a	n/a	138	203	224	240	233	273
Turkey	9	12	47	92	182	231	267	248	252
Others	*2,452*	*3,484*	*3,181*	*3,716*	*3,463*	*3,575*	*3,411*	*3,171*	*3,152*
World	**5,042**	**6,131**	**6,568**	**8,889**	**12,532**	**13,876**	**14,234**	**13,333**	**13,990**

Source: British Geological Survey, Metallgesellschaft, U.S. Geological Survey, World Bureau of Metals Statistics, World Bank.
Note: n/a implies data not available.

APPENDIX C

Description of price series
Technical notes

Description of price series

Energy

Coal (Australia). Thermal, f.o.b. Newcastle, 6,000 kcal/kg, spot price.

Coal (South Africa). f.o.b. Richards Bay, NAR, 6000 kcal/kg, sulfur less than 1%, forward month one.

Crude oil. Average price of Brent (38° API), Dubai Fateh (32° API), and West Texas Intermediate (WTI, 40° API). Equally weighed.

Natural Gas Index (Laspeyres). Weights based on five-year consumption volumes for Europe, U.S. and Japan (LNG), updated every five years.

Natural gas (Europe), Netherlands Title Transfer Facility (TTF).

Natural gas (U.S.). Spot price at Henry Hub, Louisiana.

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

Non-Energy

Beverages

Cocoa (ICCO). International Cocoa Organisation 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). Sri Lankan origin, all tea, arithmetic average of weekly quotes.

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

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

Oils and meals

Coconut oil (Philippines/Indonesia). crude, c.i.f. NW Europe.

Groundnuts (U.S.), Runners 40/50, CFR N.W. Europe

Groundnut oil. U.S. crude, FOB South-East.

Fishmeal. German, 64% protein, EXW Hamburg.

Palm oil (Malaysia). RBD, c.i.f Rotterdam.

Palmkernel Oil (Indonesia/Malaysia). Crude, c.i.f. NW Europe.

Soybean meal. Brazilian pellets 48% protein, c.i.f Rotterdam.

Soybean oil. Dutch crude, degummed, f.o.b. NW Europe.

Soybeans. U.S. No. 2 yellow meal, c.i.f. Rotterdam.

Grains

Barley (U.S.). Feed, No. 2, spot, 20-days-to-arrive, delivered Minneapolis.

Maize (U.S.). No. 2, yellow, f.o.b. U.S. 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, indicative survey price, government standard, f.o.b. Bangkok.

Rice (Vietnam). 5% broken, WR, milled, weekly indicative survey price, minimum export price, f.o.b. Hanoi.

Sorghum (U.S.). No. 2 milo yellow, f.o.b. Gulf ports.

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

Wheat (U.S.). No. 2, soft red winter (SRW), export price delivered at the U.S. Gulf port for prompt or 30 days shipment.

Other food

Bananas (Central and South America). Major brands, free on truck (f.o.t.) Southern Europe, including duties.

Bananas (Central and South America). Major brands, U.S. import price, f.o.t. U.S. 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.

Meat, chicken (U.S.). Urner Barry North East weighted average for broiler/fryer, whole birds, 2.5 to 3.5 pounds, USDA grade "A".

Meat, sheep (New Zealand). Frozen whole carcasses Prime Medium (PM) wholesale, Smithfield, London.

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

Shrimp (U.S.). brown, shell-on, headless, in frozen blocks, source Gulf of Mexico, 26 to 30 count per pound, wholesale U.S.

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

Sugar (U.S.). 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 (Africa). Sapele, high quality (loyal and marchand), 80 centimeter or more, f.o.b. Douala, Cameroon.

Logs (Southeast Asia). Meranti, Sarawak, Malaysia, sale price charged by importers, Tokyo.

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

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

Sawnwood (Southeast Asia). Malaysian dark red seraya/meranti, select and better quality, average 7 to 8 inches; length average 12 to 14 inches; thickness 1 to 2 inches; kiln dry, c. & f. U.K. ports, with 5% agents commission including premium for products of certified sustainable forest.

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

Other raw materials

Cotton (Cotlook "A" index). Middling 1-3/32 inch, traded in Far East, C/F.

Rubber (Asia). RSS3 grade, Singapore Commodity Exchange Ltd (SICOM) nearby contract.

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

Fertilizers

DAP (diammonium phosphate), spot, f.o.b. U.S. Gulf.

Phosphate rock , f.o.b. North Africa.

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

TSP (triple superphosphate), spot, import U.S. Gulf.

Urea (Ukraine), f.o.b. Black Sea.

Metals and minerals

Aluminum (LME). London Metal Exchange, unalloyed primary ingots, standard high grade, physical settlement.

Copper (LME). Standard grade A, cathodes and wire bar shapes, physical settlement.

Iron ore (any origin). Fines, spot price, c.f.r. China, 62% Fe.

Lead (LME). Refined, standard high grade, physical settlement.

Nickel (LME). Cathodes, standard high grade, physical settlement.

Tin (LME). Refined, standard high grade, physical settlement.

Zinc (LME). Refined, standard special high grade, physical settlement.

Precious Metals

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

Platinum (U.K.). 99.9% refined, London afternoon fixing.

Silver (U.K.). 99.9% refined, London afternoon fixing.

Technical Notes

Definitions and explanations

Constant prices are prices which are deflated by the Manufacturers Unit Value Index (MUV).

MUV is the unit value index in U.S. dollar terms of manufactures exported from fifteen countries: Brazil, Canada, China, Germany, France, India, Italy, Japan, Mexico, Republic of Korea, South Africa, Spain, Thailand, the United Kingdom, and the United States.

Price indexes were computed by the Laspeyres formula. The Non-Energy Price Index is comprised of 34 commodities. U.S. dollar prices of each commodity is weighted by 2002-2004 average export values. Base year reference for all indexes is 2010. Countries included in indexes are all low- and middle-income, according to World Bank income classifications.

Price index weights. Trade data as of May 2008 comes from United Nations' Comtrade Database via the World Bank WITS system, Food and Agriculture Organization FAOSTAT Database, International Energy Agency Database, BP Statistical Review, World Metal Statistics, World Bureau of Metal Statistics, and World Bank staff estimates. The weights can be found in the table on the next page.

Reporting period. Calendar vs. crop or marketing year refers to the span of the year. It is common in many agricultural commodities to refer to production and other variables over a twelve-month period that begins with harvest. A crop or marketing year will often differ by commodity and, in some cases, by country or region.

Abbreviations

$ = U.S. dollar

bbl = barrel

c.i.f. = cost, insurance, freight

c.f.r. = cost and freight

cum = cubic meter

dmt = dry metric ton

f.o.b. = free on board

f.o.t. = free on truck

kg = kilogram

mb/d = million barrels per day

mmbtu = million British thermal units

mmt = million metric tons

mt = metric ton (1,000 kilograms)

toz = troy ounce

Acronyms

COVID-19	Coronavirus Disease 2019
DAP	diammonium phosphate
EIA	Energy Information Administration
EU	European Union
EMDEs	Emerging markets and developing economies
FAO	Food and Agriculture Organization
G20	Group of Twenty
GDP	gross domestic product
GFC	global financial crisis
GVCs	global value chains
H1N1	swine flu
ICA	International Coffee Agreement
ICAC	International Cotton Advisory Committee
IEA	International Energy Agency
IFA	International Fertilizer Industry Association
INRA	International Natural Rubber Agreement
IRSG	International Rubber Study Group
ITA	International Tin Agreement
LICs	low-income countries
LME	London Metal Exchange
LNG	liquefied natural gas
MOP	muriate of potash, or potassium chloride

MUV	Manufacture Unit Value
OECD	Organisation of Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
PMI	purchasing managers' index
SARS	severe acute respiratory syndrome
TRC	Texas Railroad Commission
TSA	Transport Security Administration
TSP	triple superphosphate
UAE	United Arab Emirates
USDA	United States Department of Agriculture
USSR	Union of Soviet Socialist Republics
WCS	Western Canadian Select
WTI	West Texas Intermediate

Data sources

Africa Tea Brokers Limited

Agribusiness Intelligence from Informa

Banana Market Review

Baker Hughes

Bloomberg

Bloomberg Institute of Shipping Economics and Logistics

Bloomberg L.P.—Green Markets

BP Statistical Review

British Geological Survey

China National Bureau of Statistics

Cotton Outlook

Federal Reserve Bank of Dallas

Federal Reserve Bank of St. Louis Economic Data (FRED)

Food and Agriculture Organization (FAO)

Gold Fields Mineral Services (GFMS)

Haver Analytics

IHS Markit Agribusiness UK Ltd

Intergovernmental Group on Bananas and Tropical Fruits

Intergovernmental Group on Tea

International Cocoa Organisation (ICCO)

International Coffee Organization (ICO)

International Cotton Advisory Committee (ICAC)

International Energy Agency (IEA)

International Fertilizer Industry Association (IFA)

International Rubber Study Group (IRSG)

International Tropical Timber Organization (ITTO)

International Sugar Organization (ISO)

ISTA Mielke GmbH Oil World

Japan Lumber Journal

John Hopkins University

London Metal Exchange

Meat Trade Journal

Metallgesellschaft

Metals Focus

Metropolitan Transportation Authority

Nova Media Publishing, Inc.

Official Statistics of Japan

Platinum and Palladium Survey

Silver Institute

Steel Statistical Yearbook

Tea Board India

Tea Exporters Association Sri Lanka

Thomson Reuters

Transport Security Administration

Urner Barry

U.S. Department of Agriculture (USDA)

U.S. Energy Information Administration (EIA)

U.S. Geological Survey

WIND

World Bureau of Metal Statistics

World Gold Council

World Platinum Investment Council

Weights for commodity price indexes

Commodity group	Share of energy and non-energy indexes	Share of sub-group indexes
ENERGY	**100.0**	**100.0**
Coal	4.7	4.7
Crude Oil	84.6	84.6
Natural Gas	10.8	10.8
NON-ENERGY	**100.0**	
Agriculture	**64.9**	
Beverages	**8.4**	**100.0**
Coffee	3.8	45.7
Cocoa	3.1	36.9
Tea	1.5	17.4
Food	**40.0**	
Grains	**11.3**	100.0
Rice	3.4	30.1
Wheat	2.8	25.2
Maize (includes sorghum)	4.6	40.7
Barley	0.5	4.1
Oils and meals	**16.3**	**100.0**
Soybeans	4.0	24.6
Soybean Oil	2.1	13.0
Soybean Meal	4.3	26.3
Palm Oil	4.9	30.2
Coconut Oil	0.5	3.1
Groundnut Oil (includes groundnuts)	0.5	2.8
Other food	**12.4**	100.0
Sugar	3.9	31.5
Bananas	1.9	15.7
Meat, beef	2.7	22.0
Meat, chicken	2.4	19.2
Oranges (includes orange junice)	1.4	11.6
Agricultural Raw Materials	**16.5**	
Timber	**8.6**	**100.0**
Logs	1.9	22.1
Sawnwood	6.7	77.9
Other Raw Materials	**7.9**	**100.0**
Cotton	1.9	24.7
Natural Rubber	3.7	46.7
Tobacco	2.3	28.7
Fertilizers	**3.6**	**100.0**
Natural Phosphate Rock	0.6	16.9
Phosphate	0.8	21.7
Potassium	0.7	20.1
Nitogenous	1.5	41.3
Metals and Minerals	**31.6**	**100.0**
Aluminum	8.4	26.7
Copper	12.1	38.4
Iron Ore	6.0	18.9
Lead	0.6	1.8
Nickel	2.5	8.1
Tin	0.7	2.1
Zinc	1.3	4.1
PRECIOUS METALS	**100.0**	
Gold	77.8	
Silver	18.9	
Platinum	3.3	

Note: Index weights are based on 2002-04 developing countries' export values. Precious metals are not included in the non-energy index.

Commodity Markets Outlook: Selected Topics, 2011-20

Topics	Date
Set up to fail? The collapse of commodity agreements	April 2020
A Shock Like no Other: The Impact of COVID-19 on Commodity Markets	April 2020
The role of substitution in commodity demand	October 2019
Innovation, disruptive technologies, and substitution among commodities	October 2019
Oil market implications of the strike on Saudi Arambo facilities	October 2019
Food price shocks: Channels and implications	April 2019
The implications of tariffs for commodity markets	October 2018
The changing of the guard: Shifts in commodity demand	October 2018
Oil exporters: Policies and challenges	April 2018
Investment weakness in commodity exporters	January 2017
OPEC in historical context: Commodity agreements and market fundamentals	October 2016
From energy prices to food prices: Moving in tandem?	July 2016
Resource development in era of cheap commodities	April 2016
Weak growth in emerging market economies: What does it imply for commodity markets?	January 2016
Understanding El Niño: What does it mean for commodity markets?	October 2015
Iran nuclear agreement: A game changer for energy markets?	October 2015
How important are China and India in global commodity consumption?	July 2015
Anatomy of the last four oil price crashes	April 2015
Putting the recent plunge in oil prices in perspective	January 2015
The role of income growth in commodities	October 2014
Price volatility for most commodities has returned to historical norms	July 2014
The nature and causes of oil price volatility	January 2014
A global energy market?	July 2013
Global reserves, demand growth, and the “super cycle” hypothesis	July 2013
The “energy revolution,” innovation, and the nature of substitution	January 2013
Commodity prices: levels, volatility, and comovement	January 2013
Which drivers matter most in food price movements?	January 2013
Induced innovation, price divergence, and substitution	June 2012
The role of emerging markets in commodity consumption	June 2012
WTI-Brent price dislocation	January 2012
Metals consumption in China and India	January 2012
China, global metal demand, and the super-cycle hypothesis	June 2011

ECO-AUDIT

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Almost all commodity prices saw sharp declines during the past three months as the COVID-19 pandemic worsened. Mitigation measures have significantly reduced transport, causing an unprecedented decline in demand for oil, while weaker economic growth will further reduce overall commodity demand. Crude oil prices are expected to average $35/bbl this year and $42/bbl in 2021—sharp downward revisions from October. Metals prices are projected to drop more than 13 percent in 2020, before recovering in 2021, while food prices are expected to remain broadly stable. The price forecasts are subject to significant risks.

A Special Focus looks at the impact of COVID-19 on commodity markets and finds that its effects have already been larger than most previous events and may lead to long-term shifts in global commodity markets. Another section looks at international commodity production agreements and concludes that while the current OPEC arrangement may stabilize oil markets in the short term, it will likely be subject to the same shortcomings of earlier efforts to manage commodity supplies in due course.

The World Bank's *Commodity Markets Outlook* is published twice a year, in April and October. The report provides detailed market analysis for major commodity groups, including energy, metals, agriculture, precious metals, and fertilizers. Price forecasts to 2030 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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